



ENVIRONMENTAL IMPACT STATEMENT

Eileen O'Connor Catholic School
SSD-67173718

84 Gavenlock Road, Mardi 2259

NSW Department of Education

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Project Revision History:

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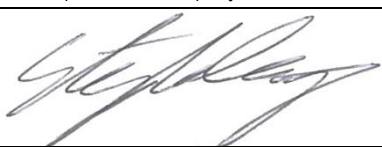
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Signed Declaration

Project Details		
Project Name	Eileen O'Connor Catholic School	
Application Number	SSD-67173718	
Address of the land in respect of which the development application is made	84 Gavenlock Road, Mardi NSW 2259, Lot 9, Section 4, Deposited Plan (DP) 3368.	
Applicant Details		
Applicant Name	Catholic Schools Broken Bay	
Applicant Address	2/423 Pennant Hills Road, Pennant Hills, NSW 2120	
Details of People by Whom this EIS was Prepared		
Names and professional qualifications	Penny Smith, Senior Associate Planner B. Urban & Regional Planning (Hons) UNE Registered Planner (PIA)	Stephen Earp, Head of Planning B. Planning (Hons) UWS Registered Planner Plus (EIA)
Address	Level 13, 67 Albert Avenue Chatswood NSW 2067	
Declaration by Registered Environmental Assessment Practitioner		
Name	Stephen Earp	
Registration Number	10091	
Organisation registered with	Planning Institute of Australia	
Declaration	The undersigned declares that this EIS: • has been prepared in accordance with the <i>Environmental Planning and Assessment Regulation 2021</i>; • contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates; • does not contain information that is false or misleading; • contains the information required under the Registered Environmental Assessment Practitioner Guidelines; • addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project; • identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments; • has been prepared having regard to the Department's <i>State Significant Development Guidelines - Preparing an Environmental Impact Statement</i>; • contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development; • contains a consolidated description of the project in a single chapter of the EIS; • contains an accurate summary of the findings of any community engagement; and • contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.	
Signature		
Date	09/07/2025	

Glossary and Abbreviations

Abbreviation	Described Term
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACM	Asbestos containing materials
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AS	Australian Standards
BC Act	<i>Biodiversity Act 2016</i>
BCA	Building Code of Australia
BFSA	Bush Fire Safety Authority
CEMP	Construction Environmental Management Plan
CIA	Cumulative Impact Assessment
COLA	Covered outdoor learning area
Council	Central Coast Council
CPTED	Crime Prevention through Environmental Design
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DP	Deposited Plan
DPHI	Department of Planning, Housing & Infrastructure
DSI	Detailed Site Investigation
EDC	Estimated Development Cost
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPM	EPM Projects
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Design
FPL	Flood Planning Level
FSR	Floor Space Ratio
FTE	Full time equivalent
GANSW	Government Architect NSW
GFA	Gross Floor Area
GLA / GLS	General learning area / General learning space
LEP	Local Environmental Plan
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
NPW Act	<i>National Parks and Wildlife Act 1974</i>
PBP	Planning for Bushfire Protection 2019
PCT	Plant Community Type
PMF	Probable Maximum Flood
PSI	Preliminary Site Investigation
RAP	Remediation Action Plan
RAPs	Registered Aboriginal Parties
REAP	Registered environmental assessment practitioner

Abbreviation	Described Term
RF Act	<i>Rural Fires Act 1997</i>
RFS	NSW Rural Fire Service
SAC	Site assessment criteria
SEARs	Planning Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
Site	84 Gavenlock Road, Mardi Lot 9 Section 4 DP3368
SSD	State Significant Development
TfNSW	Transport for NSW
WM Act	<i>Water Management Act 2000</i>
WSUD	Water Sensitive Urban Design

Summary

This proposal is for the subdivision of land and construction of the new Eileen O'Connor Catholic School for 200 students from Kindergarten to Year 12 with special needs within the north-western corner of the existing St Peters Catholic School site at 84 Gavenlock Road, Mardi. Catholic Schools Broken Bay (CSBB) is seeking to provide inclusive education for students with a disability at the purpose-built School to provide education, allied health to support tailored interventions, and in-class support for students. The school will be contained within a part two- part three-storey building forming a U-shape along the western, southern and eastern boundaries of the site, with frontage to Keefers Glen (western boundary). Public domain upgrades are proposed to widen Keefers Glen to form a 6-metre-wide road corridor between Brickendon Avenue and Deloraine Glen and provide a shared pathway on the eastern side of Keefers Glen between the school site and Brickendon Avenue.



Figure 1 Keefers Glen frontage to the school (Source: Stanton Dahl Architects)

The school will comprise teaching facilities, a library, hall, administration, staff rooms, allied support spaces, outdoor learning and play spaces, on-site kiss and drop in a porte cochere and staff, visitor and bus parking. The subdivision to create the new school will exceed the minimum lot size requirements for both school sites. The proposal is generally consistent with the strategic and statutory planning context of the site, and the land is part of an existing educational establishment.

Alternative designs were considered during design development; however, the final design represents the outcomes of consultation with the State Design Review Panel, Council and local stakeholders as being the most suitable to respond to the sloping topography of the site, residential context, prevailing views to the adjacent wetlands, and bushfire affectation while meeting the educational and accessibility needs of students and staff.

The building has been designed in accordance with ecologically sustainable design principles and includes natural ventilation and solar penetration, high performance glazing and building materials, water and energy efficient fixtures and fittings and a solar array, as well as infrastructure to support future electric vehicle charging stations. The proposal meets design quality standards and has been developed in consultation with local Aboriginal knowledge holders to incorporate connection with Country into the built form and landscape design. The materiality and colour palette of the building has been guided by the process of designing with Country and is inspired by the colours of the local native tree and grass species.

A range of active and passive, structured and un-structured outdoor learning and play spaces are included and will provide over 13m² of play space per student. The landscape plan will retain some existing mature trees and proposes additional tree planting of native endemic species to provide canopy coverage of 12.6% for the site (**Figure 2**). A welcome garden is provided that is open to the Keefers Glen street frontage to provide a welcoming entry point to the new school and improve vegetation on the street frontage.

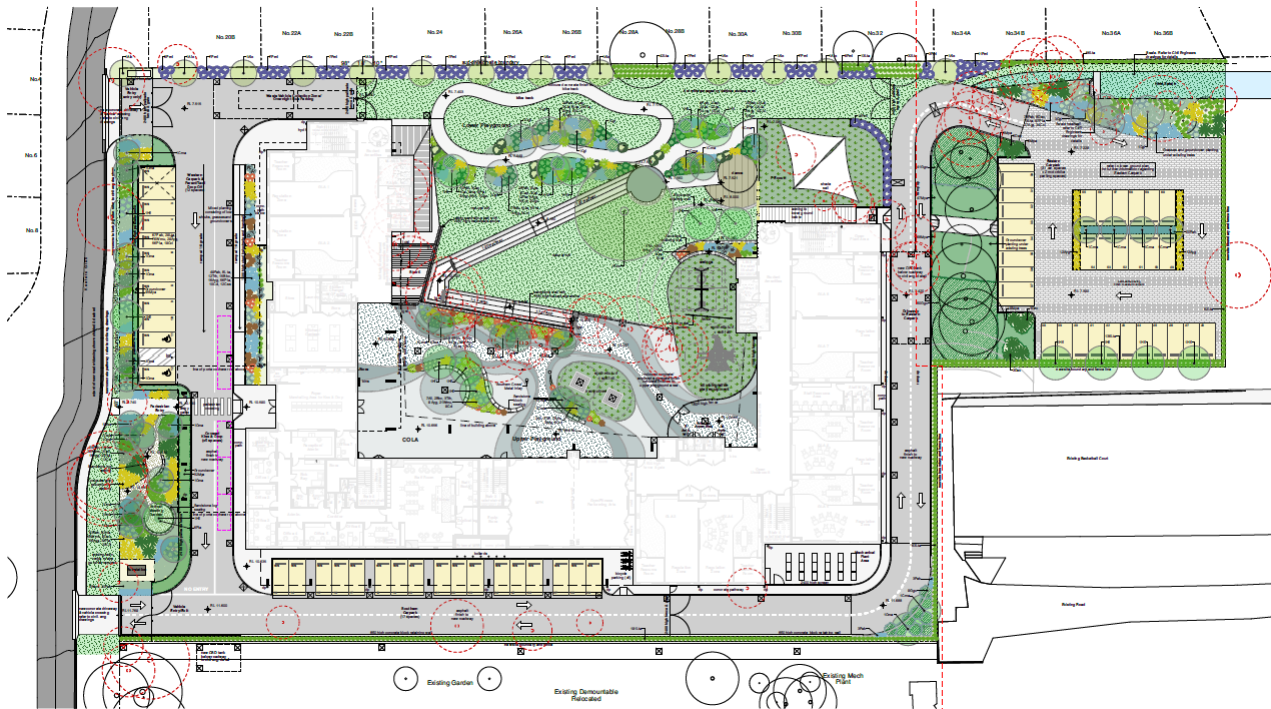


Figure 2 Landscape Plan (Source: Inview Consulting)

A Biodiversity Development Assessment Report has assessed the biodiversity impacts of the proposal. Due to the vegetated state of the site, complete avoidance of impacts to native vegetation are not possible. The vegetation to be impacted largely consists of native remnant canopy vegetation surrounding a dam. One plant community type (PCT) will be impacted by the required tree removal works, *PCT 4021: Coastal Creekline Dry Shrubby Swamp Forest* and fourteen (14) ecosystem credits are required to be offset in order to mitigate the impacts upon PCT 4021. In addition, seven (7) species credit species were assumed to be present on the site due to the suitable habitat and 79 species credits are required to offset the impacts to those species as a result of the works.

Stormwater will be detained on site through a network of three (3) on-site detention tanks. Most stormwater will then be directed into existing Council infrastructure on Keefers Glen. Following consultation with Council, stormwater in the north-western portion of the site, which is low lying, will be directed to a level spreader and then onto the St Peters Catholic School site and into Council's existing stormwater infrastructure in the wetlands site to the north-east of the proposed school.

The proposal includes road widening works to Keefers Glen to create a 6-metre-wide road corridor to facilitate two-way vehicle traffic to and from the site. Subject to this upgrade, the surrounding road network has been assessed as sufficient to support the traffic generated by the development, with all surrounding intersections modelled as maintaining a high level of service. Sixty (60) on-site car parking spaces are proposed for staff, in addition to the on-site kiss and drop, which provides five (5) drop off spaces and queuing throughout the site. These spaces can be utilised by visitors during the school day outside of peak drop off and pick up times. Bicycle parking and end of trip facilities are also proposed. Students will travel to and from the site utilising the Assisted School Travel Program (ASTP) or private vehicle, they will not utilise public transport or active travel. A Green Travel Plan has been prepared to implement active and public transport strategies for staff.

The suitability of the site has been assessed favourably for the proposed new school. The eastern portion of the site is mapped as bushfire prone land; accordingly, the built form has been predominately located away from the hazard and the development assessed in accordance with Planning for Bushfire Protection. The entire site will be mapped as an Inner Asset Protection zone to mitigate the risks of bushfire, and an accessway has been provided around the site for emergency vehicles. The site is partially mapped as flood prone land along the edge of the northern boundary. The school buildings and play space are flood free and the development will not impact flood behaviour. A Flood Emergency Response Plan has been prepared to respond to regional flooding and flash flooding that affects the surrounding road network. Early closure of the school is proposed for regional flooding, and shelter in place for flash flooding caused by heavy rain events. Remediation to address contaminated soils resulting from previous agricultural use of the site in three locations is required. In addition, further testing is required following demolition of the existing structures and pavement areas on the site prior to commencement of construction to establish if

further remediation is required. An EPA Accredited Auditor has reviewed all contamination documentation and confirms that subject to the remediation being carried out, the site is suitable for the proposed use.

The development will provide specialised educational facilities for students with a disability on the Central Coast. Many of these students currently have to travel to Sydney or Newcastle for equivalent facilities. The new school is located on land within an existing educational establishment within a low-density residential context. The proposal is generally consistent with the statutory and strategic planning context of the site and has responded to the residential and environmental context of the site. Accordingly, the proposal is considered to be in the public interest.

1 Introduction

This section of the report identifies the applicant for the project and describes the site and proposed development. It outlines the site history, describes related development as well as feasible alternatives explored in the development of the proposed concept, including key strategies to avoid or minimise potential impacts.

1.1 Purpose of Report

This Environmental Impact Statement (EIS) has been prepared by EPM Projects on behalf of Catholic Schools Broken Bay (CSBB) to support a State Significant Development Application (SSDA) for SSD-67173718 for the proposed Eileen O'Connor Catholic School (EO'CCS) located in the north-western corner of the existing St Peters Catholic College at 84 Gavenlock Road, Mardi (Lot 9 Section 4 DP 3368). This SSDA also includes upgrade works to the public domain in Keefers Glen.

The proposed development is for the purposes of a new educational establishment with an Estimated Development Cost (EDC) of more than \$20 million, and accordingly is deemed to be State Significant Development under Section 15(1) of Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

On 19 February 2024, Secretary's Environmental Assessment Requirements (SEARs) were issued by the Department of Planning, Housing and Infrastructure (DPHI) for SSD-67173718.

The EIS has been prepared in accordance with the SEARS, Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), Part 8 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), and DPHI's *State Significant Development Guidelines – Preparing an Environmental Impact Statement* to enable assessment and determination of the proposal.

1.2 Applicant's Details

Table 1 Applicant's Details	
Applicant Name	Catholic Schools Broken Bay
Landowner	Trustees of the Roman Catholic Church for the Diocese of Broken Bay
Address	Caroline Chisholm Centre, Building 2, 423 Pennant Hills Rd, Pennant Hills, NSW 2120
ABN	19 542 675 092
Nominated Contact Person	Kerrie Bradshaw, Facilities Lead

1.3 The Site

The site is located on Darkinjung lands within the Central Coast Local Government Area (LGA), 1.4km northeast of Tuggerah Shopping Centre and 1.9km southeast of Wyong Town Centre. The site comprises St Peter's Catholic College and is surrounded by low density residential development on the south, west and northwest; commercial and light industrial development to the east; and a bush block to the northeast. The site has road frontage to Gavenlock Road (east) and Keefers Glen (west) (**Figure 3**).

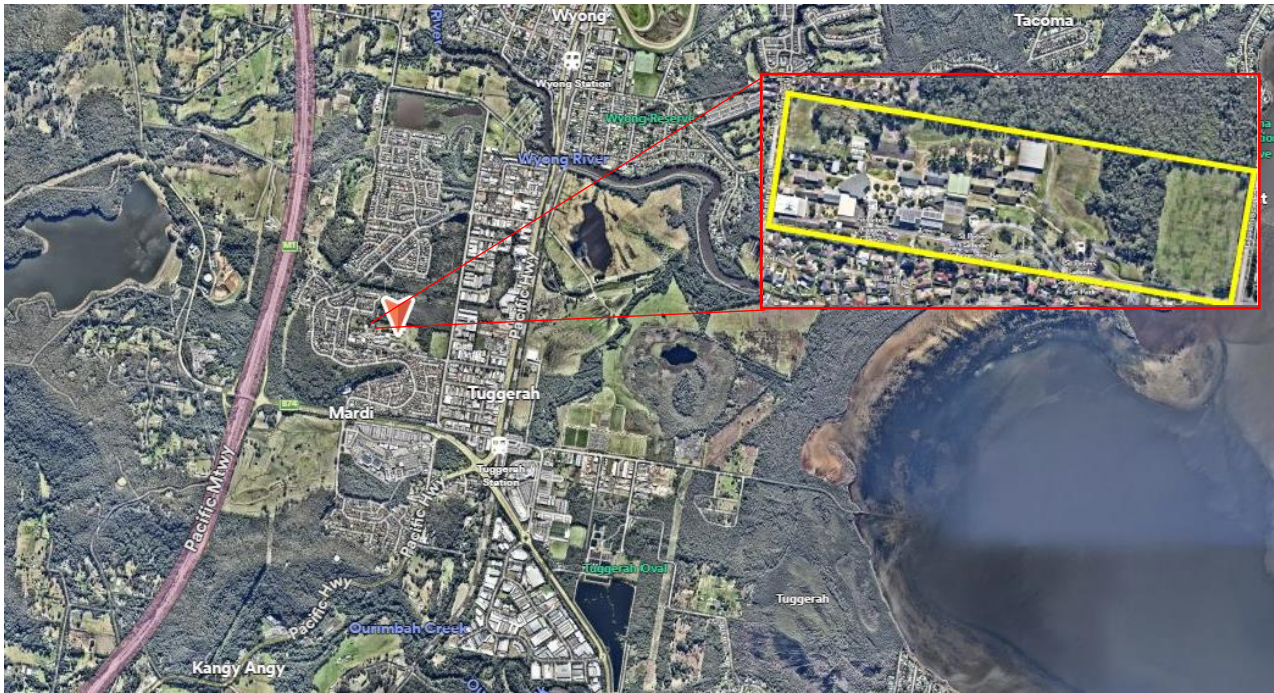


Figure 3 Regional Setting

1.4 Project Objectives and Summary

1.4.1 Project Objectives

Catholic Schools Broken Bay (CSBB) is seeking to provide inclusive education for students with a disability at the purpose-built K-12 EO'CCS using land located within St Peter's Catholic School, Mardi. The school will have capacity for 200 students and will provide education, allied health to support tailored interventions, and in-class support. The design will provide modern fit-for-purpose educational facilities that maximise amenity, access and sustainability, and respond to the environmental context of the site whilst limiting the adverse impacts to existing residents.

1.4.2 Project Summary

Subdivision, construction and operation of a new K-12 Catholic School for 200 students with a disability, comprising teaching spaces, administration and staff facilities, library, hall, amenities and associated site preparation works, landscaping, play space and car parking together with public domain upgrades to Keefers Glen.

1.5 Background

1.5.1 Site History

The site is within the traditional boundaries of Darkinjung land. Archaeological investigations have identified that the Central Coast region has been used by Aboriginal people for at least the last 11,000 years. Modelling indicates that past Aboriginal occupation would be found in rock shelters, at the base of foothills, in flat elevated areas bordering well-resourced swampy areas. Other salvage excavations resulted in a large number of artefacts in an area bordering a wetland and in close proximity to the Wyong River. While there is some conflicting historical documentation about the Aboriginal people who once inhabited the Tuggerah area, it is apparent that a thriving Aboriginal population inhabited the area prior to colonisation.

European settlement began in 1831, with the site forming part of a 2260-acre land grant to the Healy family, which was passed on the Alison family in 1875. From 1897, the site was principally used as a hobby farm until it was purchased by the Diocese of Broken Bay in 1982. The St Peter's Catholic College site was developed in three main stages since its inception in 1983. Mater Dei College was a Year 7-10 campus built in 1983; Corpus Christi College was developed in 1987 as a senior campus (Year 11 & 12). In 2000, both campuses amalgamated to form St Peter's Catholic College, and have been operating as a unified Catholic secondary school since that date.

1.5.2 Key Mitigation Strategies

The project is supported by a number of key mitigation strategies in response to the constraints and circumstances of the site, including:

- Implementation of Sediment and Soil Erosion Control Measures
- On-site Managed Kiss and Drop Facility
- 40km/hr school zones to be applied to Keefers Glen
- Preparation and implementation of Flood Emergency Response Plan
- Manage entire site as an Asset Protection Zone – Inner Protection Area

A full list of mitigation measures adopted from this assessment are set out at **Appendix E** and will be fully implemented through the delivery of the project.

1.6 Related Development

The following works are being carried out via alternative planning pathways:

- Removal of a tree at 2/20 Brickendon Avenue, Mardi via a tree removal application to Central Coast Council.
- Relocation of existing demountable classrooms from current location within the proposed EO'CCS site to the St Peters Catholic College site as exempt development under Section 3.39 of the TI SEPP.

1.7 Restrictions and Covenants

The site has a 'right of way' to access the electrical substation including leasing of land, which is not located within the proposed EO'CCS site.

The site is not subject to any other restrictions or covenants.

2 Strategic Context

This section of the EIS identifies the key strategic issues that are relevant to the assessment of the project.

2.1 Strategic Plans

The relevant Government strategies, policies and plans that provide strategic support for the proposed Eileen O'Connor School are addressed in **Table 2**.

Table 2 Assessment against relevant strategic plans and documents	
Strategic Plans	Assessment
NSW Premier's Priorities Key policy priorities are: • A strong economy • Highest quality education • Well-connected communities with quality local environments • Putting customer at the centre of everything we do • Breaking the cycle of disadvantage	Generally, the development of the new EO'CCS is consistent with key policy priorities "highest quality education" and "breaking the cycle of disadvantage", as it will introduce new high-quality learning spaces and specialist facilities to cater for students with disabilities. The proposal will support families with special needs from across the Central Coast with safe, inclusive and accessible learning environment, and reduce the need for students with disabilities to travel to Sydney or Newcastle for specialist facilities. In addition, the proposed development is consistent with the following Premier's Priorities: • "Bumping up education results for children" – as it will provide an opportunity to improve learning outcomes for local students with special needs and students with disability.
State Infrastructure Strategy 2022 – 2042: Staying Ahead Infrastructure NSW (2022)	The <i>State Infrastructure Strategy</i> (SIS) is Infrastructure NSW's 20-year vision for infrastructure investment priorities across NSW. The SIS recommends a mix of small, medium and large-scale projects across the State's metropolitan and regional areas. The proposed EO'CCS is consistent with the strategic direction to coordinate infrastructure, land use and service planning to meet future community needs. The proposed development provides specialist school facilities to support K-12 students with disabilities on the Central Coast.
Future Transport Strategy: Our vision for transport in NSW Transport for NSW (2022) High level outcomes: • Connecting our customer's whole lives • Successful places for communities • Enabling economic activity	The <i>Future Transport Strategy</i> (2022) sets Transport for NSW's (TfNSW) vision for safe, healthy, sustainable, accessible, and integrated passenger and freight journeys in NSW. The aim of the Future Transport Strategy is to connect customers and communities with safe, reliable, sustainable and integrated transport systems. It is one of a suite of NSW Government policies that seek to integrate and guide land use and transport planning across the state. Students will arrive by supported travel in taxis, mini-buses or private vehicles. There is no feasible option for students to travel by public transport, as students require assistance to travel, and the school will draw from a wide catchment across the Central Coast. However, the proposed development supports the delivering of the three (3) high level outcomes identified in the Future Transport Strategy by: • Encouraging use of active transport for staff to promote healthy lifestyles and reduce car dependence through the Green Travel Plan (GTP). • Construction of a new footpath along Keefers Glen. • Providing six (6) staff bicycle parking spaces and end-of-trip facilities.
Better Placed: An integrated design policy for the built environment of NSW Government Architect NSW (2017)	<i>Better Place: An integrated design policy for the built environment of NSW</i> (2017) is the Government Architect NSW's (GANSW) policy that establishes the value of good design, and identifies key concepts, good process, and objectives for good design outcomes. It informs and supports a range of other design policies, guides and manuals, including the Terms of Reference for State Design Review Panel (SDRP). The proposed development has been reviewed by the SDRP on 24 April and 26 June 2024 and recommendations from the SDRP have been incorporated into the design (Section 6.1 and Appendices B, I, L and M).
Better Placed: Design Guide for Schools Government Architect NSW / Department of Education (2018)	The <i>Better Placed: Design Guide for Schools</i> (2018) was developed by the GANSW in collaboration with the Department of Education to promote good design processes and outcomes for schools across NSW. It provides guidance to support the seven (7) design principles outlined in Schedule 8 of <i>State Environmental Planning Policy (Infrastructure and Transport) 2021</i> (T&I SEPP). The Architectural Design Report (Appendix I) demonstrates how the seven (7) design quality principles have been incorporated into the design of the proposed EO'CCS, and details how the feedback from the SDRP has been responded to during design

Table 2 Assessment against relevant strategic plans and documents

Strategic Plans	Assessment
	development. The Architectural Design Report concludes that the proposed development satisfies the design quality principles and that it has been designed to respond positively to its physical, social and environmental context providing a high-quality learning environment.
Greener Places: An urban green infrastructure design framework for NSW Government Architect NSW (2020)	<i>Greener Places</i> (2020) is a design framework for urban green infrastructure, being the network of green spaces, natural systems and semi-natural systems that supports sustainable communities. The proposed development will contribute to the urban green network by seeking to maximise tree canopy cover, providing a diverse range of outdoor spaces for students, and linking to existing and proposed public open spaces.
Draft Greener Places Design Guide Government Architect NSW (2020)	The <i>Draft Greener Places Design Guide</i> (2020) provides guidance on how to design, plan and implement green infrastructure in urban areas across NSW. The three major components of the draft Greener Places Design Guide comprise: • <u>Open space for recreation</u>: green infrastructure for people. • <u>Urban tree canopy</u>: green infrastructure for climate adaption and resilience • <u>Bushland and waterways</u>: green infrastructure for habitat and ecological health. The proposed development is consistent with the Draft Greener Places Guide as described in the Landscape Design Report (Appendix M). The proposed development maximises open space on the site for recreation and learning opportunities. A variety of accessible open spaces are provided for students to enable opportunities for active and passive recreation; quiet spaces for self regulation; and spaces for outdoor learning. The proposal provides high-quality landscaping using indigenous endemic species that enhances the ecological health of the precinct.
Healthy Urban Development Checklist NSW Health (2009)	The <i>Healthy Urban Development Checklist</i> (2009) was developed by NSW Health to assist health professional to provide advice on urban development policies, plans and proposals. The checklist is principally about helping to answer the questions: • What are the health effects of the urban development policy, plan or proposal? • How can it be improved to provide better health outcomes? The proposed development is consistent with the relevant aspects of the Healthy Urban Development Checklist including that the: • Development provides opportunities for local students to access usable and quality outdoor spaces and recreational facilities. • Green Travel Plan (GTP) seeks to encourage active transport and reduce car dependency (Appendix S). • Proposed development will provide a critical piece of social infrastructure for families of students with special needs by providing a bespoke, modern educational facility, which includes allied health support to provide the best opportunities for students with special needs to thrive and learn. It will reduce the burden of travel to Sydney or Newcastle to access similar facilities for these students and their families.
Crime Prevention through Environmental Design	Crime Prevention Through Environmental Design (CPTED) consists of four (4) universal design principles, which are aimed at assessing crime risk and reducing preventable risk before a development is approved: • Principle 1 – Surveillance • Principle 2 – Access Control • Principle 3 – Territorial Reinforcement • Principle 4 – Space Management An assessment against the CPTED principles is provided in Section 6.24 of this EIS. This assessment considers the objectives and desired outcomes of CPTED and demonstrates how these will be achieved.
Greater Sydney Region Plan – A Metropolis of Three Cities Greater Cities Commission (2018)	The <i>Greater Sydney Region Plan</i> (2018) sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. It is built on a vision where most residents live within 30 minutes of their jobs, education and health facilities, services and other great places. The Greater Sydney Region Plan has grown to a six cities vision. The Six Cities Region stretches across the Lower Hunter and Greater Newcastle City; Central Coast City; Illawarra Shoalhaven City; Western Parklands City; Central River City; and the Eastern Harbour City. The proposed development is consistent with the vision, directions and following objectives of the Greater Sydney Region Plan as follows:

Table 2 Assessment against relevant strategic plans and documents

Strategic Plans	Assessment
	• <u>A city for people</u>: The proposed school will provide specialist social infrastructure that caters to the changing needs of the community as the population increases. The design incorporates flexible and collaborative learning spaces that respond to contemporary educational needs as well as the needs of students with a disability. • <u>A city of great place</u>: The proposed school has been designed with regard to the design quality principles outlined in GANSW's Better Placed design policy. The proposed school has been designed to respond to its social, economic and environmental context and provide a high-quality learning environment that is capable of supporting social connections and creating a community hub. • <u>A well-connected city</u>: The proposed development includes construction of a new footpath along Keefers Glen, as well as end-of-trip facilities and bicycle parking for staff that will improve transport links and encourage active transport to assist in mitigating the traffic impacts to the locality. • <u>A city in its landscape</u>: The proposed development retains a number of existing trees and proposes additional tree planting, which will result in 12.6% tree canopy coverage across the site. Endemic landscape species have been selected to strengthen local ecological communities and habitats and connect the school to Country. • <u>An efficient city</u>: The principles of Ecologically Sustainable Design (ESD) have been incorporated into the design and the proposed development has been designed with regard to the NSW Government's goal of net zero emissions by 2050. • <u>A resilient city</u>: The proposed development has been designed to respond to the challenges of climate change and projected impacted impacts of climate hazards such as heat, flooding and fire.
Central Coast Regional Plan 2041 Department of Planning, Housing and Infrastructure (2022)	The proposed development is consistent with the following big ideas in the regional plan: • A new approach to how we <u>sequence planning for new land uses and infrastructure</u> to accelerate proposals that support our vision for the region and bring even greater public value. ◦ The proposed development provides social infrastructure for the growing population in line with the Regional Plan • Introducing <u>net zero emissions as a guiding principle</u> for all planning decisions ◦ A Net Zero Statement is included with this application. • <u>Embedding resilience in planning and design decisions</u> to improve responses to chronic stresses and acute shocks. ◦ The design of the proposed development is resilient to the environmental challenges of the site. • <u>A preference for infill development</u> rather than greenfield development, where we plan for housing densities that align with how a neighbourhood functions and the type of public transport available, and establish flexible land uses to allow communities to evolve. ◦ The proposed new school is infill development within an existing school site to provide additional specialist educational facilities for residents of the Central Coast. • <u>Better access to and networks of walking, cycling and public transport</u> in urban areas, towns and villages. ◦ The development includes road widening and construction of a new pedestrian walkway along Keefers Glen. • <u>A greater focus on equity</u>, meaning that people have greater choice in where and how they live, how they travel and where and how they work. ◦ The proposed development offers specialised educational facilities for local students with special needs and students with disability.
Central Coast Council Local Strategic Planning Statement Central Coast Council (2020)	The proposed development is located within a growth corridor where 2-3% population growth is predicted and is near the Tuggerah Strategic Centre. The proposed development is consistent with the guiding planning pillars of the document: • <u>Place</u> - The proposed development assists the Central Coast to grow in a manner that recognises and reinforces the best of Central Coast living. The proposed development for a school is a part of providing a community-focused and accessible public spaces and active urban centres where families, businesses and neighbourhoods will thrive.

Table 2 Assessment against relevant strategic plans and documents

Strategic Plans	Assessment
	• <u>Environment</u> - The proposed development is designed to protect natural assets and responds to the environmental constraints and natural topography of the site. • <u>Lifestyle</u> - The proposed development provides access to jobs, and improved health and well-being outcomes via the provision of inclusive education for students with a disability. The school will have capacity for 200 students and will provide education and allied health and to support tailored interventions and in-class support. • <u>Infrastructure</u> - The Traffic Impact Assessment provided with this application, confirms that the proposed development will not impact the levels of service currently being achieved at any of the surrounding intersections. Two new vehicle crossings are proposed, along with covered on-site kiss and drop, and at-grade parking. Public domain upgrades include widening Keefers Glen and provision of a footpath.
Draft Central Coast Regional Transport Plan 2041 - A 20-year vision	The Draft Central Coast Regional Plan 2041 is a supporting plan of Future Transport 2056 and provides a blueprint for how Transport for NSW will address the key trends and transport needs of the Central Coast through to 2041. Key goals of the vision include: • Proportionally more people (than today) living in the Central Coast walk, cycle and use public transport • More travel choices supporting vibrant and accessible centres to live, work and visit • Improved multimodal connectivity between the Central Coast, the Hunter, and Greater Sydney • Improved intra-regional connectivity to support the strategic centres and significant growth areas within the Central Coast • Greater use of technology to support a safer, more efficient, and accessible transport network • Reduced crash rates in-line with the 'Towards Zero' goal of zero fatalities and serious injuries on roads by 2056 Students will predominately travel by assisted taxi, bus or private vehicle. A Green Travel Plan has been prepared to promote public and active transport options for staff, and bicycle parking and end of trip facilities are provided.

Based on a review of the relevant strategic plans and documents, it is considered that the proposed development is consistent with the strategic context of the site.

2.2 Key Site Features

2.2.1 Regional Context

The site is located approximately 1.9km south-east of Wyong Town Centre and Wyong Train Station, and 15km north-east of Gosford Town Centre, within the Central Coast Local Government Area (LGA) (**Figure 4**).



Figure 4 Regional context (Source: Google maps)

2.2.2 Site Description

The site is described as 84 Gavenlock Road, Mardi within the Central Coast LGA and is legally described as Lot 9, Section 4 in Deposited Plan (DP) 3368. The site is rectangular in shape, has a total area of 13.3 hectares and a 200-metre frontage to Gavenlock Road (east) and Keefers Glen (west) (**Figure 5**).

The proposal also includes subdivision for the new EO'CCS in the north-western corner of the site and public domain works to widen a section of the road pavement along Keefers Glen and extend pedestrian infrastructure.



Figure 5 Aerial image of St Peter's Catholic College (bounded in yellow) and EO'CCS (bounded in red) (Source: Nearmap 28 October 2024)

Existing Development

The site comprises the existing St Peter's Catholic College, which includes a network of buildings for administration, teaching, multi-purpose hall and ancillary buildings and structures to service the existing secondary college. The site contains a large sports field in the eastern portion of the site, with playground and open space areas throughout the site. Ancillary development includes vehicle circulation paths, walking paths, shade structures and sheds.

Photographs of the site and its immediate context are provided in **Appendix H**.

Topography

The proposed EO'CCS allotment is undulating with a six (6) metre fall across the site, from 11.45m AHD in the south-western corner to 5.73m AHD in the north-eastern corner. The site topography generally follows the natural fall of the land, however, the land has been levelled in certain areas to form building pads or playing fields.

The wider St Peter's Catholic College comprises undulating topography that generally follows the natural fall of the land, from 24m AHD in the south-western corner of the site to <4m AHD at the large playing field in the eastern-most portion of the site.

Trees, Vegetation and Biodiversity

The wider site contains areas of dense vegetation and has trees interspersed throughout the existing built form. There are 91 trees within the proposed EO'CCS site, eight (8) street trees proximate to the proposed public domain works, and four (4) trees in the properties adjoining the site to the north. Trees are a mixture of planted indigenous and exotic species.

The Biodiversity Development Assessment Report (BDAR) (**Appendix O**) identifies that the Eileen O'Connor site is located on Cooranbong Coastal Slopes and has assigned the Coastal Creekline Dry Shrubby Swamp Forest as a best-fit PCT for the vegetation within the site.

Below the tree canopy, the site generally comprises managed grassland.

Soils, Salinity and Geology

A Geotechnical Investigation has been carried out (**Appendix V**) which did not identify any signs of instability within the site,

The geological conditions of the site can be summarised as:

- Topsoil: 100-200mm of topsoil fill with vegetation.
- Fill: Silty clay fill with gravel depths of up to 0.7m. Some brick fragments were observed.
- Natural Soil: Sands, silty sands and clayey sands of loose to medium density to an average depth of 1 metre. Below 1m, clayey sands in dense conditions were encountered along with gravelly silty sands with trace coarse gravels

Significant water seepage was observed at 2.8m at the northern portion of the existing dam, with soils below 2.5m in this location appearing moist to wet. This may be due to leakage from the dam or recent heavy rains. The subsurface material in the three other boreholes appeared dry to moist.

A Salinity and Aggressivity Assessment (**Appendix W**) has found that that salinity in samples analysed from the site were typically non-saline, and the soil on the site can generally be treated as non-saline. Samples submitted for aggressivity found that the local soils were:

- non-aggressive to mildly aggressive to steel
- non-aggressive to severely aggressive to concrete
- the lowest pH value was found to be 3.7

An Acid Sulfate Soils Management Plan (**Appendix NN**) provides that soil sampling indicates that potential acid sulfate soils (PASS) is present across the site ranging from 5.0 to 5.5 pH units. The ASSMP concludes that the Class 4 PASS and ASS is present at the site within soils deeper than the 2.0m mark and works by which the water table is likely to be lowered more than 2.0m below the natural ground surface.

A Detailed Site Investigation (**Appendix X**) of the site includes a range of sample analysis of the site soils, which notes that all results were below the site assessment criteria (SAC). The DSI did not analyse groundwater composition as excavations will not require groundwater dewatering.

Waterways and Flooding

The site is mapped as containing two (2) dams, the one in the western portion of the site (**Figure 6**) is within the proposed EO'CCS site, and is proposed to be de-watered and infilled as part of the development. The site is not mapped as comprising any hydroline creeks, rivers or other forms of water bodies.



Figure 6 Mapped waterways (Source: Water Management (General) Regulation 2018 hydroline spatial data 1.0 map)

The St Peter's Catholic College site is affected by mainstream flooding, while the proposed EO'CCS site is generally flood free, with only a small portion of the site affected by the Probable Maximum Flood (PMF) along the edge of the northern boundary (**Figure 7**).



Figure 7 Flood Precincts (Source: Central Coast Council flood mapping)

Bushfire

The eastern portion of the proposed site is partially mapped as bushfire prone land – vegetation buffer.



Figure 8 Bush Fire Prone Land (Source: ePlanning Spatial Viewer)

Lot Size

The land is subject to a minimum lot size control of 450m².



Figure 9 Minimum lot size map (Source: ePlanning Spatial Viewer)

Other Site Considerations

For the avoidance of doubt, it is confirmed that the site is not mapped as being subject to or comprising other planning and environmental constraints, such as:

- Floor Space Ratio
- Height of Buildings Control
- Land Reservation Acquisition

- Landslide Risk
- Terrestrial Biodiversity
- High Value Biodiversity
- Critical Habitat
- Environmental Heritage (including being within the vicinity of a listed heritage item)
- Heritage Conservation Area
- Environmentally Sensitive Land
- Aircraft Noise Exposure Forecast
- Drinking Water Catchment

2.2.3 Surrounding Development

Existing

The existing surrounding development predominantly consists of residential development to the south and west zoned R1 General Residential. The residential development is a mix of low and medium density dwellings. Further to the west is the M1 Motorway, and further to the south is Tuggerah Shopping Centre.

The land to the north of the site is zoned C2 Environmental Conservation and contains densely wooded bushland. The land to the east of the site is zone E3 Productivity Support and E4 General Industrial and contains a mixture of business and light industrial uses, further to the east is the main northern railway line, Tuggerah Nature Reserve and Tuggerah Lake. Further to the north is Wyong Town Centre.

Future

The site of the proposed new independent school is in the vicinity of the Tuggerah and Wyong Northern Growth Corridor. The Central Coast Council Local Strategic Planning Statement 2020 identifies an opportunity for Transit Oriented Development around Tuggerah Train Station and Wyong as an emerging market for infill residential development. The LSPS forecasts an increase of 27.8% - 58.8% for dwellings and development between 2016-2036. There is an area around Woodbury Drive to the south of the site is mapped under the Low and Mid Rise Housing Policy (LMR) (refer **Figure 10**).

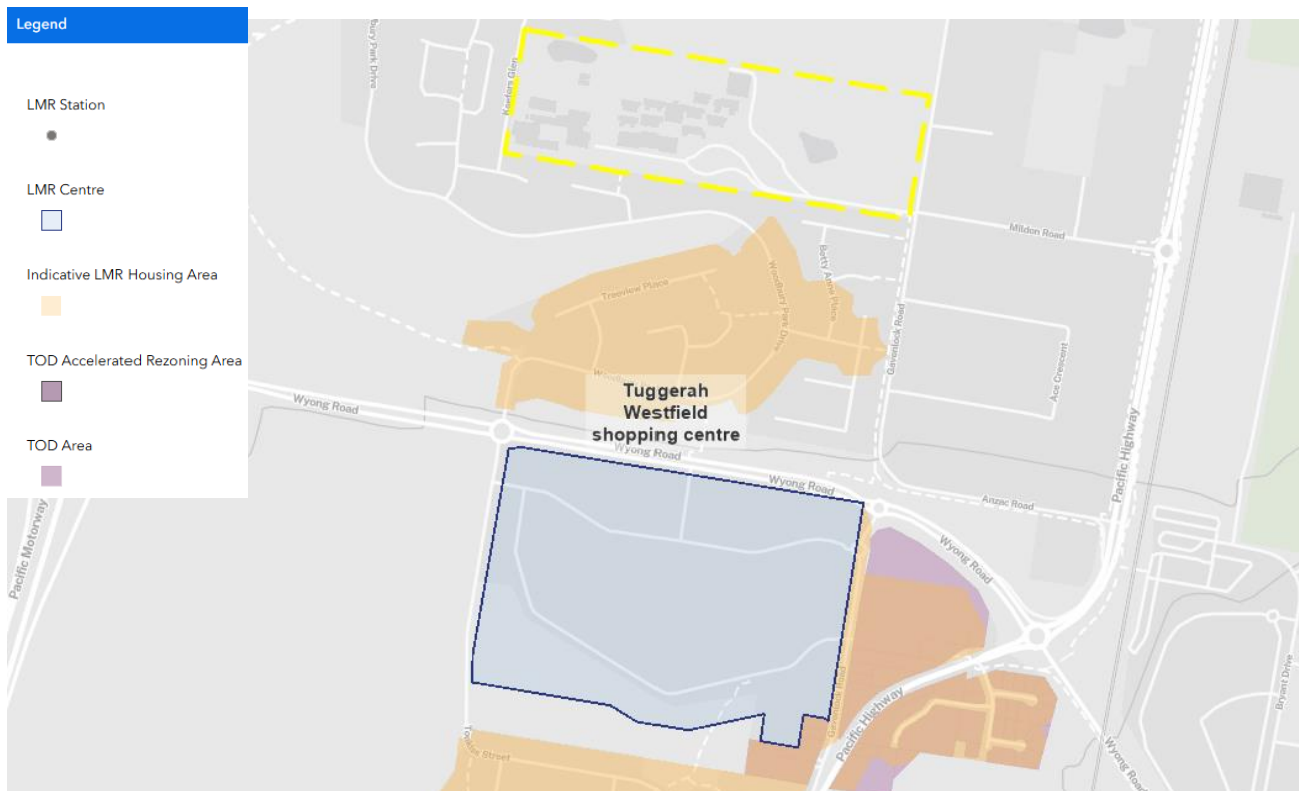


Figure 10 Extract of LMR mapping with site bounded in yellow (Source: Low & Mid Rise Housing Policy Indicative Map)

2.2.4 Transport and Road Network

The proposed EO'CCS site is located in a low density residential precinct, that is not expected to undergo any additional intensification. In regard to the transport and road network, this is serviced by a series of roads including (in order of classification):

- Gavenlock Road (Local): a local road that generally traverses north-south between McPherson Road in the north and Anzac Road in the south. In the vicinity of the site, Gavenlock Road generally accommodates a single lane of traffic in each direction and is subject to 'School Zone' restrictions of 40km/h speed limits between 8:00am-9:30am and 2:30pm-4:00pm on school days and a speed limit of 50km/h outside of these times. Unrestricted kerbside parking is generally permitted along either side of the road.
- Wyong Road (State): a TfNSW Main Road (MR 335), that generally traverses north-south between Old Maitland Road in the north and the intersection of The Entrance Road and Central Coast Highway in the south. In the vicinity of the site, Wyong Road generally accommodates two (2) lanes of traffic in each direction and is subject to a 70km/h speed zoning.
- Woodbury Park Drive (Local): a local collector road that generally traverses north-south between Gavenlock Road in the north and Wyong Road in the south. In the vicinity of the site, Woodbury Road generally accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along either side of the road.
- Brickendon Avenue (Local): a local road that traverses east-west between Woodbury Park Drive in the east and The Sheiling in the west. Brickendon Avenue accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Limited kerbside parking is available.
- Keefers Glen (Local): a local road that traverses east-west between Woodbury Park Drive in the east and The Sheiling in the west. Keefers Glen generally accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Unrestricted kerbside parking is permitted along the eastern side of the road with some limited parking on the western side.
- Deloraine Glen (Local): a local road that traverses east-west between a cul-de-sac in the east and Wagners Place in the west. Deloraine Glen accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Limited kerbside parking is available.
- Wagners Place (Local): a local road that traverses north-south between a cul-de-sac in the north and Woodbury Park Drive in the south. Wagners Place accommodates a single lane of traffic in each direction and is subject to a 50km/h speed zoning. Limited kerbside parking is available.

In regard to bus services, the Transport and Accessibility Impact Assessment (**Appendix R**) identifies that the existing bus services that operate in the locality are the routes outlined as follows:

- 16 – The Entrance to Wyong
- 19 – Wyong to Gosford
- 24 – The Entrance to Wyong
- 26 - The Entrance to Wyong

The school benefits from several bus services operating in the locality, with bus stops located in either direction within 250 metres of the site along Woodbury Park Drive.

Additionally, there are also existing bus services that provide pickup within St Peter's Catholic College in the afternoon, these include:

- 37 - Tuggerah to Gosford via Lisarow
- 79 - Lake Haven to Tuggerah via Woongarah, Hamlyn Terrace & Wattanobi
- 80 - Tuggerah to Lake Haven via Pacific Hwy & Lake Haven Dr
- 82 - Lake Haven to Tuggerah via Wyongah, Tuggerawong & Tacoma
- 93 - Noraville to Tuggerah via Wyong & Toukley

The school is also serviced by Tuggerah Railway Station which is located approximately 1.3 kilometres southeast of the site, which provides services along the CCN Central Coast and Newcastle Line and South Coast Line, linking the site to the Sydney CBD, Hornsby, Newcastle, and the surrounding railway network.

2.3 Consideration of Cumulative Impacts

Pursuant to the *Cumulative Impact Assessment Guidelines for State Significant Projects*, the required approach to cumulative impact assessment (CIA) involves collecting additional data, investigating mitigation measures, agreeing on common methods and assumptions, and determining the scale and

nature of the cumulative impacts in accordance with any relevant government standards or performance measures. Any identified impacts must then be minimised. Justification of the project is discussed in detail at **Section 7**.

The subject project is for a new school and accordingly the appropriate CIA methodology adopted for the purposes of this project are set out in **Table 3**.

Table 3 CIA Methodology for Proposed Eileen O'Connor Catholic School		
No.	CIA Methodology	Assessment
1	Confirmation that all studies and investigations supporting this EIS adequately represent both the local and broader impacts of the proposal	All studies and investigations supporting the EIS have been informed by an early CIA scoping process which ensured that the assessment set out in this report adequately represents both the local and broader impacts of the proposal. Further assessment is not required in this regard.
2	Collate data on approved or proposed developments on land surrounding the subject site or which are likely to have an impact on (or be impacted by) the proposed development	Section 2.3.1 provides an assessment of approved or proposed developments on land surrounding the subject site, together with an assessment of developments likely to have an impact on (or be impacted by) the proposed development.
3	Review of similar projects as a proxy, where required	N/A
4	Reviewing mitigation measures for the project to ensure the outcomes of the project are reasonable and feasible	The outcomes of all assessments supporting the EIS have been reviewed to ensure the mitigation measures being adopted by the project are reasonable and feasible. All such mitigation measures have been set out in detail at Appendix E .
5	Coordinating with proponents of adjoining projects to reduce potentially significant cumulative impacts	The site is an existing educational establishment, consultation has been undertaken with St Peters Catholic College and adjacent residents. There are no potentially significant cumulative impacts to consider.

2.3.1 Approved or Proposed Developments

The site is located within the Mardi Urban Release area. Development in this area is generally complete in accordance with the strategic plan, and therefore there is unlikely to be any significant development proximate to the site that would generate cumulative impacts.

A review of Council's DA tracker has only identified minor residential works or alterations and additions to the existing commercial development along Gavenlock Road in the vicinity of the site. A review of the Major Projects portal has identified no state significant development applications (SSDA) in Mardi or Tuggerah. There are a number of SSDAs in and around the Wyong area. However, none of these are located proximate to the site, and will not impact the surrounding road network.

2.4 Planning Agreements and Benefit Sharing

Neither the site nor the proposed development is subject to any planning agreements or benefit-sharing.

2.5 Alternatives Considered

In the process of determining the suitability of the subject site and the final design, Catholic Schools Broken Bay (CSBB) and the project team has considered and evaluated a range of alternative options included an evaluation of options to determine the most suitable. In general terms, the criteria adopted by CSBB in evaluating site options includes (in no particular order):

- Objectives of proposal
- Design and operational needs of student cohort
- Site constraints
- Land availability
- Social and environmental outcomes

Alternative options considered by the CSBB are set out in **Table 4**.

Table 4 Alternative Options	
Option	Description
1	Do Nothing: There is currently no bespoke educational facility for students with high and complex needs on the Central Coast. CSBB's research has identified that 1 in 12 students in NSW have a disability, with the demand for disability support services increasing at four (4) times the rate of enrolment. Central Coast-based students who are unable to be adequately supported in the wider school system are currently having to travel to Sydney or Newcastle to find suitable specialist educational facilities. The situation for these Central Coast families is inequitable and places an unreasonable burden on these families. Accordingly, CSBB does not wish to adopt a 'do nothing' approach.
2	Pursue the School at an Alternative Site: Well-located and suitably sized land to accommodate a school is not readily available within the Diocese. In addition, any such land would be cost-prohibitive in an existing urban area. CSBB owns the proposed land, and the proposed site area is currently under-utilised by the existing St Peter's Catholic College. A review of land owned by CSBB across the Central Coast has identified this site as the most suitable for the development.
3	Pursue a Smaller or Larger School at 84 Gavenlock Road: CSBB has assessed the demand across the Central Coast for specialist educational facilities for students with special needs and has based the proposed development on forecast current and future demand in consultation with potential student's families and those who currently attend schools in Sydney or Newcastle. The current proposal meets the forecast needs for the area and therefore consideration of a smaller school, would not meet forecast demand. And a larger school is not necessary.

With regard to the design, numerous alternatives were proposed. The final design is the result of extensive consultation with stakeholders, feedback from the State Design Review Panel, Central Coast Council, residents and specialist consultants based on environmental constraints. The following figures provide an indication of the masterplanning process, as the team worked through 23 iterations of the site layout before landing on the proposed design.

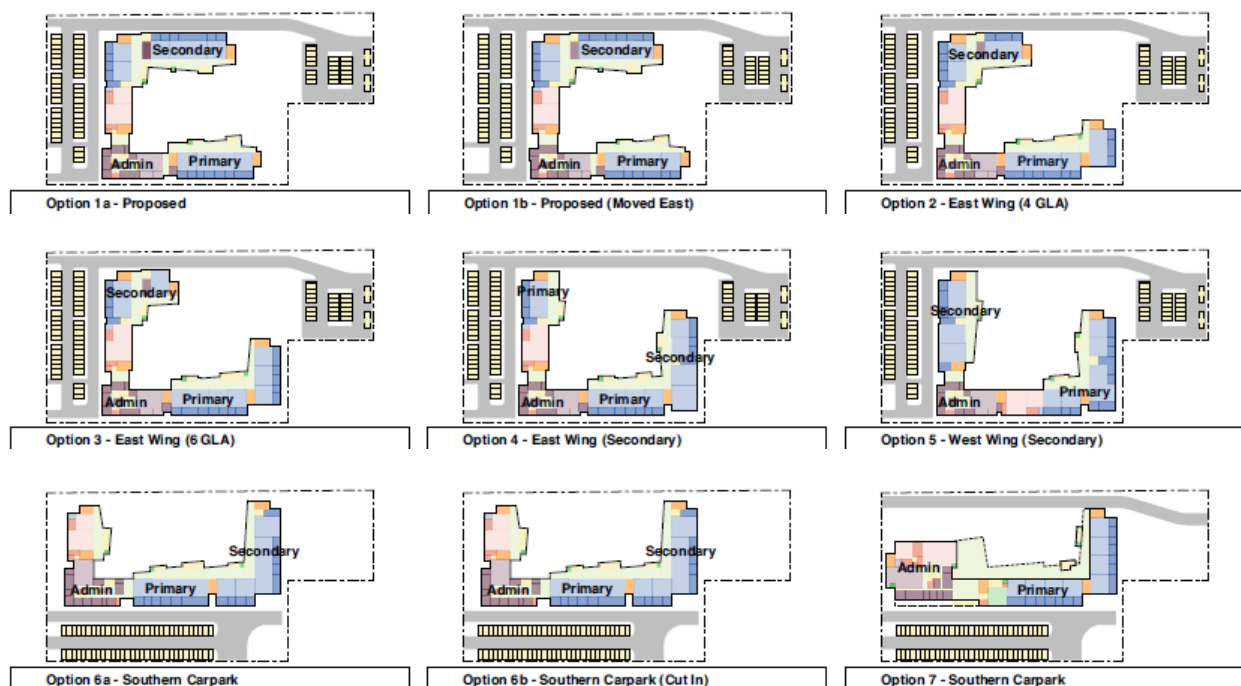


Figure 11 Masterplanning the site – Concepts 1 to 7

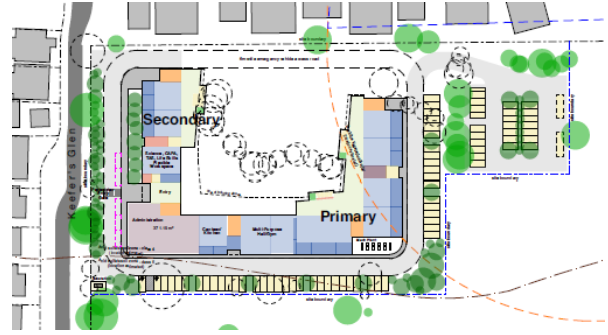
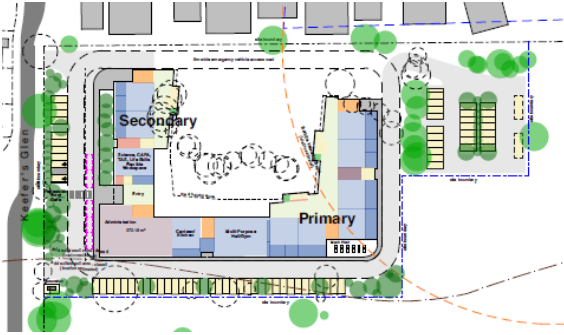


Figure 12 Options 8a and 8b

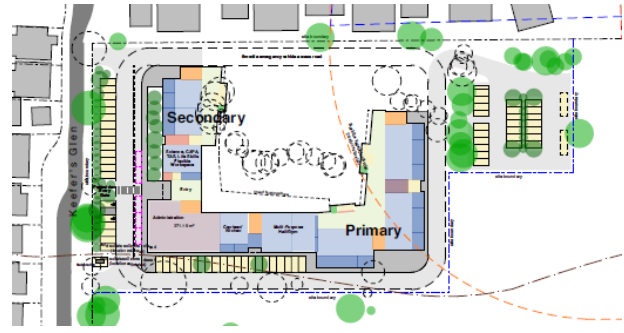
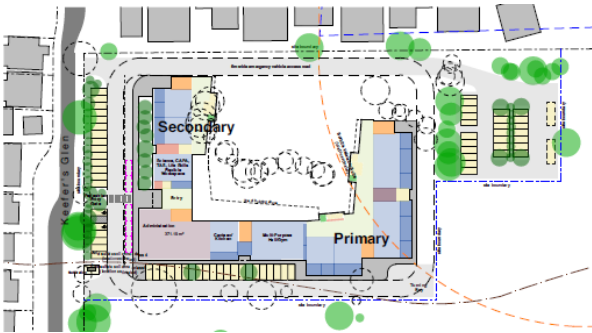


Figure 13 Options 9a and 9b

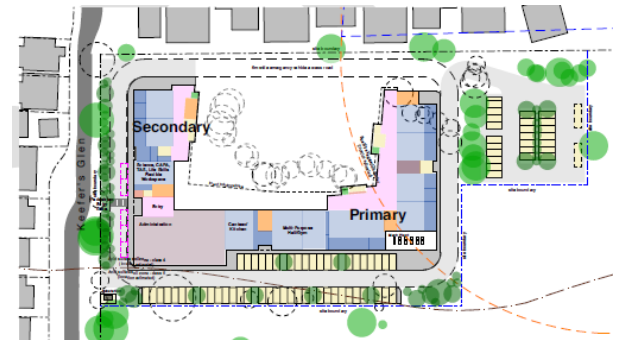
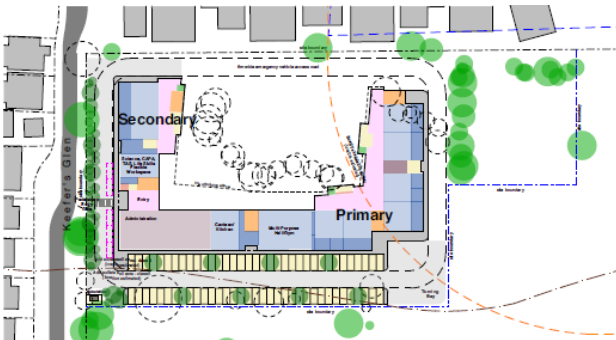


Figure 14 Options 10 & 10b

3 Project Description

3.1 Project Overview

Table 5 Project Overview	
Project Element	Summary of the project
Site Area	Existing site - 13.3 ha Proposed new Eileen O'Connor Catholic School site - 1.2838 ha
Site Description	84 Gavenlock Road, Mardi – Lot 9 Section 4 DP 3368. The proposal includes a subdivision of land to create two allotments with the existing site, one to accommodate the existing St Peters Catholic College and the other to accommodate the new Eileen O'Connor Catholic School. Public domain upgrades are proposed along Keefers Glen.
Proposed Use	Educational Establishment
Project Summary	Demolition of existing structures, tree removal, and site preparation works. Construction and operation of a new school for 200 students with special needs, comprising teaching spaces, administration and staff facilities, library, hall, amenities, landscaping, play space, vehicle access and car parking. Civil works to widen the road corridor along a section of Keefers Glen and install a footpath. Subdivision of one (1) lot into two (2) to create a new allotment to accommodate the new school.
Site Preparation	Demolition of three (3) existing sheds and hard stand areas; relocation of existing demountable classrooms within the St Peter's Catholic College allotment; removal of 67 trees, including four (4) street trees (32 trees being retained); dewatering of dam; site preparation works including cut and fill.
Built Form	Construction of one (1) x predominately two-storey building, with two sections that are three (3) storeys (on the northern end of the eastern and western wings), in three (3) wings (southern, western and eastern) comprising learning, staff, administration and support spaces together with library, hall and circulation spaces.
Landscaping	Outdoor learning and play areas including sports court and turfed play areas, together with small, medium and large gathering spaces. A total of 66 new trees offering a total green canopy cover of 12.6%, supported with shrubs, grasses and groundcovers. Including a garden in front of the school that will be open to the streetscape.
Utilities and Services	Connection to all critical utilities and services.
Public Domain Works	Road widening works along a portion of Keefers Glen and construction of a new footpath along the eastern side of Keefers Glen between the site and Brickendon Road.
Student and staff numbers	Approximately 200 students and 71 full-time equivalent (FTE) staff.
Maximum building height	Approximately 12.3 metres
Proposed play space	3,350m ² , providing approximately 16.75m ² /student
Gross Floor Area	5,356m ² (excluding verandahs)
Access	Equitable access is provided from all site entrances and car parking spaces to all levels of all school facilities. Car park provides two (2) accessible parking spaces.
Car parking	65 car parking spaces, comprising 60 staff spaces including two (2) accessible parking spaces and five (5) shared drop-off/pick-up/visitor parking spaces.
Bicycle parking	Six (6) bicycle spaces are provided.
Hours of operation	<u>School</u> : 7am to 6pm Monday to Friday, as follows: 7am to 8.30am staff preparation time 8.30am to 3pm core school hours 3pm to 6pm professional development, curriculum preparation and meetings
Ancillary Service Hours	Cleaning will occur out of main school hours. Waste collection will occur three (3) times a week in the mornings before the peak drop off commences Monday to Friday
Construction hours	7am – 6pm Monday to Friday and 8am – 1pm Saturday (no construction Sundays)

Table 5 Project Overview	
Project Element	Summary of the project
Anticipated date of operation	Day 1 Term 1 2028
Jobs	Operational jobs – 71 FTE Construction jobs – 225
Estimated Development Cost	\$64 million (exclusive of GST)

Figure 15 is an extract of the extent of works plan, which includes the EO'CCS site, drainage works and relocation of structures in the St Peters Catholic College site, as well as public domain works along Keefers Glen.

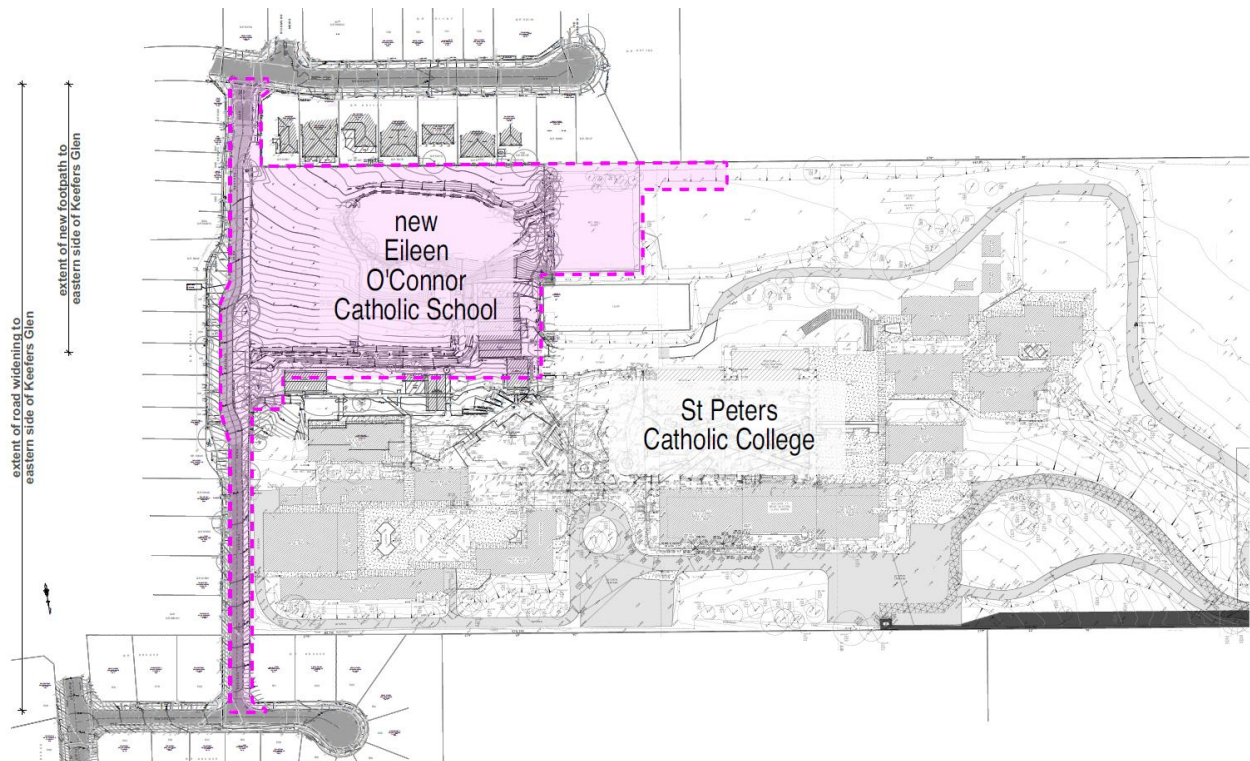


Figure 15 Extent of works plan (Source: Stanton Dahl Architects)

3.2 Detailed Project Description

3.2.1 Subdivision of land

The proposal includes the subdivision of land from the existing St Peters Catholic College site to create a new allotment with an area of 1.284 hectares in the north-western corner of the site.

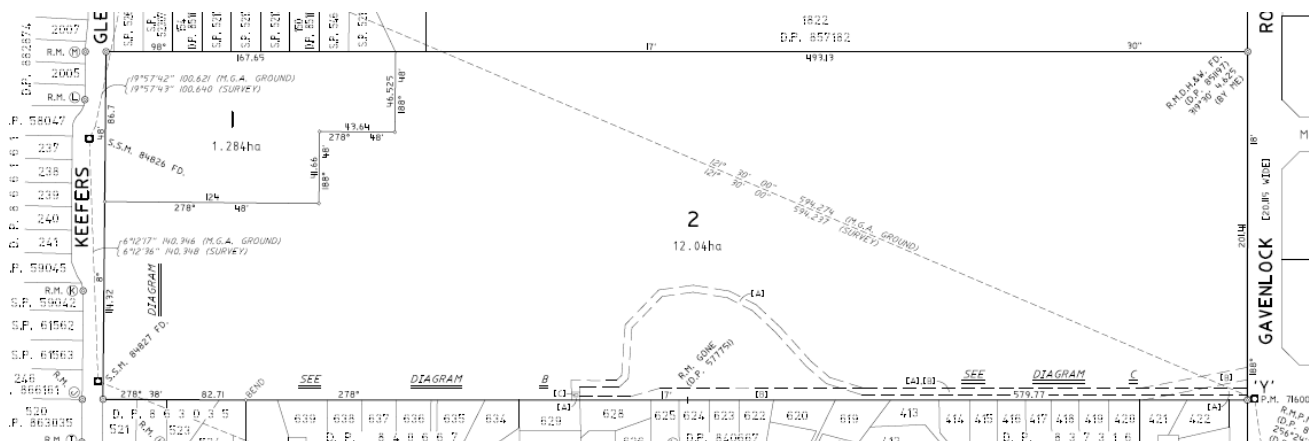


Figure 16 Plan of subdivision (Source: Lachlan Edward Broome)

3.2.2 Site Establishment and demolition

Demolition

In terms of site improvements, the proposed development will involve the demolition of the bus shed, construction workshop, maintenance sheds, and pavement areas as well as infilling the dam. A Hazardous Building Materials Survey (**Appendix Z**) of the structures did not find any presence (or suspicion of being present) of non-friable or friable asbestos.

Remediation

A Detailed Site Investigation (**Appendix X**) of the site includes a range of sample analysis of the site soils, which notes that all results were below the SAC with the exception of:

- Zinc (one (1) hotspot identified on the site)
- Benzo(a)pyrene (B(a)P) levels
- ACM (identified in one (1) location)
- Faecal coliforms and eColi (resulting from the on-site sewer management system)
- Groundwater which included chromium, nickel and zinc (generally associated with the mineralogy of the clay / fractured shale bedrock)

The investigation has identified three (3) potential areas of environmental concern (PAEC), based on the historical agricultural use of the site. Fill observed around Pits 22 and 23 is not suitable for unrestricted reuse on the site and a remediation strategy is required to address these PAEC. The Remediation Action Plan (**Appendix Y**) establishes the following preferred remediation strategy:

- Off-site disposal of the zinc, B(a)P and ACM impacted area.
- Off-site disposal of the area impacted by eColi and Faecal Coliforms.
- Management of potential aesthetic risk from impacted fill.

Tree Removal and Retention

The proposed works will require the removal of a total of 67 trees (including one (1) dead tree and four (4) street trees) as shown in **Figure 17**, **Figure 18** and **Table 6**.

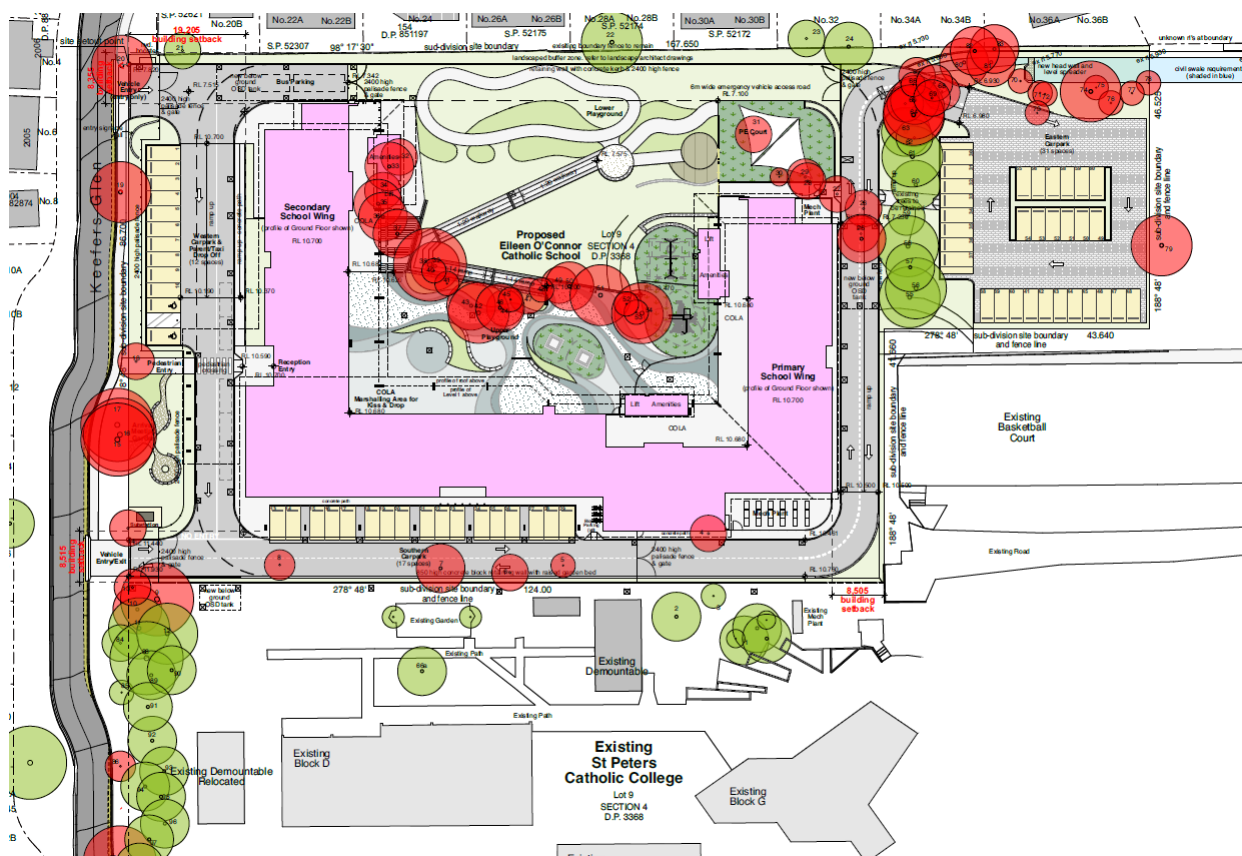


Figure 17 Tree retention & removal plan (Source: Stanton Dahl Architects)

Removal Tree Numbering- Refer Appendix G.1.	Retention Value		
	Low	Mod	High
Trees wholly or partially within footprint of proposed development. (Unacceptable level of impact, major encroachment into TPZ & SRZ (>10%))	4,10,13,14,18,25,26,27,28,29, 31,32,36,37,38,39,40,41, 43,44,45,46,47,48,49,50,52,68,69,72,73,74 75,76,78,82	5,6,7,9,33,34,35 42,51,53,54,64,65,66,67 70,71,77,80,81,83,86,87	8,15,16,17,19,20 79,
3.5 CCDCP (2022) Exempt tree works. -Dead tree.	57.		

Figure 18 Trees Proposed for Removal (Source: Bellevue Tree Consultants)

Table 6 Species Proposed for Removal		
Species Name	Common Name	No. of Trees Being Removed
Casuarina glauca	Swamp She-Oak	11
Eucalyptus robusta	Swamp Mahogany	35
Angophora costata	Smooth Barked Apple	11
Melaleuca styphelioides	Prickly Paperbark	4
Glochidion ferdinandi	Cheese Tree	2
Melaleuca quinquenervia	B.L.Paperbark	1
Eucalyptus longifolia	Woollybutt	2
Acacia spp	Wattle	1
Total		67

There are 32 trees proposed for retention on the site, including nine (9) high value trees as indicated in **Figure 19**.

Retained Trees Tree numbering- Refer Appendix G1	Retention Value		
	Low	Mod	High
Works outside of TPZ or an acceptable level of encroachment (10-15%).	1,3,21,22,23,24,85,89,90,93,95,96,97 ,98 99,100,101,102,103.	2,11,12,56,84,91,92	55,58,59,60,61,62,63,88,94

Figure 19 Trees being retained (Source: Bellevue Tree Consultants)

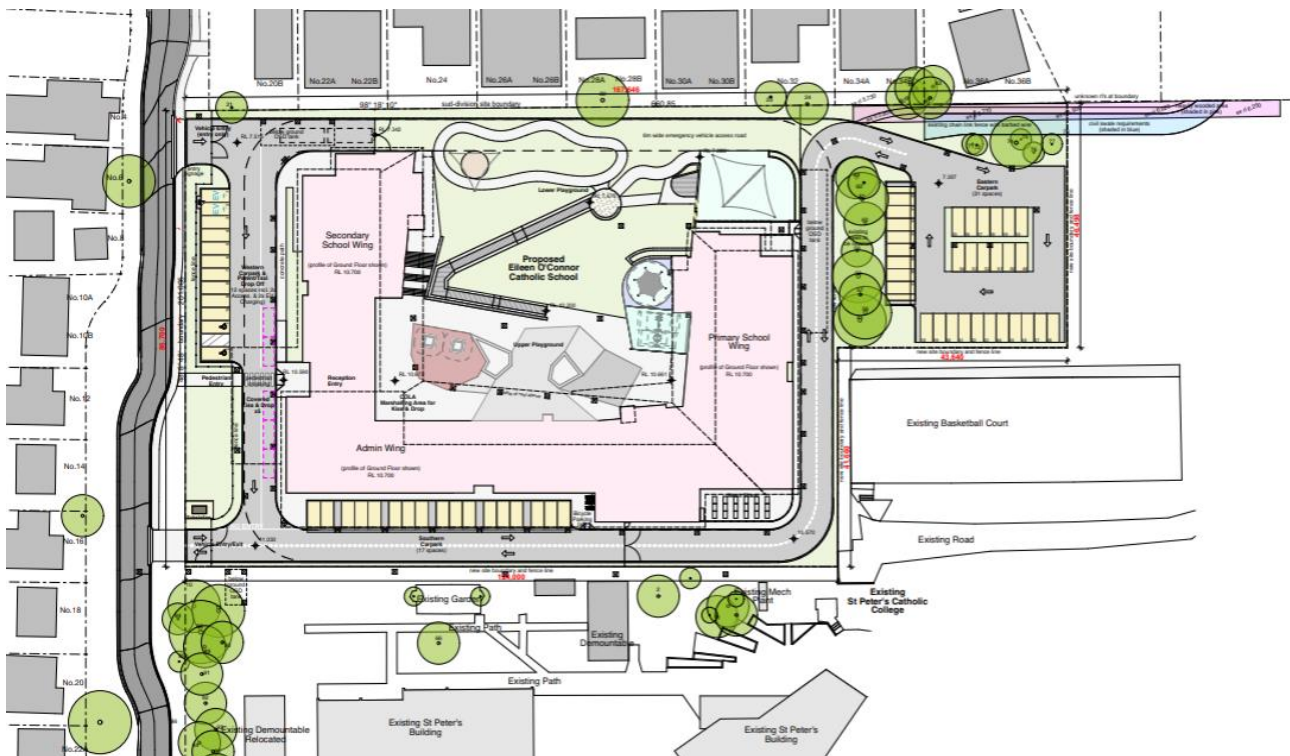


Figure 20 Tree retention plan (Source: Stanton Dahl Architects)

3.2.3 Site Preparation

The proposal will require dewatering and removal of the existing dam. Bulk earthworks are required to form design levels of the proposed buildings and landscaped areas, which will include a variety of forms of retaining, including retaining walls, battering, landscaped areas and ramped footpaths. An extract of the excavation plan prepared by James Taylor & Associates (**Appendix CC**) is provided as **Figure 21** below.

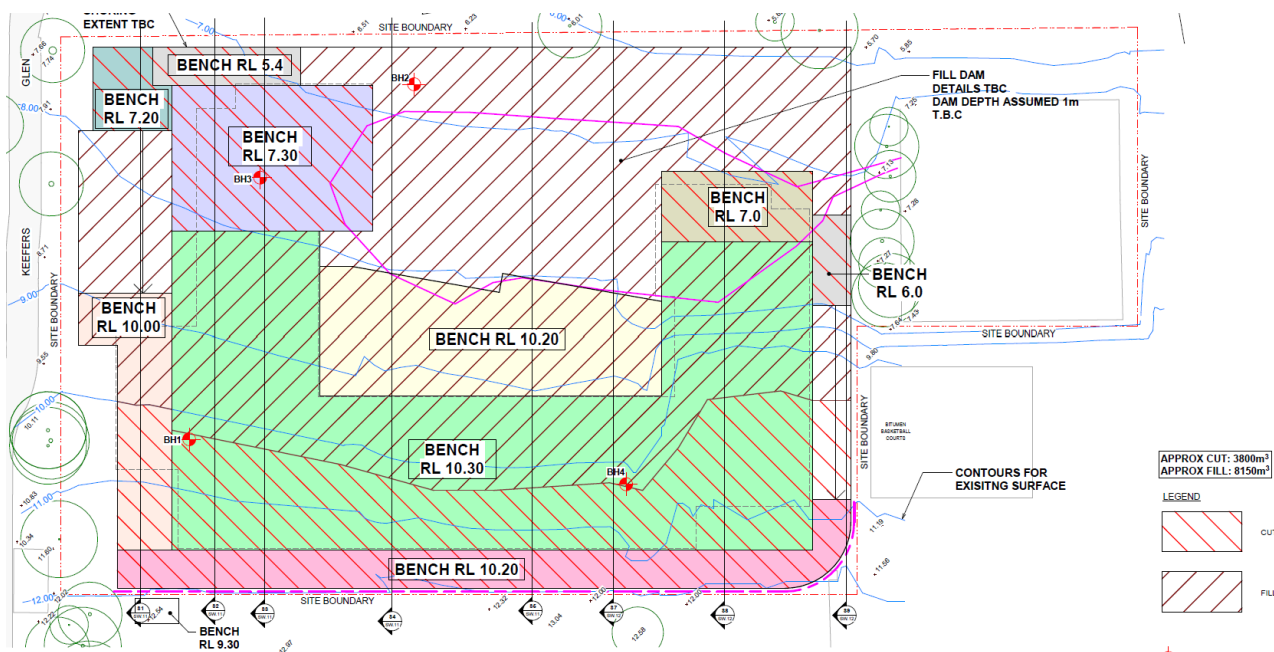


Figure 21 Excavation Plan (Source: JTA)

3.2.4 New school buildings

The proposed development will involve the construction of a new school building configured in three (3) wings along the western, southern and eastern boundaries of the site and will have a gross floor area of 5,356m² (excluding verandahs). The building is predominately two (2) storeys, with a section in the north-eastern and north-western corners that are three (3) storeys, in line with the topography of the site. The new building will be constructed as a single stage, and will incorporate the following facilities:

- Lower ground level:
 - Equipment and maintenance store
 - Waste and chemical store
 - Service corridor, store, lift and student amenities
- Ground level:
 - Administration comprising seven (7) offices, two (2) meeting rooms, reception/administration area, foyer, staff lounge, storage, sick bay, and staff amenities.
 - Eight (8) general learning areas (GLA); one (1) regulation space and one (1) resource room per GLA; Gym/Fitness/Performing Arts room and Multi-purpose hall
 - Kitchen, canteen, storerooms, amenities, plant room, stairs, lifts and circulation areas.
- Level 1:
 - Twelve (12) GLAs, Science/CAPA/TAS/Life Skills Flexible Space, and Library
 - Store rooms, staffrooms, meeting rooms, stairs, lifts and circulation spaces.
 - Staff and student amenities.

Extracts of the floor plans for each level of the building together with the roof plan are provided at **Figure 22** through to **Figure 24**. A photomontage of the north-eastern perspective of the school is provided at **Figure 25**.

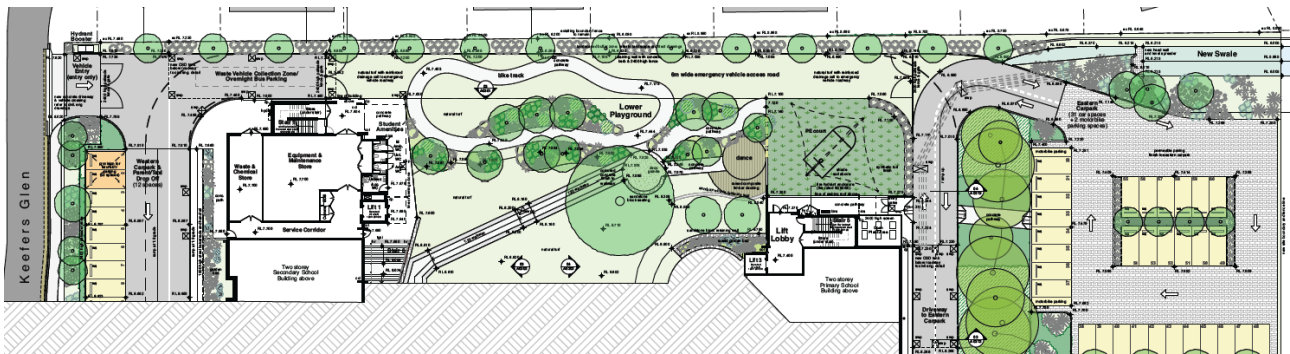


Figure 22 Lower Ground Floor Plan (Source: Stanton Dahl Architects)

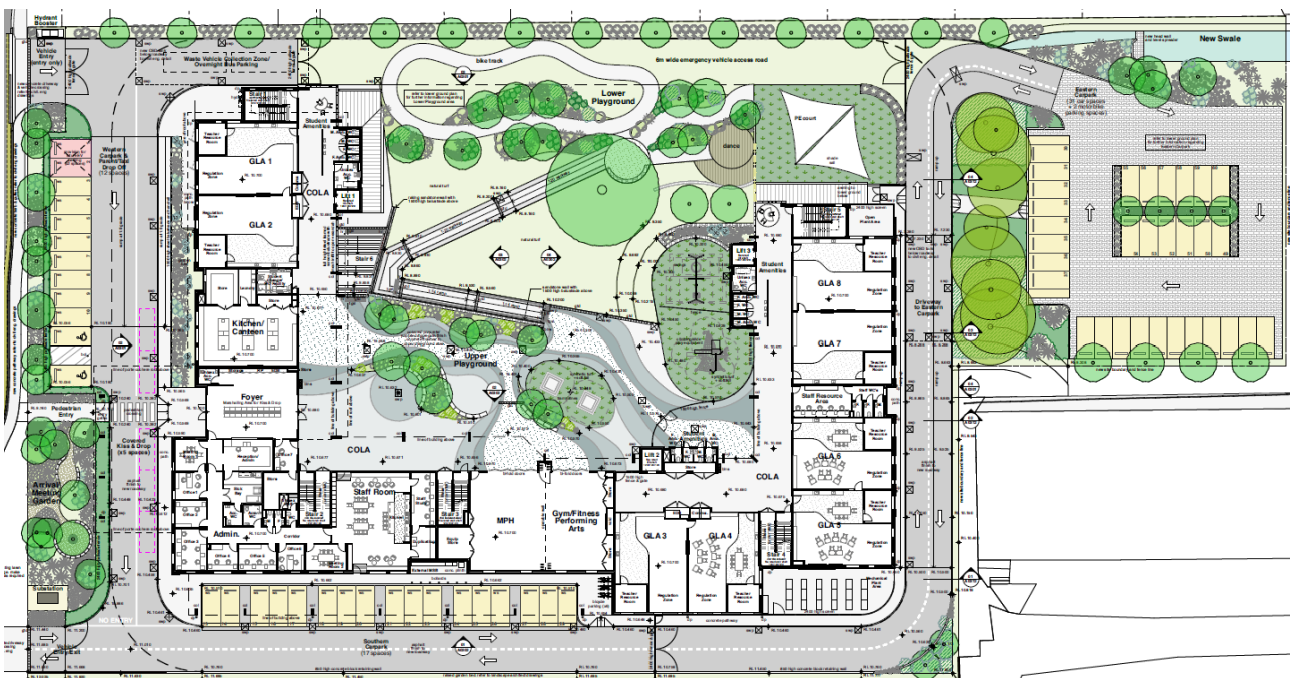


Figure 23 Ground Floor Plan (Source: Stanton Dahl Architects)



Figure 24 First Floor Plan (Source: Stanton Dahl Architects)



Figure 25 North-Eastern Perspective (source: Stanton Dahl Architects)

3.2.5 Landscape

The proposed landscape design will provide a welcoming entry to the site, with a welcome garden that is open to the public domain and provides a softening and screening effect for the vehicle circulation and kiss and drop areas.

The design provides a variety of play areas, including active play such as swings, trampoline, bike track, dance space and passive spaces for self-regulation or quiet play. The design has integrated Connecting with Country elements with meeting areas and endemic species proposed. The playspace is fully accessible with walkways traversing the natural topography of the land and providing opportunities for students to move through and around the site.

A total of 66 new trees are proposed to be planted, which will supplement the 32 trees being retained to create canopy coverage of 12.6% across the site, which is further supported by a range of shrubs, grasses and groundcovers.

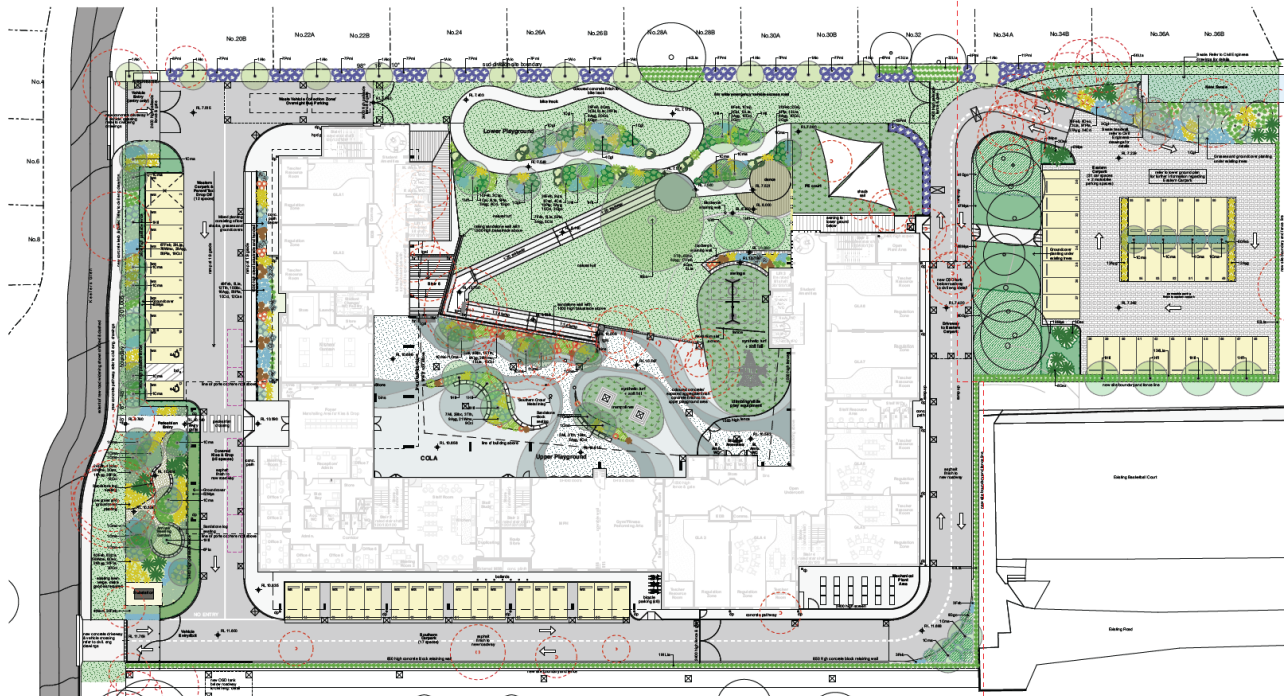


Figure 26 Landscape Plan (Source: Inview Design)

Plant Schedule

Code	Botanical Name	Common Name	Pot Size	Height	Width	Qty	Stake
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Trees

Alo	Acacia longifolia	Sydney Golden Wattle	75L	6m	4m	13	Y
Cgl	Casuarina glauca	Swamp Oak	75L	10m	5m	9	Y
Cma	Corymbia maculata 'Gamai'	Spotted Gum	75L	12m	4m	28	Y
Ebo	Eucalyptus botryoides	Southern Mahogany	75L	30m	15m	1	Y
Hfl	Hymenosporum flavum	Native Frangipani	45L	8-10m	5.0m	16	Y

Shrubs & Grasses

Ali	Acacia cognata 'Limelight'	Dwarf River Wattle	200mm	1.0m	1.2m	18	
Ayg	Anigozanthus 'Yellow Gem'	Kangaroo Paw	140mm	2.0m	1.0m	194	
Cap	Carex appressa	Tall Sedge	140mm	1.5m	1.5m	12	
Cal	Correa alba	White Correa	200mm	1.5m	1.5m	12	
Bbc	Banksia spinulosa 'Bush Candles'	Bush Candles	200mm	0.80m	0.90m	28	
Dex	Doryanthes excelsa	Gynea Lily	200mm	2.0m	2.0m	26	
Feb	Festuca glauca 'Elijah Blue'	Blue Fescue Grass	140mm	0.50m	0.50m	477	
Lta	Lomandra 'Tanika'	Mat Rush	140mm	0.60m	0.65m	845	
Pla	Poa labillardieri	Common Tussock Grass	140mm	1.0m	0.50m	291	
Pmi	Prostanthera sieberi 'Minty'	Native Mint Bush	200mm	1.8m	1.2m	108	
Tth	Tetradlea thymifolia	Black Eyed Susan	200mm	1.0m	0.75m	35	
Wmu	Westringia fruticosa 'Mundi'	Low Coast Rosemary	200mm	0.50m	0.45m	211	
Wsm	Westringia fruticosa 'Smokey'	Coast Rosemary	200mm	1.2m	1.5m	9	

Ground covers

Cci	Casuarina glauca 'Cousin It'	Cousin It Swamp Oak	140mm	0.20m	1.0m	204	
Css	Correa alba 'Star Showers'	Native Fuchsia	140mm	0.40m	1.0m	16	
Ggo	Goodenia ovata 'Goodonya'	Goodenia	140mm	0.50m	2.0m	112	
Mya	Myoporum 'Yareena'	Creeping Boobialla	140mm	0.15m	1.0m	225	

Note: quantities on plan take precedence over quantities in schedule

Figure 27 Planting Schedule (Source: Inview Design)

3.2.6 Stormwater

Stormwater Management

During construction, erosion and sediment control measures will be implemented across the site. Sediment and erosion control measures will include temporary site security/safety fencing, sediment fencing, dust control, and/or inlet filters, together with stabilised site access.

The stormwater management system has been designed to replicate the natural processes that would occur on site (**Figure 28**). The majority of the site will drain to the existing Council trunk drainage system in Keefers Glen. The remainder of the site will drain to the north-eastern corner of the site and will discharge as overland flow from a level spreader into a bioretention swale within the St Peters Catholic College site. The swale will then direct overland flow to Council's wetland bush block located at 100 Gavenlock Road. The proposal includes the installation of three (3) on-site detention tanks:

- OSD Tank 1 – minimum volume 70m³ (southern boundary)
- OSD Tank 2 – minimum volume 245m³ (north-western corner of the site)
- OSD Tank 3 – minimum volume 60m³ (between eastern wing of building and carpark)

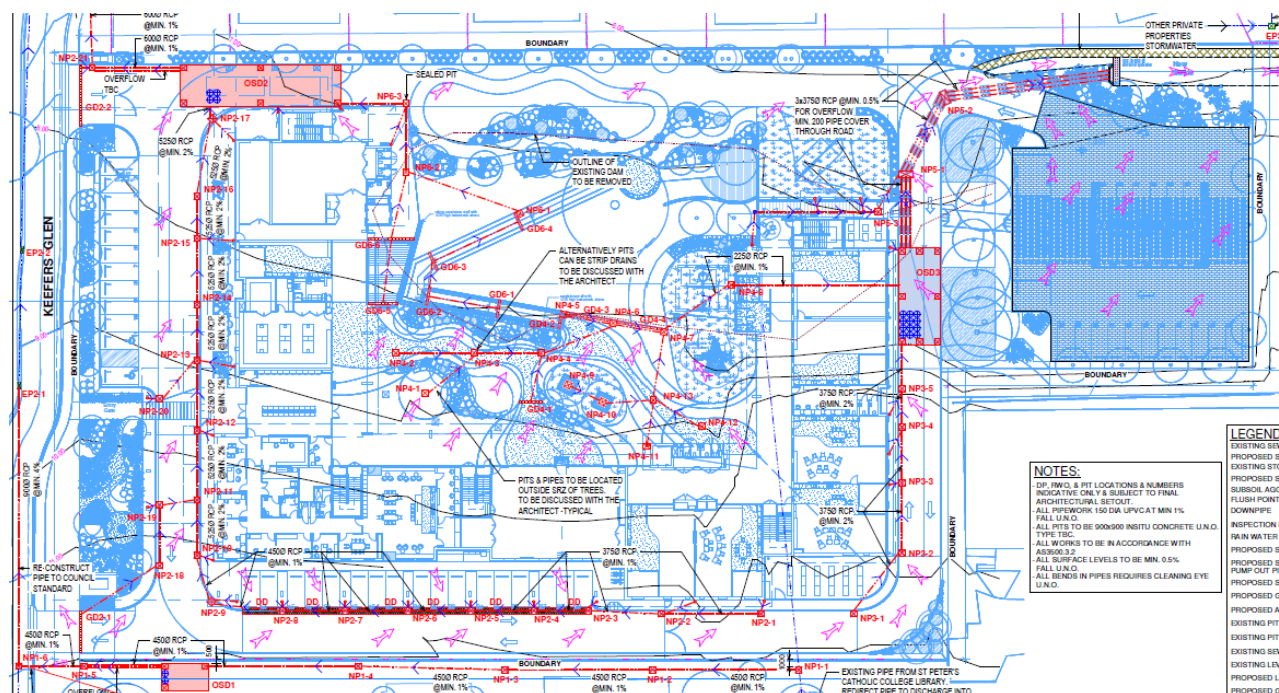


Figure 28 Extract of Proposed Stormwater Management Plan (Source: J

Water Sensitive Urban Design

Stormwater quality is managed in accordance with Council requirements, with the aim to reduce the pollutant load of stormwater runoff using a variety of treatment options to achieve all target removal rates, including Atlan Stormsacks and Atlanfilters.

3.2.7 Public Domain Works

Upgrade works are proposed to the public domain in Keefers Glen (**Figure 29**), including:

- Road widening along a portion of Keefers Glen to create a 6 metre wide road corridor
- Construction of a footpath from the school site to the corner of Brickendon Avenue
- Pram ramps at the corners of the intersections of Keefers Glen with Brickendon Avenue and Deloraine Glen
- Connection to existing stormwater infrastructure

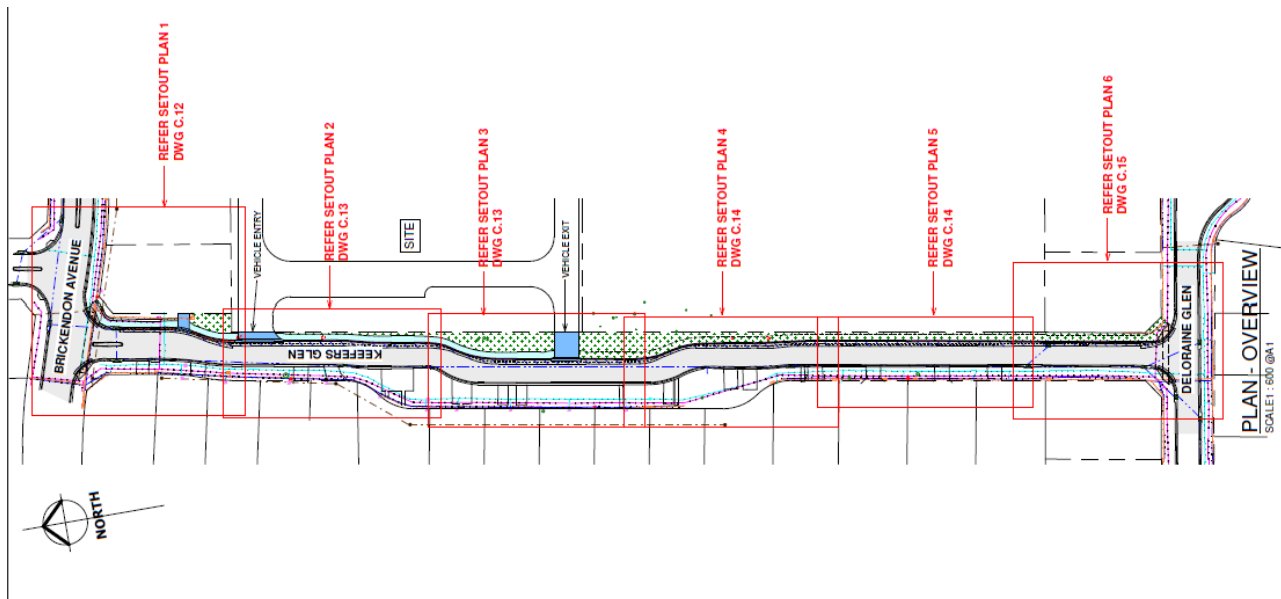


Figure 29 Overview of Public Domain Works (Source: James Taylor Associates)

3.2.8 Transport and Parking

Vehicle Access

New two-way vehicle crossings are proposed at the north-western corner of the site, and the south-western corner of the site, off Keefers Glen. Vehicles for student drop off and pick up, will enter the site at the northern access point, and generally exit at the southern access point, to create a one-way movement system through the site. Staff will utilise the southern entry to access staff parking in the southern and eastern portions of the site.

Pedestrian Access

The site will have one (1) pedestrian access point in the middle of the Keefers Glen frontage, which will provide an accessible path of travel to/from the site.

Car and Bicycle Parking

The proposal accommodates 60 staff parking spaces over three (3) carparks on site; the western carpark along the Keefers Glen site boundary, the southern carpark along the southern site boundary and the eastern carpark situated at the northeastern corner of the site. In addition, there is an on-site kiss and drop area for five (5) vehicles. These spaces will be used as visitor spaces outside of the morning and afternoon peaks. Parking is set out as follows:

- Western Carpark & Parent/Taxi Drop Off - 12 spaces (incl. 2x Access. & 2 x with future EV Charging capability)
- Eastern Carpark - 31 spaces
- Southern Carpark - 17 spaces
- Covered Kiss & Drop/ Visitor Parking – 5 spaces
- Bicycle parking – 6 spaces

3.2.9 Waste Management

A secure waste and chemical store is provided in the north-western corner of the lower ground floor of the proposed building, which will accommodate 5 x 1,100L general waste bins and 6 x 1,100 litre recycling bins. Manoeuvring and access of a waste collection vehicle have been accommodated in the car park design.

3.2.10 Ecologically Sustainable Development

The project adopts responses to the principles of Ecologically Sustainable Development together with the requirements of both the EFSG and the SEARs with initiatives such as:

- Natural ventilation of circulation spaces
- Improved building fabric and glazing performance

- Mixed mode mechanical systems with system control
- Adaptive thermal comfort control
- Energy metering and monitoring
- Highly efficient lighting system
- On-site solar panels for energy generation
- Passive design measures, such as building orientation, shading and material choices
- Internal access to daylight and external views
- Water efficient fixtures and fittings
- Water Sensitive Urban Design measures
- Waste minimisation strategies through the construction and operational phases

3.2.11 Connecting with Country

The site is on Darkinjung Country. The proposed design is informed by, responds to and provides pathways for connecting to Country, particularly through the architectural and landscape design of the new school. Design elements include the welcome garden, meeting places, the use of indigenous, endemic species in the planting schedules. Connecting with Country is an ongoing consultative process that will continue throughout the detailed design, construction and operation of the school.

3.2.12 Infrastructure and Services

The site has access to all critical utilities and services required to operate the proposed school. Relevant infrastructure and connections for the project include:

- New connections to potable water, waste water/sewer, and telecommunications.
- New padmount substation on the south-western frontage of the site to Keefers Glen.
- Road widening works and construction of a new footpath between the school and Brickendon Avenue.
- Provisioning for charging of EV vehicles in the car park.

4 Statutory Context

Table 7 Statutory Requirements	
Category	Action required
Power to grant approval	In accordance with Schedule 1 of State Environmental Planning Policy (Planning Systems) 2021 (SEPP PS), new schools with a EDC of more than \$20 million are state significant development (SSD). Specifically, <i>Section 2.6 Declaration of State Significant Development</i>: section 4.36 in SEPP PS states: 1) <i>Development is declared to be State significant development for the purposes of the Act if –</i> a. <i>The development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and</i> b. <i>The development is specified in Schedule 1 or 2.</i> In this regard, Schedule 1 of SEPP PS states: <i>Clause 15 Educational Establishments</i> 1) <i>Development that has a capital investment value of more than \$20 million that –</i> a. <i>Is for the purpose of a new school...</i> Notwithstanding that the land upon which the development is proposed is an existing educational establishment, the new EO'CCS requires a new registration under the Education Act 1990 and is seeking subdivision for autonomous operation. Accordingly, the development is for a new school with an EDC of more than \$20 million and therefore it is SSD.
Permissibility	The proposed subdivision is on land zoned R2 Low Density Residential (R2 zone) under <i>Central Coast Local Environmental Plan 2022 (CCLEP)</i> and educational establishments are permitted with consent. In addition, the R2 zone is a prescribed zone for the purposes of school development pursuant to Section 3.34 of SEPP T&I.
Other approvals	Section 4.41 of the EP&A Act outlines that certain approvals do not apply to SSD. Of relevance to this proposal is that neither a bush fire safety authority (BFSA) under section 100B of the Rural Fires Act 1997, or controlled activity approval (CAA) under section 91 of the Water Management Act 2000 is required. Section 4.42 of the EP&A Act stipulates that certain authorisations cannot be refused if they are necessary for carrying out SSD. Of relevance to this proposal is authorisation under Section 138 of the Roads Act 1993, which cannot be refused if the SSD is approved.
Pre-condition to exercising the power to grant approval	<i>Section 4.6(1) of State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP R&H)</i> provides that the consent authority must be satisfied that the land will be suitable in its contaminated state, or will be suitable after remediation, for the purpose for which development is proposed to be carried out. In this regard, appropriate contamination investigations have been carried out, and a Remediation Action Plan (RAP) has been prepared for the site. These reports have been assessed by an Independent EPA Auditor and their preliminary advice is that if contamination is found beneath existing hardstand areas, and remediation works are carried out in accordance with the RAP then the site will be suitable for use as a school. Refer to Section 6.12 of this EIS. Section 4.41 of the EP&A Act sets out the approvals that are <u>not required</u> for SSD, of relevance to this proposal is: • Bush Fire Safety Authority under s100B of the <i>Rural Fires Act 1997</i> • Controlled Activity Approval under s91 of the <i>Water Management Act 2000</i>
Mandatory matters for consideration	
Environmental Planning & Assessment Act 1979	Section 1.3 Objects of the Act Section 4.15(1)(a) Relevant Environmental Planning Instruments: • <i>State Environmental Planning Policy (Planning Systems) 2021 (SEPP Systems)</i> • <i>State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP R&H)</i> • <i>State Environmental Planning Policy (Biodiversity and Conservation) 2021 (SEPP B&C)</i> • <i>State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP T&I)</i> No draft EPIs or draft planning agreements are relevant to this proposal. Refer to Appendix C

Table 7 Statutory Requirements

Category	Action required
	- Section 4.15(1)(b) likely impacts of the development – Refer to Section 6 of this EIS - Section 4.15(1)(c) suitability of the site for the development – Refer to Section 7.8 of this EIS - Section 4.15(1)(d) any submissions made in accordance with this Act – the consent authority must consider any submissions made for this proposal - Section 4.15(1)(e) the public interest – Refer to Section 7.9 of this EIS
Environmental Planning & Assessment Regulation 2021	Part 3 development applications Part 8 Infrastructure and environmental impact assessment Refer to Appendix C
Mandatory relevant considerations under EPIs	
State Environmental Planning Policy (Planning Systems) 2021	Section 2.10 Development control plans do not apply to SSD. Notwithstanding, an assessment of the proposal against the relevant provisions of the DCP is provided at Appendix C
State Environmental Planning Policy (Resilience and Hazards) 2021	Section 4.6 Contamination to be considered in determining development application. The consent authority must be satisfied that the land is suitable for the proposed change of land use to educational establishment. Refer to Section 6.12 of this EIS and Appendix C
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Chapter 2 Vegetation in non-rural areas – s2.6 Clearing that requires permit or approval – Refer to Section 6.5 and Appendix C Chapter 4 – Koala Habitat Protection 2021 – s.4.4 This chapter applies to all land in the Central Coast LGA as it is listed in Schedule 2. S4.9 Development assessment process. Refer to Section 6.8 in this EIS and Appendix C
State Environmental Planning Policy (Transport & Infrastructure) 2021	s2.48 Determination of DA for works proximate to electricity power lines, poles or substations – Refer to Section 6.20 of this EIS and Appendix C
	s3.36 Schools – development permitted with consent – Refer Appendix C
	s3.43 State Significant development for the purposes of schools – consent for an SSD can be granted despite contravening a development standard in any EPI – Refer Appendix C
	s3.58 Traffic generating development – Refer to Section 6.7 in this EIS and Appendix C
Considerations under other Legislation	
Environmental Protection and Biodiversity Conservation Act 1999	The land is not biodiversity certified land and referral under the EPBC Act is not required – refer to Section 6.8 and Appendix C
Biodiversity Conservation Act 2016	The land is not biodiversity certified land – refer to Section 6.8 and Appendix C
Fisheries Management Act 1994	Division 3 Dredging and reclamation s198B The works involve the dewatering of a farm dam, which is excluded from this division.
Rural Fires Act 1997	s100B Bush Fire Safety Authorities – the site is partially mapped as bushfire prone land. Pursuant to s4.41 of the EP&A Act, SSD is not required to obtain a bush fire safety authority. Notwithstanding, an assessment of the proposal against Planning for Bushfire Protection is provided at Section 6.21 and an assessment of the relevant provisions of the Rural Fires Act is at Appendix C
Water Management Act 2000	s91 Activity Approvals – the works involve dewatering of a dam and works within 40m of a mapped waterbody. Pursuant to s4.41 of the EP&A Act, SSD is not required to obtain a controlled activity approval. Notwithstanding, an assessment of the impacts of these works are at Section 6.13 and an assessment of the relevant provisions of the Water Management Act is at Appendix C
Roads Act 1993	s138 Works and Structures – Refer to Section 6.7 of this EIS and Appendix C
Development Control Plan	
Central Coast Development Control Plan 2022	The provisions of a DCP do not apply to SSDs, notwithstanding an assessment of the relevant provisions is provided at Appendix C

5 Community Engagement

Engagement has been undertaken in accordance with the NSW Government's *Undertaking Engagement Guidelines for State Significant Projects* (October 2022) and the SEARs issued on 19 February 2024. A Consultation Report has been prepared by Lake Advisory (**Appendix D**) that describes the engagement that was carried out during the preparation of the EIS, including key meetings with stakeholders, provides a summary of the key findings of the community engagement, identifies how the feedback has been considered in the development of the SSDA, and summarises future engagement to be undertaken if the application is approved.

5.1 Engagement Carried Out

The following engagement objectives have been identified for this proposal:

- Identify all relevant stakeholder groups and understand their individual interest in the project, how it may affect them and how to best consult with them.
- Ensure stakeholders are kept up to date on project benefits, design details and potential impacts.
- Ensure affected persons are provided timely opportunities to engage and collaborate on project related matters to provide input into the identification and consideration of preferred solutions.
- Provide a variety of methods for the provision of stakeholder feedback including anonymous comment if preferred.
- Consider all views of stakeholders in a meaningful way and use insights gained from consultation exercises to inform project planning and design, mitigation, and enhancement measures.
- Ensure stakeholders know how their input and views have been considered.
- Ensure stakeholders understand how specialist studies have guided project decisions.
- Continue community engagement throughout the entire project period to continually monitor community response.
- Manage community expectations and build trust by delivering on our commitments.
- Leave a positive legacy in the community.

5.1.1 Stakeholders

Engagement has been undertaken with the following stakeholders:

- Local residents
- Local faith community – Broken Bay and Wyong
- Local faith school community:
 - St Peters Catholic College, Mardi
 - St Cecilia's Catholic School, Wyong
 - St John Fisher Catholic School Tumby Umbi
 - Our Lady of the Rosary, Shelly Beach
 - Our Lady of the Rosary Catholic School, The Entrance
 - Our Lady Star of the Sea Catholic School, Terrigal
 - St Brendan's Catholic School, Lake Munmorah
 - St Patrick's Catholic School, East Gosford
 - St John the Baptist Catholic School, Woy Woy
 - Mackillop Catholic College, Warnervale
 - Our Lady of the Rosary, Wyong
 - Holy Cross Catholic School, Kincumber
- Local disability support groups:
 - Central Coast Compassionate Care
 - Everyday Independence
 - Coastwide Disability Care
 - Central Coast Family Support Services
 - Fairhaven

- Registered Aboriginal Parties (RAPs)
- Darkinjung Local Aboriginal Land Council
- Local Aboriginal community and elders
- Public Agencies and Authorities:
 - Central Coast Council (Council).
 - Government Architect NSW (GANSW) / State Design Review Panel (SDRP).
 - Department of Planning, Housing and Infrastructure
 - NSW Rural Fire Service (NSW RFS)
 - Transport for New South Wales (TfNSW).
- Internal stakeholders within the Catholic Diocese of Broken Bay

5.1.2 Engagement Activities

During the preparation of the EIS, the following consultation activities were undertaken with the stakeholders listed above.

Table 8 Engagement Activities	
Activity	Strategic Intent
Project webpage	Provide clear, regular and accessible project information to any interested party. Includes project description, images and other relevant documents.
Project Updates	Regular updates to keep the community informed on the status of the project as well as upcoming information sessions and contact details for further information.
CSBB email service	A quick, accessible service to enable interested stakeholders to access specific project information from CSBB. Details of the service were publicised on the website and communication materials.
Advertising (print and digital)	Advise all local community members of major project milestones, events and impacts.
Community information session	Provide an opportunity for face-to-face engagement between residents, school community, staff and members of the project team at key milestones and throughout the project. Held after school/work hours to enable attendance regardless of working status. Allows for Q&As and concerns to be raised and discussed in detail.
Information pack	An information brochure for distribution at information sessions and via school channels for stakeholders to take home and read/share with their networks.
Project working groups	Present working group members with project status update and seek feedback and input from members. A significant and important tool to shape projects to match design and infrastructure to community needs and school operation requirements.
Government agencies and consultation groups	Discuss and agree design intent and mitigations to address infrastructure impacts in the local area, Includes workshops, meetings and direct correspondence throughout the entire project lifecycle.
SIA Consultant Engagement	Engage with community under social impact guidelines for direct responses.

Key engagement activities carried out included:

- Neighbour concerns regarding flooding – November 2023
- Multiple attempts to contact the owners of 8 The Shieling to discuss stormwater easement.

5.2 Community Views

Community views are summarised in **Table 9**.

Table 9 Community Views		
Key Issue	Response	Location in EIS
Concerns regarding the dam flooding and impact on homes	The design of the new school includes the dewatering and removal of the existing dam. Suitable drainage has been designed to avoid any overland flooding or surge issues	Section 6.13 Section 6.14 Appendix BB

Table 9 Community Views		
Key Issue	Response	Location in EIS
		Appendix EE
Request to remove red belly snakes	Removal of long grasses will form part of the ongoing maintenance program to reduce the snake presence	Appendix O
Concerns if the new school is built too close to the boundary	The EO'CCS has been designed to meet the planning requirement and setbacks from the boundary	N/A
Acoustic concerns regarding public address system being too loud	To be addressed in the operation plan for the EO'CCS. The 'U' shaped design of the school is in part to address acoustic issues for neighbours.	Section 6.10 Appendix U
Desire for a wider road in Keefers Glen to support increased traffic	Keefers Glen is proposed to be widened as part of the project works.	N/A
Ongoing concerns regarding the removal of vegetation between the two fence lines along the northern boundary	The removal of vegetation from between the fences will be included in the ongoing maintenance routine for the site.	N/A
Consideration to the inclusion of a footpath as currently groups of students from St Peters Catholic College walk down the road from the back gate	A footpath is proposed between the new school site and Brickendon Avenue	Section 6.7

5.3 Government Stakeholder Consultation

Consultation was undertaken with relevant government agencies. **Table 10** provides a summary of the key issues raised by the relevant government agencies, authorities and Council. A detailed government agency consultation table is provided in **Appendix D**.

Table 10 Government Stakeholder Feedback		
Government Stakeholder	Response	Location in EIS
Central Coast Council – 29 September 2022	A Pre-Application Meeting (PAM) was held with Council officers on 29 September 2022. The following sections highlight the comments raised and how where they have been addressed within this EIS.	
	Traffic and parking, particularly Council's concerns about the amenity impacts to Keefers Glen and recommending vehicle entry from Gavenlock Road.	Section 6.7, Appendix R and Appendix S
	Bush Fire – SFPP	Section 6.21 and Appendix P
	Biodiversity	Section 6.9 and Appendix O
	Built form, design and amenity.	Sections 6.1, 6.2, 6.3 and 6.4. Appendix I
	Engineering (civil and stormwater) and Flood Impacts	Sections 6.13 and 6.14, Appendix BB, Appendix CC, Appendix EE and Appendix FF
Central Coast Council – 10 July 2024	A second PAM was held with Council officers following the SDRP meetings to discuss the revised design. Following are the key items raised in this meeting and where they are discussed in this EIS.	

Table 10 Government Stakeholder Feedback

Government Stakeholder	Response	Location in EIS
	Bush Fire – all APZs to be contained within R2 zoned land	Section 6.21 and Appendix P
	Traffic movements and vehicular access – Council reiterated concerns about vehicle access to the site via Keefers Glen due to potentially detrimental impacts on traffic movements and residential amenity. Traffic Impact Assessment to be provided.	Section 6.7, Section 6.8 and Appendix I
	Flooding and ecological constraints must be addressed.	Section 6.9, Section 6.14, Appendix EE, Appendix FF and Appendix O
	Preliminary Site Investigation required	Section 6.12, Appendix X, Appendix Y, Appendix Z, Appendix AA
	Waste management plan required	Section 6.16 and Appendix PP
Transport for NSW	Key issues discussed with TfNSW included: - Operational nature of the school - Scope of traffic surveys at public intersections – TfNSW requested base case plus 10-year growth scenario (1.5% compounded annual growth rate) be modelled for intersection performance in addition to existing and post-development conditions. - Vehicle access and on-site parking - Scope of SIDRA modelling - Inclusion of Preliminary Construction Traffic Management Plan and Green Travel Plan	Appendix R
State Design Review Panel (SDRP)	The design team met with the SDRP on 19 October and 14 December 2022. Key matters raised by the SDRP include: - Connecting with Country - Site strategy and landscape - Architecture - Sustainability and climate change. A detailed response to the matters raised by the SDRP is provided in the Architectural Design Report prepared by Stanton Dahl Architects (Appendix I).	Appendix B Appendix I Appendix L Appendix M
Utilities providers	Northrop performed a desktop investigation in regard to the existing site conditions, considering the context of the proposed School development. The assessment has been based on information provided by the relevant electrical and telecommunications utility authorities, and information provided by the project representatives including but not limited to: - Central Coast Council Water Assessment Team enquiry on water pressure - Dial Before You Dig Plans - Architectural Drawings produced by Stanton Dahl Architects	Appendix LL

5.4 Engagement to be Carried Out

Continued engagement will take place with stakeholders and communities during the statutory exhibition of the SSD application, as well as during future stages of development and construction, should consent be granted. Future engagement activities are detailed in **Table 11**.

Table 11 Future Engagement Activities		
Key Milestone	Stakeholders	Engagement Activities
State Significant Development application lodged.	Local residents (including current and future), local community and businesses	Community stakeholders will be advised that the application has been lodged, the public exhibition period and how to submit feedback on the project. This could include a community information session to be held in a local venue.
	Project working groups	Updates to be provided at regularly scheduled meeting
Development consent issued	Local residents (including current and future), local community and businesses	Project updates to be distributed via school communication channels, letterbox drop and on project website.
	Project working groups	Updates to be provided at regularly scheduled meeting
Construction contract awarded	Local residents (including current and future), local community and businesses	Project updates to be distributed via school communication channels, letterbox drop and on project website.
	Project working groups	Updates to be provided at regularly scheduled meeting
Construction commencement / key construction stages	Local residents (including current and future), local community and businesses	Project updates to be distributed via school communication channels, letterbox drop and on project website.
	Project working groups	Updates to be provided at regularly scheduled meeting
	Government agencies	Notifications as required by consent conditions Direct communications or applications to authorities as required.
Construction completion	Local residents (including current and future), local community and businesses	Project updates to be distributed via school communication channels, letterbox drop and on project website.
	Project working groups	Updates to be provided at regularly scheduled meeting
Official opening	Local residents (including current and future), local community and businesses	Project updates to be distributed via school communication channels, letterbox drop and on project website.
	Project working groups	Updates to be provided at regularly scheduled meeting

6 Impact Assessment

In accordance with the State Significant Development Guidelines – Preparing an Environmental Report, this section:

- considers the SEARs.
- provides a detailed summary of the results of the assessment of the potential impacts of the project.
- summarises the key findings of the detailed technical studies in the appendices.
- gives detailed reasons to justify any predicted exceedances of relevant standards or performance measures, and
- identifies mitigation measures, where required.

6.1 Design Quality

The following policies have guided the design to achieve design excellence, *Better Placed – Connection with Country*; *Better Placed – Design Guide for Schools 2018*, and the *Design Quality Principles for Schools* in SEPP T&I. In addition, the design has been before the State Design Review Panel on two (2) occasions and the initial design has been considered by Central Coast Council during a Pre-Application Meeting.

6.1.1 Design Quality Principles

A detailed assessment against the Design Quality Principles is contained in Section 15 of the Architectural Design Report (**Appendix I**), but can be generally characterised as follows:

- Context, built form and landscape – the development has been designed and sited in accordance with the physical context of the sloping site, utilising the prevailing views to the bushland block to the north-east. The predominately two-storey built form is consistent with low density zone objectives and is in keeping with the adjacent buildings along Keefers Glen and Brickendon Avenue. The two portions of the building that are three-storeys (at the northern end of the eastern and western wings) is a response to the steeply sloping land in that location. The building has a consistent roof line and generally presents to the streetscape as a two storey form. The Aboriginal community has been consulted through the development process and elements of connection with Country have been incorporated into the design.
- Sustainable, efficient and durable – the development incorporates elements of passive design including natural ventilation and controlled solar access. This has been particularly considered to create a positive and calming environment for students who may be impacted by strong light causing overstimulation. The school buildings have been designed to comply with Section J of the NCC and the use of a combination of traditional durable building materials and lightweight building materials will ensure the development is robust as well as minimising embodied carbon emissions. Thermal insulation will be incorporated into the external building envelope, mixed mode HVAC mechanical system will be utilised. External building materials have been selected to achieve a low-maintenance, robust finish that is durable for the school environment.
- Accessible and inclusive – accessibility across the site has been carefully considered throughout the built form and landscape design to allow all students equitable movement throughout the site. The two-storey built form has been driven by the practicalities of timely and accessible movement of students through the building, noting that a three-storey built form would have unacceptable impacts on operational efficiency and management. The building and landscaping are consistent with BCA and DDA accessibility requirements. Material and plant selection has been carefully considered to create a calming, safe and fun environment for students. The welcome garden, which sits in front of the perimeter fencing, is accessible to residents along Keefers Glen and contributes to the green space along the public domain. Passive and dynamic play environments are provided for students recognising the differing needs of younger and older students.
- Health and Safety – the building has been oriented to maximise access to natural daylight and ventilation as well as views out to Country, particularly the bushland located to the north-east. Vehicle movements on the site are separated from playspace areas by the building and perimeter fencing. Principles of Crime Prevention Through Environmental Design (CPTED) are included in the built form with the U-shaped building providing vantage points from each level out to the playground areas and access to the school is strongly controlled by security fencing and administration. The fully accessible playground and paths of travel allow students to safely occupy different spaces around the playground, use of robust materials will support space management throughout the lifetime of the school, and perimeter fencing provides clear territorial reinforcement.

- Amenity – the buildings will provide flexible modern teaching and learning spaces to meet the current and future needs of students with special needs, including access to technology and different learning spaces. Spaces for allied health professionals to support student learning and activities and retreat spaces for student calming have been provided. The site does not result in amenity impacts for neighbours with regard to visual or acoustic privacy or overshadowing.
- Whole of life, flexible and adaptive – a team of expert consultants has contributed to the design to ensure quality design for whole of life, and an engaging and attractive new school that will meet the unique needs of students with special needs.
- Aesthetics – the external mass and scale is a balanced response to the site and surrounding residential context, and the design and materiality create an attractive and engaging façade that has integrated the principles of connecting with Country. The welcome garden and built form address the street frontage and aims to enhance the public domain. Indigenous art and design will enhance the aesthetics, landscaping, gates and entry features will help to mitigate the impacts of perimeter security fencing.

6.1.2 Designing with Country

The site is on Darkinjung Country and Artefact has prepared a Connecting with Country report to guide the design in consultation with local knowledge holders including the Darkinjung Aboriginal Land Council (LALC), including site walks with Jamie Cain and Uncle Gavi Duncan, Catholic Schools Broken Bay Aboriginal Education team, and a survey to parents and carers of children identifying as Aboriginal and Torres Strait Islanders from Catholic schools within the Diocese asking about how the new school can be culturally safe and welcoming.

The Connecting with Country framework involves the following design principles:

- Acknowledge Country – through themes, motifs, totems, materials and colour to represent multiple stories
- Provide spaces for reflection and spiritual connection – provide outdoor spaces of calm and multisensory spaces to allow spiritual connection
- Support living ecosystems – reconnect users to Country through native plantings that encourage return or wildlife
- Create culturally safe spaces – having visible expressions of Aboriginal culture through art, sculpture and interpretation for learning and welcoming
- Connect to the broader landscape – using curved and flowing forms, colour and texture and sightlines across wetlands and bushland

The design team has incorporated this framework into the design of the built form and landscaping of the proposed school as discussed in **Section 6.2** and **Section 6.5** of this EIS. Accordingly, the proposal reflects a truly inclusive approach to design quality and a commitment to, and investment in, design excellence.

6.2 Built Form and Urban Design

6.2.1 Built Form

The proposed school has been designed by Stanton Dahl Architects as detailed in the Architectural Plans (**Appendix B**) and Architectural Design Statement (**Appendix I**). The siting of the buildings has evolved through consultation and consideration of the topography of the site, surrounding residential development, particularly the neighbours to the north, along Brickendon Avenue and Keefers Glen, as well as bushfire and flood affectation, prevailing views to the north-east, and existing mature trees. The school is designed to accommodate 200 students from Kindergarten to Year 12 with a range of physical, intellectual and emotional needs.

The proposed development is a U-shaped building that minimises built form adjacent to the northern boundary with residents along Brickendon Avenue. The building is setback over 19 metres from the Keefers Glen boundary, and more than 8 metres from the northern, eastern and southern boundaries, the latter two that are adjacent to the existing St Peters Catholic College.

The proposed building design encompasses a predominantly 2-storey structure, with entry from Keefers Glen at street level directly to the main Ground Floor level of the School, providing access to the main School administration areas and entries to the southern/eastern Primary School wings, western Secondary School wing and central playground area.

All main learning areas for both Primary and Secondary schools are contained on the Ground Floor and Level 1. Noting the natural topography of the site and fall from the south to the north, this has allowed the

opportunity to insert an additional Lower Ground storey for a small portion of the northern extremities of the western and eastern wings. The lower ground areas allow for insertion of non-student facilities including maintenance facilities, storage and waste storage areas. Lift 1 (western wing) and Lift 3 (eastern wing) and Stairs 1 and 5 provide an alternative path of travel for students from the educational learning areas on Ground and Level 1 directly to the Lower Playground area.

The massing of the building was extensively tested throughout the design development phase as indicated in **Section 2.5** of this EIS. During meetings with the State Design Review Panel, the Panel asked about the feasibility of a three-storey built form to reduce the floor plate of the proposed school. However, as discussed in the Architectural Design Report, the key drivers for maintaining a two-storey built form (for all student facilities) is predicated on the following:

- *The two (2) storey presence is in keeping with the current bulk and scale of the residences and buildings on the western side of Keefers Glen, the Brickendon Ave residences on the northern boundary, and existing educational facilities on the adjacent St Peters Catholic College site.*
- *Multi-storey facilities (above 2 storeys) present a number of operational challenges and increased risk to student safety and security including the following:*
 - *Safety:*
 - *Delayed staff response times to challenging student behaviour in the classroom and playground*
 - *Increased staff transition time to playground duty and required work breaks*
 - *Increase in the number of students with limited mobility and communication unable to use the stairs during an emergency evacuation*
 - *Some students will refuse to use the lifts due to a fear of enclosed spaces which increases the transition time and decreases staff time in the classroom supporting learning.*
 - *Learning:*
 - *Reduced learning time in the classroom because of delayed transition of staff; allied health, LSA, specialist staff and transition of students; preferred activity to non-preferred activity.*
 - *Reduced connection between indoor and outdoor learning and gathering spaces. Disconnect with Connecting with Country principles.*
 - *Reduced opportunity to develop student independence as students using the lift must do so with staff assistance.*
 - *Reduced number of lower-level learning spaces for students with mobility restrictions.*
 - *Managing disorientated and confused students regarding which school level they are on.*
 - *Fatigue of students walking multiple flights of stairs or ramps leading to reduced ability to engage with learning tasks in the classroom.*
 - *Increasing the concentration of students in an area and/or building, across multiple levels will increase noise, resulting in some students responding negatively, putting students and staff at risk of injury.*

The massing of the proposed built form option was considered to have the least impacts on amenity of the northern neighbours, while supporting efficient and functional operation of the school (**Figure 30**).

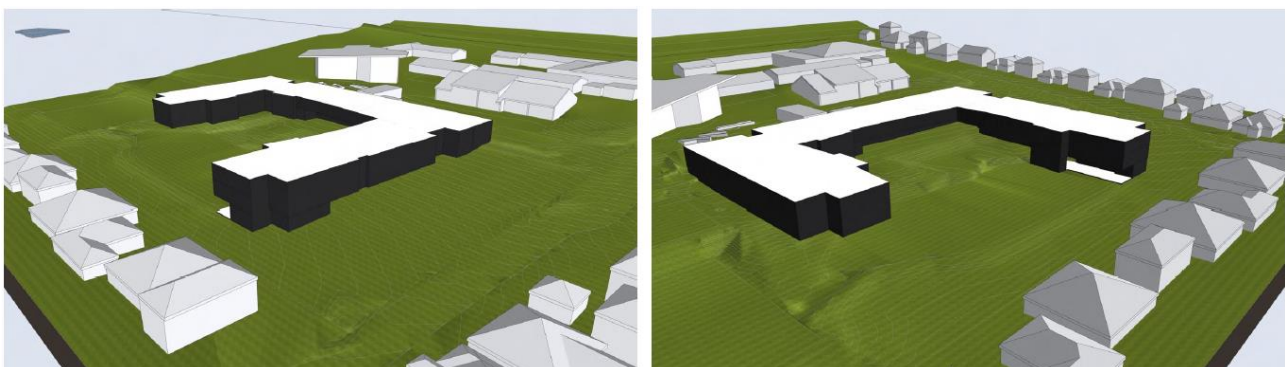


Figure 30 Extract of Massing Model View from North-West (left) and North-East (right): Stanton Dahl Architects)

The site is not subject to a height control under CCLEP; therefore, the proposed building has been considered based on the surrounding residential context and the reasons for a two-storey built form set out above. The figure below demonstrates how the building has a consistent height to the residences along Keefers Glen.

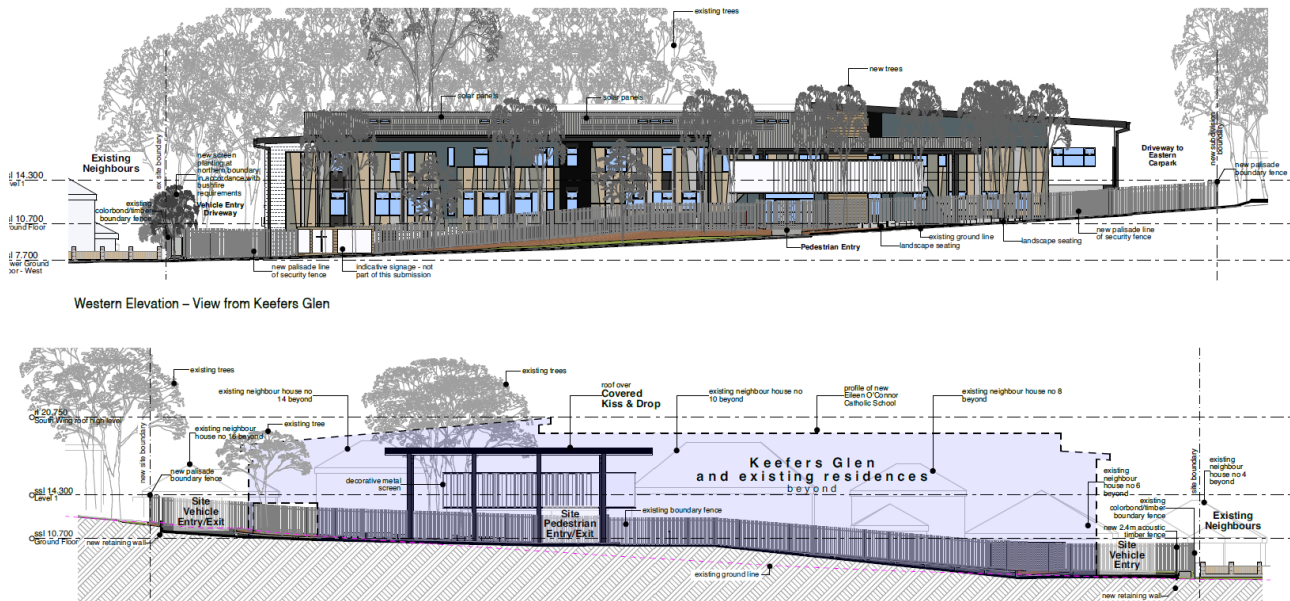


Figure 31 Western façade/Keefers Glen frontage of the school (upper) and view from school to the residences along Keefers Glen (lower) (Source: Stanton Dahl Architects)

On the internal edge facing the playground area, access is provided for students from the ground floor of all three wings of the building, and verandahs along the first floor provide surveillance across the playspace. Noting the fall of the site down to the northern boundary, the predominately two-storey scale does not overwhelm the playspace (**Figure 32**).



Figure 32 View of the playground looking south-west towards the school buildings (Source: Stanton Dahl Architects)

Materials and Finishes

The building has been designed to incorporate distinctive elements including:

- A dark lower ground level plinth to anchor the building to the ground plane of face brick masonry across the full height of the lower ground floor

- Pre-finished, lightweight cladding panels atop the plinth creating a recessed backdrop to the "grasslands" façade with blue/green tones reflecting natural waterways and rivers of Darkinjung Country.
- Grasslands façade concept based on consultation through connection with Country, is applied to public facing façades to reflect the natural environment and indigenous heritage engrained in the project site.
- Façade articulation across the western façade presenting elements at different levels to break up the bulk and scale of the building and provide visual interest.
- Internal metal screening is the main feature of the internal façades, which is located along the Level 1 verandahs and ground floor COLA of the western and eastern wings, which echo the grasslands motif and allow natural light and ventilation to penetrate into these spaces.
- Lift and amenity blocks are separated from the main building and provide direct service to a specific wing. Each block is topped with a lower roof structure, which reduces its bulk, scale and visual impact.

An extract of the building materials schedule is provided in **Figure 33**. The architectural design statement provides the following with regard to colour selection:

Colours for the nominated external materials have been considered in the articulation of the building facades and architectural expression. Colours are integral to the materials or pre-finished making them low maintenance. The palette has been driven by two (2) main factors:

- *Colours selected are neutral and muted tones, with consideration for the wellbeing of students and promoting a positive, peaceful, calming environment. Primary colours which can cause overstimulation for students with autism have been avoided for this reason.*
- *The colour palette has been designed in response to and inspired by the Designing for Country principles ...*

The palette of materials selected for the new facilities includes face brickwork, pre-finished cladding panels, translucent glazing panels, pre-finished metal screening and aluminium framed windows and doors. Materials have also been selected with consideration of design in bushfire prone areas.



Figure 33 Extract of external materials schedule (Source: Stanton Dahl Architects)

6.3 Environmental Amenity

6.3.1 Visual Privacy

The design of the new EO'CCS building has considered the visual privacy of the northern residential neighbours with the 3-storey, northern ends of the western and eastern wings set back from the boundary by 8.1 metres and 24 metres respectively. The north facing open verandah ends of these wings on ground level and level one have been treated so as to mitigate direct sight lines into the neighbours properties.

At the lower ground level, the development proposes to retain the existing boundary fence, and construct and internal fence 1.5 metres from the boundary fence to facilitate a landscaped boundary. The double fence will act as a visual and acoustic barrier, with landscaping to soften the appearance of the buildings.

6.3.2 Overshadowing

Shadow diagrams have been prepared by Stanton Dahl Architects (**Appendix B**) to ensure environmental amenity for neighbouring development. The school is located to the south of neighbouring residential development and therefore it will not overshadow neighbouring housing. As indicated in **Figure 34**, the shadows are predominately cast within the new school site, with the exception of minor shadows in the St Peters Catholic School site between 9am and 12pm. Therefore, the built form will not have unacceptable overshadowing impacts.

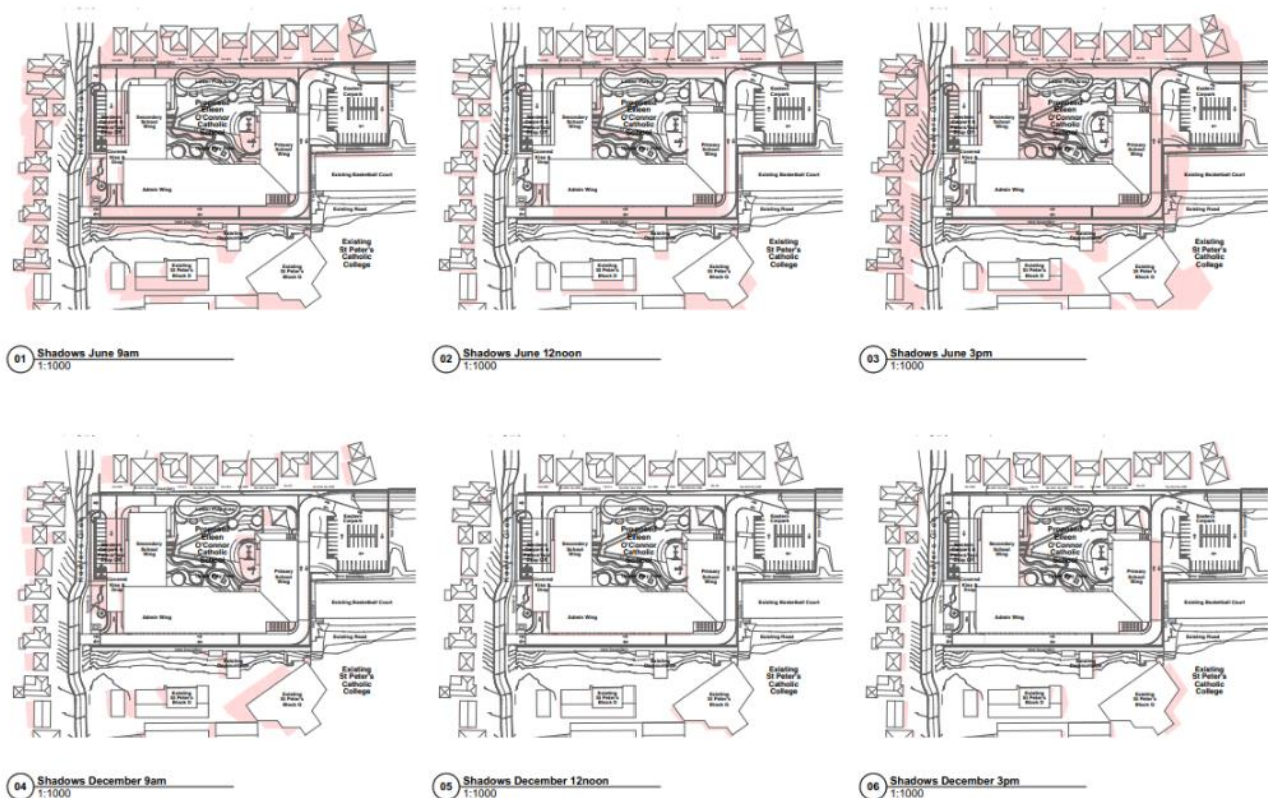


Figure 34 Extract of shadow diagrams – 30 June (Source: Stanton Dahl Architects)

6.3.3 Ventilation, Solar Access and Views

The school building has been designed to provide high levels of amenity with regard to natural ventilation, solar access and views to the bushland to the north-east. The building has been designed to take advantage of the sites northerly aspect, maximising the extent of solar access, natural light and natural ventilation. The form of the building has been generated through the design process with the U shaped configuration allowing direct solar access into the heart of the campus and into each wing. **Figure 35** provides an aerial view of the school from the north-east, indicating solar access to classrooms and shading. Classrooms look to the north and north-east to make the most of bushland views from the adjoining allotment.



Figure 35 Perspective of the site from the north-east (Source: Stanton Dahl Architects)

6.4 Visual Impact

A visual impact assessment has been carried out as part of the Architectural Design Report (**Appendix I**). As visitors approach the site from the north, the entry driveway serves as the primary vehicular access to the site, with a curved entry signage wall guiding visitors to the entry gates. The perimeter fence along the street frontage is set back from the western boundary, creating a landscaped streetscape along Keefers Glen that enhances and improves the existing street planting. A new footpath provides pedestrian access to the main entry gates and the arrival/meeting garden at the southern end of the EO'CCS site.

The landscaped features along the frontage soften the streetscape to create a welcoming environment for students when arriving at the school, and the grassland façade of the building provides visual interest in the exterior of the built form which contributes to a pleasant building aspect. The following figures provide visualisations of pre-and post-development views from neighbouring residential dwellings along Keefers Glen (**Figure 36** to **Figure 38**) and a massing diagram indicates the impacts for the houses along the northern boundary (**Figure 39**). The northern boundary includes screen planting along the full length to further soften the bulk and scale of the development.



Figure 36 Existing and proposed view from 20 Keefers Glen and the Welcome Garden (Source: Stanton Dahl Architects)



Figure 37 Existing and proposed view from 10 Keefers Glen (Source: Stanton Dahl Architects)



Figure 38 Existing and proposed view from 6 Keefers Glen (Source: Stanton Dahl Architects)



Figure 39 Massing diagram indicating minor visual impact for dwellings along the northern boundary of the site

With regard to the visual impact of the proposal, Stanton Dahl Architects provide the following:

Upon entering through the northern entry gates, visitors are welcomed by the warm, soothing tones of the "Grasslands" façade, naturally drawing the eye toward the main entry. Architectural features such as the porte cochere and the stepped façade of the timber-look, lightweight-clad administration block at the top of the hill guide the way. Sightlines to the east offer glimpses of the lower playground and extend towards the bushland in the north-east.

Views from the residential properties directly across from the project site show how the bulk and scale of the new EO'CCS complements its surroundings, maintaining proportion with the existing St Peters Catholic College buildings and residents on adjacent properties. The proposed landscaping along the western frontage of the new EO'CCS, including the Arrival/Meeting Garden, softens the buildings form, offers screening, and enhances the streetscape, creating a pleasant and inviting public landscape.

It is considered that the potential visual impacts of the development have been considered and mitigated (where relevant), and the visual impact outcomes are therefore consistent with the zone objectives and reflect quality design.

6.5 Trees and Landscaping

6.5.1 Tree Removal

An Arborist Report has been prepared by Bellevue Tree Consultants (**Appendix N**), which has assessed the health and species of the 103 prescribed trees, of which eight (8) are street trees along Keefers Glen, four (4) are located in neighbouring properties along the northern boundary of the site, and the remainder are in the proposed school site. The vitality and health of the trees was assessed from ground level using *Visual Tree Assessment (VTA) method (Mattheck & Breleor, 1999)*. Tree protection zones (TPZ) and structural root zones (SRZ) were determined in accordance with Australian Standards, tree retention value has been calculated using Tree Retention Matrix (Morton, A. from Couston & Howden, 2001) and the Useful Life Expectancy (ULE) has been determined in accordance with the method established by Barrell (1993; 2001).

The proposal includes the removal of 68 trees to facilitate the school buildings and hardstand areas, open playspace, drainage works and widening of Keefers Glen. Of these trees, 61 were assessed as having low to moderate retention value and seven (7) have a high retention value.

There are 34 trees that can be retained within the development site, of which 25 have low to moderate retention value and nine (9) have a high retention value. **Figure 40** indicates the location of trees proposed for removal and retention.



Figure 40 Proposed tree retention and removal plan (Source: Stanton Dahl Architects)

6.5.2 Landscaping

Landscape plans and a Landscape Design Report have been prepared by Inview Design (**Appendix M**) in accordance with Design Guide for Schools, Draft Greener Places Design Guide, Urban Green Cover in NSW – Technical Guidelines; Better Placed - Connecting with Country.

The landscape plan has had regard to the bushfire constraints of the site and the recommendations from the bushfire consultant with regard to the location and separation of tree planting. The Landscape Plan has been reviewed by the bushfire consultant to confirm compliance. The proposal includes total tree canopy coverage of 11.4% within the new school allotment, which comprises 2.7% tree canopy from retained trees and 8.7% tree canopy from new planting (**Figure 41**).

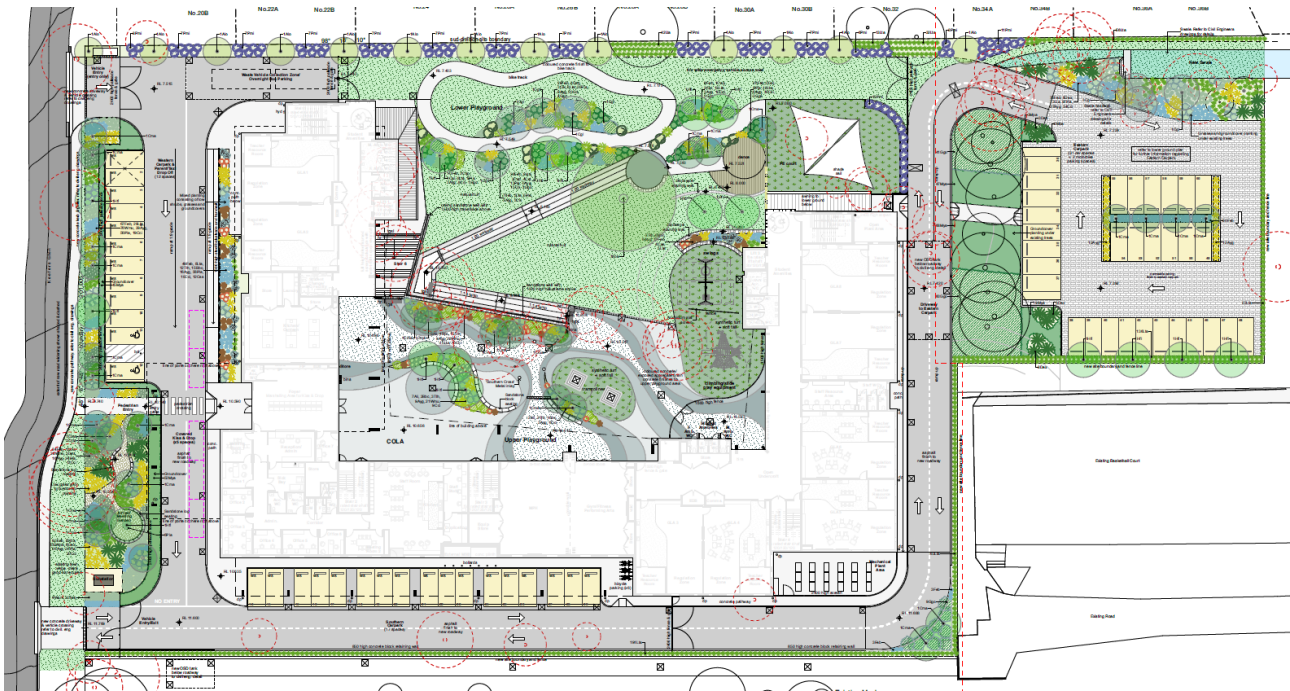


Figure 41 Extract of proposed landscape plan (Source: Inview Design)

With regard to their approach to the landscape plan and planting schedule, the landscape report states:

- Quiet spaces for self-regulation and active play areas have been included. Plant selections are carefully considered for safety (non-climbable for hypermobile students, non-toxic, and free from choking hazards) and sustainability
- A predominately indigenous native plant community selection fosters a strong connection to the location and the land, ensuring a variety of textures and forms with a vested interest in sustainability through material selection and low-water-use planting
- Materials have been chosen for their low environmental impact, local sourcing and potential for recycling and repurposing
- Material and colour choices are inspired by the country on which the site resides, complementing the school's branding and colours. High importance is placed on material texture to provide interest and inadvertently impart knowledge and connection to country for the children playing in the space.
- Located in a bushfire zone, all materials, plant selections, spacing, and positioning comply with strict bushfire codes.

The landscape design has been prepared in consultation with local Aboriginal knowledge holders (**Figure 42** and **Appendix J**) and incorporates elements that connect with Country, including:

- Embracing and celebrating topography – on the upper level playground is a gathering space for spiritual and cultural connection, akin to Mount Yengo
- Connection to rivers and streams – ground surfaces will be etched with patterns emulating water movement
- Dreamtime story of Biami and Mirrabooka and the creation of the Milky Way is translated in ground surfaces of the upper-level playground and the Southern Cross stars are represented by shiny stainless steel inlays
- Sandstone block seating offer gathering and learning areas
- Accessibility – a ramp connects the upper and lower playground areas providing running opportunities and a clear line of site for supervision
- Active play zones – including in-ground trampoline, swings and a climbing frame with slide
- Tree of Life – a small circular gathering area in the lower playground around a Southern Mahogany which provides shade and serves as a focal point
- Planting – a list of indigenous species was provided, and has been utilised for the planting schedule
- Wetlands and bush – new tree plantings are consistent with the adjacent bushland block

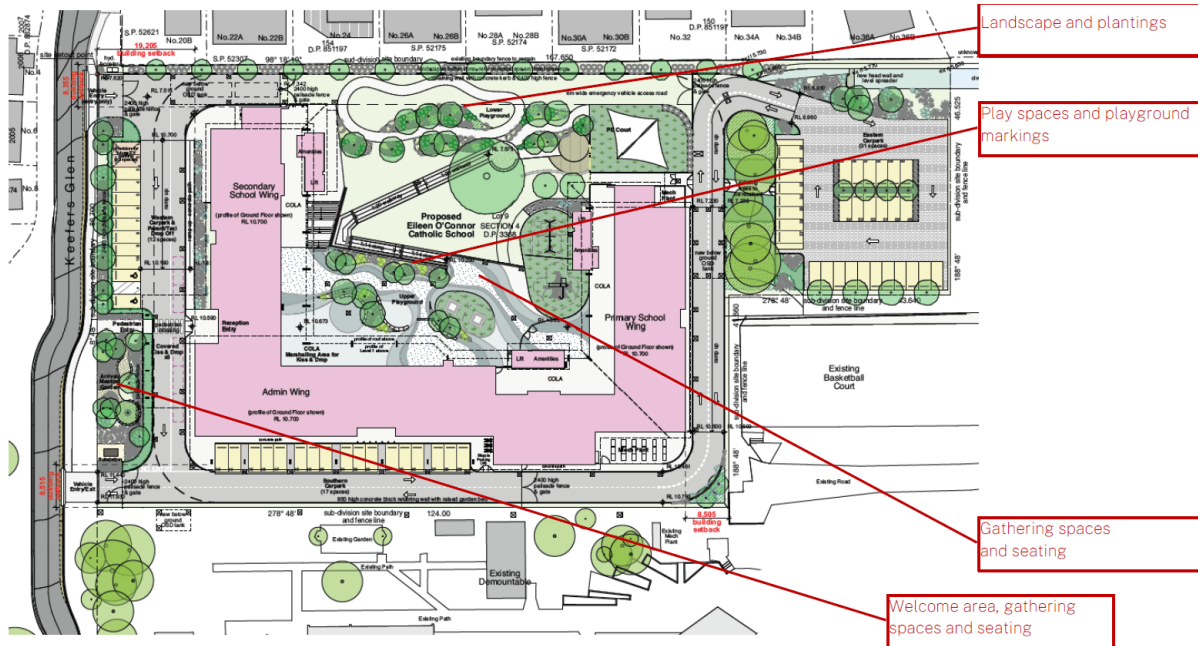


Figure 42 Extract of landscape connection with Country (Source: Artefact)

The landscape plan provides a range of zones to meet different needs, including the new welcome garden which will be open to Keepers Glen, with the secure line of fencing behind it to contribute replacement planting to the public domain. There are a range of passive and active play spaces and opportunities for outdoor learning and gathering, with provision of 16m² playspace per student. Connection with Country has been integrally woven through the design and the proposed planting schedule with enhance endemic species throughout the site, providing 11.4% canopy coverage on the site and the planting along the streetscape and perimeters will help to mitigate the bulk and scale of the built form and sit is within the natural environment.

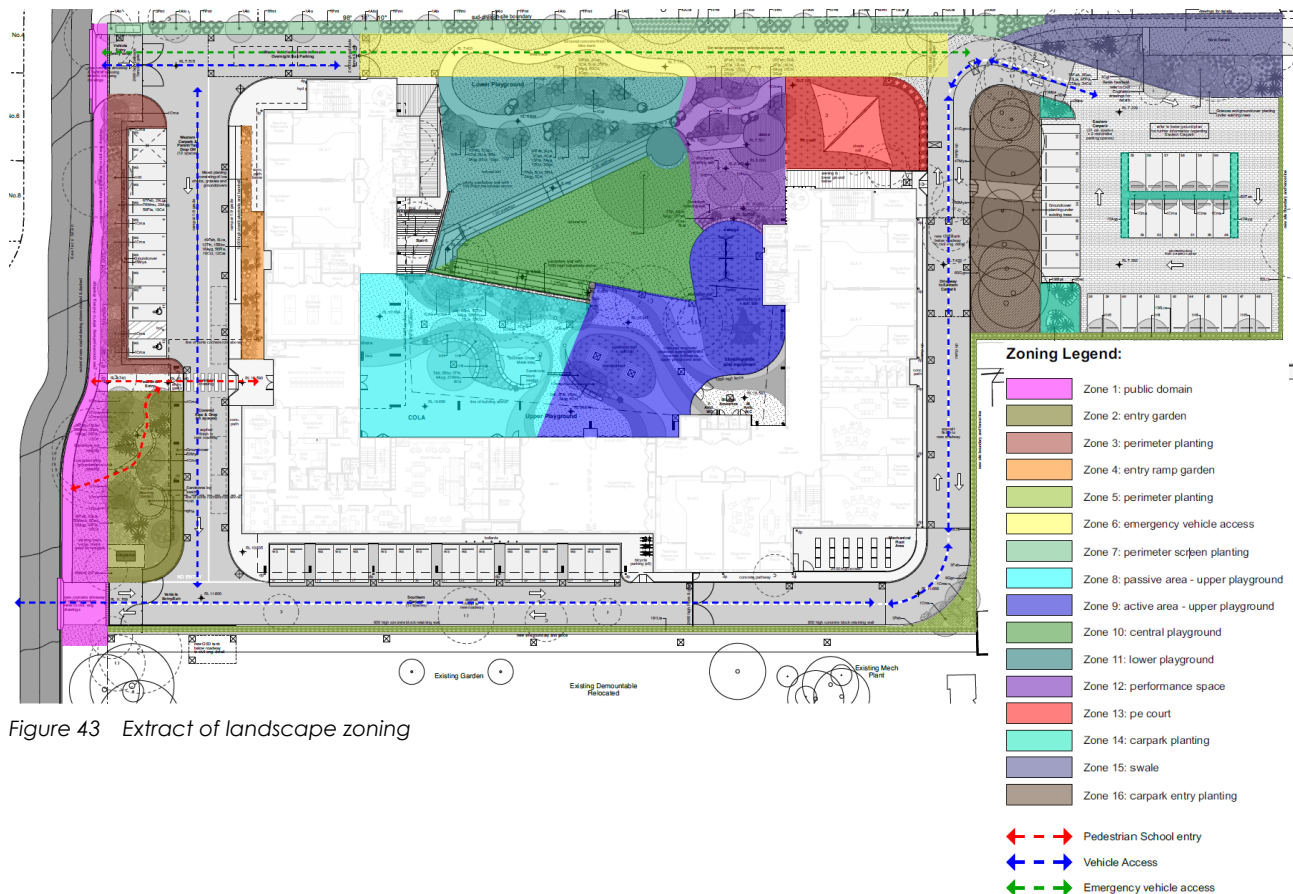


Figure 43 Extract of landscape zoning

6.5.3 Mitigation Measures

- Implementation of tree protection measures as set out in Arborist Report
- Tree removal to be undertaken by a fully insured arborist with a minimum AQF level 3 qualification in arboriculture
- Tree removal works must be undertaken in accordance with *Safe Work Australia's – Guide to Managing Risks of Tree Trimming and Removal Work*
- Stump grinding must not be performed within 3.5 metres of any retained tree
- Replacement tree planting must include species with a height of at least 8m, in a minimum container size of 45 litres with a minimum 3m specimen
- Follow tree, turf and planting preparation details set out in Landscape Plans

6.6 Ecologically Sustainable Development

An Ecologically Sustainable Development (ESD) Report has been prepared by Northrop (**Appendix Q**) to demonstrate that the development has been designed in accordance with the precautionary principle, intergenerational equity, conservation of biological diversity, and improved valuation, pricing and incentive mechanisms as defined in Section 193 of the EP&A Regulation.

The report addresses Item 8 of the SEARs and sets out the approach for the development to achieve compliance with the relevant legislative context and the requirements of the GANSW Environmental Design in Schools Manual, which provides a project specific design guide benchmarked to Australian Best Practice ESD to meet future climate resilience and sustainability.

The ESD Report provides an assessment of the project in line with the ESD principles under Section 193 of the EP&A Regulation 2021 as follows:

- The Precautionary Principle – where practicable the development would avoid serious and irreversible damage to the environment by providing improved ecology outcomes onsite and by incorporating management measures that reduce resource and energy consumption throughout the construction and operational lifecycles. Strategies to reduce impacts from pollution and improve environmental amenity for students and staff will be supported by a design that has considered future climate change adaptation needs.
- Inter-Generational Equity - The proposed development is designed to achieve 5 Star Green Star certification and incorporates design measures that will improve the indoor environment to enhance health and wellbeing for staff and students. Measures include use of zero ozone depleting refrigerants, best practice PVC and low impact paints, sealants and adhesives, alongside provision of endemic plantings connecting the building to its environment.
- Conservation of Biological Diversity and Ecological Integrity – as discussed in **Section 6.5**, the landscape design (**Appendix L**) includes planting of endemic native vegetation and retention of established native vegetation, water quality and quantity measures are being implemented as set out in **Section 6.13**, which will result in a neutral or improved outcome as a result of the development. The landscaping design aims to conserve and support the local biological diversity and integrity within the parameters of a predominantly greenfield site being transformed for urban use.
- Improved Valuation, Pricing and Incentive Mechanisms – Sustainable design and operational measures have been included in the proposed development and will be embedded in the operational management and use of facilities. Strategies to monitor energy consumption and to change consumption behaviours will be supported using:
 - Natural ventilation of circulation spaces to minimise the need for mechanical ventilation,
 - Improved building fabric and glazing performance
 - Mixed Mode HVAC including operable window, cross ventilation and adaptive thermal comfort approach.
 - HVAC system control for individual room control and thermal comfort
 - Water efficiency using water efficient fixtures and fittings, low maintenance landscaping and Water Sensitive Urban Design
 - Promotion of sustainable transport with bike parking and end of trip facilities as well as proximity to public transport
 - Operational waste management and separation of waste streams
 - Energy efficient appliances and equipment
 - Renewable energy generation through grid connected rooftop solar array

- Shading elements on the building
- Portland cement reduction and use of at least 50% captured or reclaimed water in cement mixes
- 90% of cables, pipes, flooring, blinds will either:
 - Not contain PVC and have an Environmental Product Declaration, or
 - Meet Best Practice Guidelines for PVC

Based on these initiatives, the proposal would reduce the consumption of materials, energy and water. Through the design and operation of the proposed development the school would integrate environmental design strategies in accordance with the *Environmental Design in Schools Manual*. The use of these strategies to develop the proposed energy efficiencies will reduce, water, energy and waste production over the lifetime of the development are consistent with Section J of the National Construction Code and Australian Best Practice in Environmentally Sustainable Design (ESD).

6.6.1 Net Zero Statement

A Net Zero Statement has been prepared by Catholic Schools Broken Bay and Northrop Consulting in accordance with the requirements of *State Environmental Planning Policy (Sustainable Buildings) 2022* for major school developments. The letters confirms:

The project is designed to operate without fossil fuels from the moment it's occupied, demonstrating our commitment to sustainability and minimising environmental impact. It is anticipated that any fossil fuels used for emergency power will account for less than 1% of the total building energy consumption and be offset for the first ten years of operation.

6.7 Traffic, Transport and Accessibility

A Transport and Accessibility Impact Assessment (TAIA) (**Appendix R**), Green Travel Plan (**Appendix S**), and Construction Traffic Management Plan (**Appendix T**) have been prepared by Traffix to address the matters required by the SEARs and matters raised by Central Coast Council and Transport for New South Wales (TfNSW) during consultation.

Specifically, the SEARs require that an assessment be prepared which includes:

- Analysis of the existing transport network
- Details of the proposed development
- Analysis of the impacts of the proposed development during construction and operation
- Measures to mitigate any traffic impacts and promote sustainable travel
- A preliminary operational traffic and access management plan
- A construction traffic management plan

The TAIA is prepared based on a methodology that includes consideration of:

- Outcomes from Council consultation
- Strategic context
- Existing traffic conditions
- Transport related features of the proposed development
- Car, bicycle and service vehicle parking requirements
- Compliance with relevant design standard requirements
- Management of on-site kiss and drop spaces
- Traffic impacts and recommended mitigation measures

This approach has been reviewed and is considered sufficient in responding to the SEARs and specific assessment requirements of this proposal.

6.7.1 Existing Road and Transport Conditions

Road Network

The road hierarchy in the vicinity of the site is as follows:

- Pacific Highway – a TfNSW Highway (HW 10) that has a divided carriageway and a 110km/hr speed limit
- Wyong Road – A TfNSW Main Road (MR 335) that has two-lanes in each direction and a 70km/hr limit

- Woodbury Park Drive – a local collector road with a single lane in each direction and a 50km/hr limit
- Gavenlock Road – a local road with a single lane in each direction and a 50km/hr limit other than during “School Zone” restrictions are in force and a 40km/hr limit applies
- Brickendon Avenue – a local road with a single lane in each direction and a 50km/hr limit
- Wagners Place – a local road with a single lane in each direction and a 50km/hr limit
- Deloraine Drive – a local road with a single lane in each direction and a 50km/hr limit
- Keefers Glen – a local road that generally accommodates a single lane in each direction and a 50km/hr limit

The site is located with conveniently access to a collector road (Woodbury Park Drive) and a main arterial road (Wyong Road) that service the region, which can effectively distribute traffic onto the wider road network to minimise traffic impacts.

Intersection surveys were conducted at the seven (7) key intersections surrounding the site:

Table 12 Intersection Survey Results			
Intersection	AM peak	PM peak	Vehicles per day
Wyong Road, Woodbury Park Drive and Tonkiss Street	3,365	3,848	38,480 to 48,100
Woodbury Park Drive and Wagners Place	296	384	3,480 to 4,800
Woodbury Park Drive and Brickendon Avenue	271	362	3,620 to 4,525
Wagners Place and Deloraine Drive	75	88	880 to 1,100
Deloraine Drive and Keefers Glen	62	71	710 to 888
Brickendon Avenue and Hawthorne Place	89	88	890 to 1,113
Brickendon Avenue and Keefers Glen	93	77	930 to 1,163

The majority of streets within the suburb of Mardi provide grassed verges only with no formal pedestrian footpaths. Intersections generally have formed kerb ramps for future footpath connections. A shared pedestrian/cycle path is located along a section of Woodbury Park Drive, providing connections to the north towards the Pacific Highway.

The site is proximate to a range of bicycle infrastructure including:

- Off-road shared paths – sections of Woodbury Park Drive and Gavenlock Road link to Tuggerah and Wyong
- Low-traffic on-road routes – Woodbury Park Drive accommodates low-traffic on-road routes linking to Tuggerah and Wyong
- Road shoulder routes – Wyong Road provides road shoulders accessible to cyclists

Transport Conditions

The site is serviced by four (4) public bus routes that stop along Woodbury Park Drive, approximately 250 metres from the site, and there are six (6) bus routes that service St Peters Catholic College in the morning and afternoon periods.



Figure 44 Extract of bus routes (Source: Traffix)

Tuggerah Railway Station is located 1.3km southeast of the site and a number of the local bus services connect the Railway Station with the site, as well as other locations in the area.

6.7.2 Vehicular Access – Alternative Options

During the pre-application meetings with Central Coast Council, Council officers reiterated their concerns about the potential impact on the road network of vehicular access to the site via Keefers Glen and requested that vehicular access should come via the existing St Peters Catholic College driveway on Gavenlock Road.

The proposal includes subdivision of land to create an independent site for the EO'CCS, in the north-western corner of the existing St Peters Catholic School site. It is important for the school to create its own street presence that is clearly identifiable and welcoming for arriving staff, students and visitors to Keefers Glen. Schools are commonly co-located amongst low density residential development. Having a street frontage and arrival location is important to foster pride for students and staff to create a relationship with surrounding residential development.

Notwithstanding, consideration was given to creating vehicular access to the new school via Gavenlock Road during design development. The Architectural Design Report (**Appendix I**) sets out why this option is not feasible:

- Access via a roadway through St Peters Catholic College would require re-orientation of the main entry to the new School away from the street frontage on Keefers Glen and re-positioning of the entry to the eastern side of the proposed site. There was a strong belief that this would diminish and weaken the significance and celebration of the new School within the community and result in a loss of presence and identity, very much in contradiction with the stated project objectives.
- Access through the St Peters Catholic College site would have an adverse impact on the operations of the College itself.
- Vehicular access to the new School through the St Peters Catholic College site could potentially pose a safety and evacuation risk for students, particular in the event of a flood, with Gavenlock Road identified as being impacted by flooding during major rain events.

The following sections provide an assessment of the suitability of Keefers Glen as the street frontage and vehicle access point for the school.

6.7.3 Travel Mode Analysis

The school is for students with special needs, and the expected travel mode share is very different to that experienced at other schools. The travel characteristics set out below are based on existing/operational schools for students with special needs within NSW and have been used to formulate the car parking and traffic impacts of the development:

- 85% of students will use the assisted school travel program (ASTP)
- 15% of students will arrive/depart via private vehicle (parent/carer)
- 100% of students are dropped-off/picked up within the site and parents/carers are not allowed to exit their vehicles.
- Arrival and departure activities are highly managed, with staff assisting students from/to the vehicle and escorting students to/from the school building
- ASTP vehicles carry between one (1) and nine (9) students per trip
- No students will drive or cycle to school, and it is not envisaged that any student will utilise public transport
- 90% of staff will arrive/depart via private vehicles

These unique characteristics applying to this proposed school development need to be understood and implemented appropriately throughout the parking and traffic assessment, as it is fundamentally different to that of most other school developments.

6.7.4 Parking Assessment

On-Site Parking

The DCP provides relevant parking rates for a new school and an assessment of the proposal against these rates is provided in **Table 13**.

Parking Type	Rate	No. of Students and Staff	Parking Requirement	Proposed Provision	Compliance
Car Parking	One (1) space per staff member. Student parking one (1) space per eight (8) senior/adult students	200 students and 71 staff	71 including + student parking	60 including two (2) accessible spaces + 5 visitor spaces for use outside of kiss & drop periods	No See merits assessment below.
Bicycle Parking	1 space per 20 students		10	6 staff bicycle parking spaces	No See merits assessment below
Motorcycle Parking	1 space per 50 car parking spaces	N/A	2	2	Yes

While car parking provision is not consistent with Council's DCP control, this has been balanced with feedback received from the State Design Review Panel (SDRP) recommending reduced on-site car parking provision. Accordingly, a review of Australian Bureau of Statistics (ABS) Journey to Work data, provides that 86% of people who work in Tuggerah travel to work via private vehicle. The Green Travel Plan sets out strategies to encourage staff to travel to work via active or public transport, including:

- Encouraging carpooling
- Providing staff with public transport information
- Provision of end-of-trip facilities and bicycle parking

Accordingly, based on the ABS data and initiatives proposed in the Green Travel Plan, which seek to reduce car use to below ABS levels, provision of 60 on-site car parking spaces will not result in more than a minimal environmental impact on the surrounding road network. Despite the DCP requirement for 1 space per 8 senior students, no student car parking is proposed due to the fact that students will not be driving themselves to school.

Application of the above bicycle parking rate to the proposed 200 students generates a requirement for 10 bicycle spaces. However, due to the nature of the school, it is noted that no students will cycle to and from school, as such, no student bicycle parking spaces are proposed for the school. The six (6) spaces proposed are suitable to meet forecast staff demand and support the Green Travel Plan.

The Central Coast DCP does not require visitor parking for schools, however, due to the nature of the school, visiting specialist staff members will be attending the school to assist students throughout the day. Therefore, the five kiss and drop spaces will be available for visitor use outside of the school drop off and pick up periods.

Parking for two (2) x 12-seater mini vans has also been provided, as the buses will be used for external school activities. However, these vans are not used for student pick up or drop off.

Waste will be collected from the waste storage area adjacent to the northern section of the carpark by an 11.8 metre vehicle. The carpark has been designed to facilitate entry and exit of this vehicle in a forward direction and waste collection will occur outside of school hours.

The design of the carpark meets relevant Australian Standards to ensure safe and efficient operation and swept path diagrams confirm suitable access and internal manoeuvring arrangements for the waste collection vehicle, emergency services vehicles and 12-seater minibuses.

The on-site parking provisions therefore appropriately accommodate the specific needs/demands of the proposed school.

Kiss and Drop

Despite Central Coast DCP setting out kiss and drop provisions of 14 spaces for a primary school or 7 spaces for a secondary school; kiss and drop provisions for the development are derived from a "first principles" methodology having regard to the following factors that denote the unique operational characteristics of the school:

- Maximum number of students on-site at any given time;
- 85% ASTP usage;
- ASTP Car Occupancy – Average of 4 students/vehicle;
- 15% private vehicle usage;
- 1.05 students/vehicle in private vehicles;
- Number of managed DOPU spaces;
- 30 minute drop-off/pick-up period to space out arrivals and departures;
- 90 second drop-off/pick-up duration; and
- 98th percentile queue factor.

Based on these factors and a 98th percentile queuing analysis, the school requires five (5) managed drop off/pick up spaces and an additional six (6) queuing spaces, for a total of 11 vehicles in the school.

The development is providing five (5) managed drop-off/pick up spaces and on-site queueing room for an additional eight (8) vehicles in order to ensure that there will be no overflow queueing onto Keefers Glen, thereby suitably mitigating any environmental impact to the road corridor. The spaces are located in a covered porte cochere, providing staff with weather protection for facilitating unloading and loading movements of students from/into transport vehicles.

All vehicles will enter the site via the northern "Entry Only" driveway, drivers will enter the drop off spaces within the porte cochere, school staff will manage student movements between the vehicle and school buildings. Other vehicles will queue within the site behind the five drop off spaces and there will be no overtaking within the porte cohere area unless instructed to do so by the managing school staff. Vehicles will exit the site at the southern driveway to avoid conflict of vehicle movements.

6.7.5 Transport Impact Assessment

Vehicular Traffic

A first principles method has been utilised to determine traffic generation rates for the school, as the TfNSW Guide to Transport Impact Assessment 2024 does not provide traffic generation rates for educational developments that support children with disabilities. Traffic generation rates for the proposed development have been derived based on the following factors:

- Maximum of 200 students on-site at any given time;

- Maximum of 71 staff on-site at any given time;
- School start/finish times;
- AM School Peak: 8-9am;
- PM School Peak: 2:30-3:30pm;
- 85% ASTP usage;
- ASTP Car Occupancy – Average of 4 students/vehicle;
- 15% private vehicle usage;
- 1.05 students/vehicle in private vehicles;
- No students will use public transport, utilise bicycles or walk to and from school;
- 100% private vehicle usage for staff (conservative assumption);
- Staff Car Occupancy – 1 staff/vehicle; and
- 20% of staff members will leave during the afternoon school peak, while the remaining 80% of staff members will leave after the school peak.

Trips	AM (8am-9am)		PM (2:30pm-3:30pm)	
	IN	OUT	IN	OUT
Staff Trips	71	0	0	14
Student Trips using ASTP	43	43	43	43
Students Trip using Private Vehicles	29	29	29	29
Total Student Trips	71	71	71	71
Total Vehicle Trips	142	71	71	85

Figure 45 Extract of vehicle generation rates (Traffix)

There will be 213 vehicle trips in the AM peak and 156 vehicle trips in the PM peak. Using these traffic volumes, a SIDRA intersection analysis was undertaken in the TAIA to assess base case, base case + development and base case + 10 year growth (which was requested by TfNSW) during the AM and PM peak periods at the following intersections:

- Wyong Road, Woodbury Park Drive, and Tonkiss Street;
- Woodbury Park Drive and Wagners Place;
- Woodbury Park Drive and Brickendon Avenue;
- Wagners Place and Deloraine Glen;
- Deloraine Glen and Keefers Glen;
- Brickendon Avenue and Hawthorne Place; and
- Brickendon Avenue and Keefers Glen.

The TAIA identifies that consideration has been given to the school zone speed limit of 40km/hr will be in effect around the school where applicable.

The SIDRA analysis identified little to no impact on the performance of surrounding intersections with the development in operation, with all intersections retaining the same Level of Services (LoS) as the base case, which is "A" for all intersections except for Wyong Road, Woodbury Park Drive and Tonkiss Street which has retains its existing LoS of "B".

The base case plus 10-year growth scenario indicated that all intersections retain their existing LoS of "A", except for the Wyong Road, Woodbury Park Drive and Tonkiss Street intersection, which drops from an LoS of "B" to "D" in the am peak and "E" in the pm peak. This scenario represents forecast growth more widely throughout the Central Coast, and the drop in LoS is forecast to occur regardless of whether the development proceeds.

Accordingly, the development will not result in adverse impacts to key intersections near the site, with all intersections maintaining their existing LoS in the post-development scenarios. Therefore, no infrastructure upgrades (for intersection performance) or mitigation measures are necessary to facilitate the proposed development.

Upgrades to Keefers Glen

The development proposes upgrades to widen Keefers Glen to a 6-metre road carriageway (kerb to kerb) along the length of the street, approximately 250 metres. The road carriageway currently varies in width between Brickendon Avenue and Deloraine Glen. This will assist in smooth vehicle movements during the morning and afternoon peaks. In addition, a new footpath is proposed between the site and Brickendon Avenue to improve pedestrian safety around the school. Details of the proposal are discussed in **Section 6.8** of this EIS.

Green Travel Plan

In addition to the assessment and mitigation measures set out in the TAIA, a Green Travel Plan (**Appendix S**) has been prepared to provide travel options and interventions to encourage staff to utilise active and public transport services.

The Green Travel Plan establishes a purpose to identify initiatives to encourage staff and visitors to use non-car methods of travel for their journeys to and from the new school. Noting that students will utilise the Assisted School Travel Program or private vehicles, and will not utilise active or public transport for their journeys. It is proposed to target a change of -5% for staff car movements with a 1% increase in carpooling, and a 2% increase in bus and bicycle travel respectively (**Figure 46**).

Travel Mode	Existing Modal Splits	Proposed Modal Split	Difference
Other	0.2%	0.2%	0%
Bicycle	0.4%	2.4%	+2%
Motorcycle/scooter	0.7%	0.7%	0%
Walking	1.2%	1.2%	0%
Train	2.1%	2.1%	0%
Bus	2.2%	4.2%	+2%
Car (as passenger)	5.7%	6.7%	+1%
Car (as driver)	86.6%	81.6%	-5%
Total	100%		-

Figure 46 Staff existing and proposed travel modal split (Source: Traffix)

These rates are considered appropriate targets having regard to the specific transportation requirements of the school user groups, and the connectivity of the site to public transport options that might otherwise have promoted a higher share of alternative transport modes.

The Green Travel Plan requires the nomination of a Travel Plan Coordinator to oversee implementation of the Plan, as well as reviewing and updating the Plan to reflect site operations, changes to public transport services and the achievable modal-split targets for the site.

A monitoring and review process will be set out by the Travel Plan Coordinator. Travel mode data will be collected via a travel survey within the first 12 months of occupation to provide suitable baseline travel data for staff. A travel survey will then be conducted one year post occupation to assess the performance targets. It is envisaged that travel mode targets are achievable in 5 years. The success of any targeted mode share benchmark change is contingent on the implementation of the Green Travel Plan, and so this is incorporated as a mitigation measure for traffic and transport impacts.

Assessment

The methodology of the TAIA is supported as a rational and data-based approach to vehicle traffic impact assessment. The findings of the TAIA identify that the vehicle impacts of the proposal are acceptable and are consistent with the operational conditions of other schools for special needs students.

As the project provides accessibility for pedestrian and vehicle movements to and from the site, accommodates parking demands for cars and bicycles, connects with the surrounding shared path network and will not result in an unacceptable traffic impact, it is considered that the traffic, transport and access impacts of the proposed development are supportable, subject to the implementation of mitigation measures as discussed below and at **Appendix E**.

6.7.6 Construction Traffic & Parking

A Preliminary Construction Traffic and Pedestrian Management Plan has been prepared by Traffix (**Appendix T**) to consider traffic and parking impacts during the construction of the new school.

Truck Movements & Worker Parking

Construction workers and truck movements on site will vary during different stages of construction. A preliminary overview of construction demands is set out in **Table 14**.

Table 14 Construction Traffic & Parking		
Construction Stage	Average Daily Truck Movements	Average Daily Workers
Site establishment/ demolition/ bulk earthworks – approximately 3-months	Largest truck expected is 12.5m heavy rigid. Six (6) trucks per day (six in, six out) Maximum two (2) arrivals per hour	10 workers at any one time
Structure – approximately 10-months	Largest truck expected is 12.5m heavy rigid. Eight (8) trucks per day (eight in, eight out) Maximum two (2) arrivals per hour	75 workers at any one time
Fit out and finishes	Largest truck expected is 12.5m heavy rigid. Ten (10) trucks per day (six in, six out) Maximum two (2) arrivals per hour	100 workers at any one time

The average daily truck movements are considered a minor volume and will have a negligible impact on the performance of key intersections and the surrounding road network.

Forecast construction worker parking demand is for 30-spaces, based on 75% car usage and 2.5 persons per vehicle carpooling rate. It is expected that on-site parking can be accommodated for these vehicles, noting that as the project car parks are constructed, these can be utilised by construction workers.

If required, additional mitigation measures can be implemented to the CTPMP prepared by the Contractor to further reduce impacts to the road network including, staggering delivery times to reduce peak traffic impacts, sequencing construction activities to minimise overlap of major vehicle movements, communicating with trucks to ensure they only arrive at site when they can be accommodated, utilising Safe-Work NSW qualified traffic controllers as needed, promoting sustainable transport options for construction workers including car pooling to reduce reliance on private vehicles, on-site storage units for use by contractors to store tools, thus reducing reliance on private vehicles.

Construction Access

A temporary driveway will be constructed on Keefers Glen to facilitate safe and efficient vehicle access during the early stages of construction. The driveway entries proposed for the new school will be utilised once they are constructed.

Trucks will only be called to the site when they are required, and there is sufficient capacity to accommodate them, thereby mitigating the risk of trucks queuing in the road network. The proposed truck routes utilise classified State Roads and higher order local roads as far as possible. Proposed truck routes are indicated in **Figure 47**.



Figure 47 Proposed truck routes during construction (Source: Traffix)

Swept paths have been prepared (**Appendix T**) to confirm that 12.5m heavy rigid vehicles can enter and exit the site via the local road network connected with Keefers Glen, in accordance with AS2890.

Accordingly, it is considered that subject to the implementation of a detailed Construction Traffic and Pedestrian Management Plan by the Contractor, the traffic and parking impacts during construction can be suitably managed.

6.7.7 Mitigation Measures

- Preparation of a Construction Traffic and Pedestrian Management Plan by the Contractor
- Kiss and Drop Management Plan must be prepared and implemented by the school to manage the flow of vehicles dropping off or picking up students from the school
- 40km/hr school zones should be applied to Keefers Glen during specific times of day
- Implementation of Green Travel Plan, including annual review of conditions

6.8 Civil Road Design

The site has frontage to Keefers Glen, which is a local road serving the local residential community. Keefers Glen does not currently have a full width pavement to allow two vehicles to pass each other, and requires one vehicle to pull off the road pavement to enable passing. Therefore, in order to facilitate the proposed traffic generation for the school, civil engineering plans have been prepared by James Taylor and Associates (**Appendix DD**) to widen Keefers Glen to accommodate a 6-metre wide road corridor in order to facilitate two vehicles passing each other. Kerb and guttering along the southern road boundary and installation of a shared pathway on the eastern side of Keefers Glen between the school and Brickendon Avenue is proposed.

Details of the scope of work is discussed at **Section 3.2.7**, the proposed road upgrades have been designed in accordance with Central Coast Council requirements, and consultation has been undertaken with Council to ensure the design is suitable.

In accordance with the requirements of the DCP, proposal will include:

- 6m wide carriageway
- Kerb ramps at the northern and southern corners of the intersections of Keefers Glen and Brickendon Avenue and Keefers Glen and Deloraine Glen
- Kerb and guttering along the southern road boundary
- 1.5m wide shared path from the site's southern vehicle crossing to Brickendon Avenue
- Splayed vehicle crossing for car park entry/exit at the two vehicle entry points to the site
- Rebuild driveway access to 2/20 Brickendon Avenue to accommodate new footpath
- Stormwater drainage pits and pipes to connect with approved stormwater design for residential development at 25 Macquarie Road under SPP-16-04466
- Tree removal and landscaping works

The civil works to Keefers Glen will provide appropriate access to, from and across the frontage of the site. The road design will connect to existing stormwater infrastructure along Keefers Glen and provide for future shared pathway connections in the area. The dimensions of the road carriageway will sufficiently accommodate all vehicle movements and manoeuvres.

6.9 Biodiversity

A Biodiversity Development Assessment Report (BDAR) has been prepared by Narla Environmental (**Appendix O**) in relation to the biodiversity impacts associated with the proposed new school. With regard to vegetation on the site, the BDAR confirms that the site generally contains exotic vegetation, but identified the presence of one (1) plant community type (PCT) within the site, *PCT 4021: Coastal Creekline Dry Shrubby Swamp Forest*. Three (3) vegetation zones were identified as follows:

- *Vegetation Zone 1: PCT-4021 – Moderate condition (remnant canopy) (0.35 ha);*
- *Vegetation Zone 2: PCT-4021 – Low condition (planted) (0.15 ha); and*
- *Vegetation Zone 3: Landscaped and exotic vegetation (0.64 ha).*



Figure 48 Extract of vegetation zone mapping (Source: Narla)

All trees in Vegetation Zones 1 and 2 (**Figure 48**) will be impacted by the development and require removal, this total an area of 0.5 hectares, and includes four (4) street trees.

With regard to native fauna species, seven species were identified or assumed to be present within the site. **Table 15** outlines the ecosystem and species credits that are required to offset the impacts of the proposed development.

Table 15 Biodiversity Offset Credits				
Species	BC Act status	Zone - condition	Total Area (ha)	Species Credits Req'd
Plant Community Type				
PCT 4021: Coastal Creekline Dry Shrubby Swamp Forest	Swamp Sclerophyll Forest on Coastal Floodplains of NSW, Noth Coast, Sydney Basin & SE Corner bioregions	Zone 1 – moderate	0.35	11
		Zone 2 – low	0.13	3

Table 15 Biodiversity Offset Credits

Species	BC Act status	Zone - condition	Total Area (ha)	Species Credits Req'd
TOTAL ECOSYSTEM OFFSET CREDITS				14
Fauna Species				
Cercartetus nanus Eastern Pygmy-possum	Vulnerable	Zone 1 – moderate	0.35	11
		Zone 2 – low	0.13	3
Crinia tinnula Wallum Froglet	Vulnerable	Zone 1 – moderate	0.35	8
Hieraetus morphnoides Little Eagle	Vulnerable	Zone 1 – moderate	0.35	8
		Zone 2 - low	0.13	2
Hoplocephalus stephensii Stephens' Banded Snake	Vulnerable	Zone 1 – moderate	0.35	11
		Zone 2 - low	0.13	3
Mixophyes iteratus Giant Barred Frog	Vulnerable	Zone 1 – moderate	0.35	8
Myotis macropus Southern Myotis	Vulnerable	Zone 1 – moderate	0.35	11
Phascogale tapoatafa Brush-tailed Phascogale	Vulnerable	Zone 1 – moderate	0.35	11
		Zone 2 – low	0.13	3
TOTAL SPECIES OFFSET CREDITS				79

6.9.1 Koala Habitat Protection

A site assessment was undertaken to determine whether the land contained core koala habitat, which is defined by the *State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 4: Koala Habitat Protection 2021* as:

- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or
- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.

Notwithstanding that the site contains suitable koala habitat (where 15% or greater of the total number of trees are the regionally relevant species of those listed in Schedule 2 of the SEPP), no sign of koala or koala presence such as scats or scratch marks were found during targeted SAT surveys. A review of koala records found no record of koala within the site in the last 18 years. Furthermore, only three (3) Koala records are located within 2.5km of the site, within the last 18 years. With the closest being approximately 2km away from 2017. It was therefore determined on the basis of the survey results and minimal proximal records, that the site is unlikely to constitute core koala habitat, and no further assessment under the SEPP (i.e. Koala Assessment Report) is required.

6.10 Noise and Vibration

An Acoustic Assessment Report has been prepared by Acoustic Logic (**Appendix U**) in relation to the construction and operational noise and vibration associated with the new school. The Acoustic Assessment Report outlines the appropriate assessment methodology, identifies the potential noise and vibration impacts of the proposed development and provides mitigation measures to address the potential impacts during the construction and operation phases of the proposal.

Assessment criteria for noise and vibration impacts have been established based on the EPA's *Noise Policy for Industry 2017* and relevant Australian Standards to identify and assess potential noise impacts.

Based on the outcomes of the assessment, controls and mitigation have been proposed to prevent adverse environmental noise impacts at the surrounding properties, and to maintain acceptable school occupant amenity. The preliminary noise and vibration controls and mitigation recommendations are provided to maintain the neighbouring residential amenity.

The assessment indicates that the adoption of the recommended controls and mitigation will:

- adequately mitigate impacts at the surrounding receivers from construction and operational noise emissions.
- prevent adverse impacts on school occupant amenity from local environmental noise and vibration sources of the classrooms and other learning spaces has been provided in the Acoustic Assessment prepared by Acoustic Logic (**Appendix U**).

6.10.1 Methodology

Three (3) noise sensitive receivers have been identified in the vicinity of the site (**Figure 49**).

- R1: Residential dwellings along Keefers Glen and Brickendon Ave facing North and West
- R2: Residential dwellings along Deloraine Glen and Woodbury Park Drive facing south
- S1: Existing St Peters Catholic College

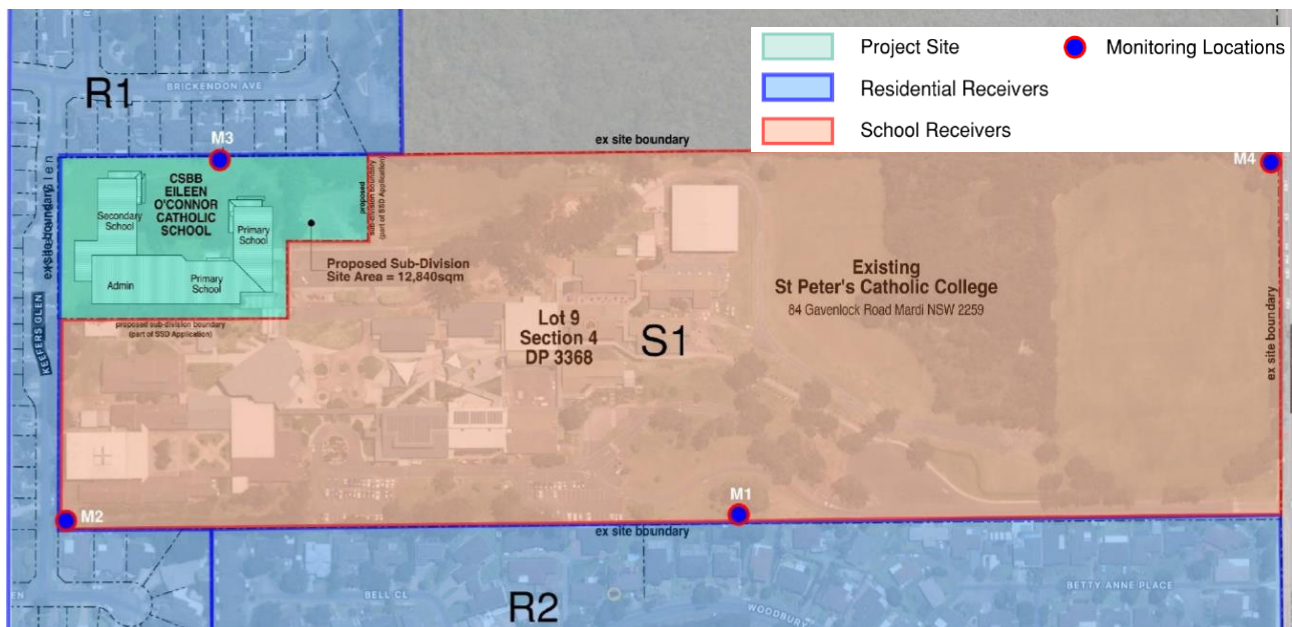


Figure 49 Location of noise sensitive receivers (Source: Acoustic Logic)

Unattended monitoring was undertaken between Tuesday 18 July to Monday 31 July 2023 at four locations along the site boundaries to establish the existing noise environment (**Figure 49**). The following measured ambient noise levels were identified at the four (4) noise monitor locations (**Figure 50**).

Location	Time of day	Rating Background Noise Level dB(A) _{L90(Period)}	Traffic Noise Levels dB(A) _{Leq(period)}
M1 – South East	Day (7am – 6pm)	42	52 dB(A) _{Leq(15hr – daytime)} 47 dB(A) _{Leq(9hr – nighttime)}
	Evening (6pm – 10pm)	42	
	Night (10pm – 7am)	37	
M2 – South West	Day (7am – 6pm)	42	55 dB(A) _{Leq(15hr – daytime)} 51 dB(A) _{Leq(9hr – nighttime)}
	Evening (6pm – 10pm)	42	
	Night (10pm – 7am)	39	
M3 – North West	Day (7am – 6pm)	40	54 dB(A) _{Leq(15hr – daytime)} 51 dB(A) _{Leq(9hr – nighttime)}
	Evening (6pm – 10pm)	40*	
	Night (10pm – 7am)	36	
M4 – North East	Day (7am – 6pm)	44	59 dB(A) _{Leq(15hr – daytime)} 54 dB(A) _{Leq(9hr – nighttime)}
	Evening (6pm – 10pm)	43	
	Night (10pm – 7am)	38	

Figure 50 Measured ambient noise levels in accordance with EPA's Noise Policy for Industry (Source: Acoustic Logic)

As EO'CCS will be located in the north-western corner of the site, the levels at M3 have been adopted as the Rating Background Noise Levels. This is considered appropriate as it reflects the most conservative approach to noise impact assessment.

The *Noise Policy for Industry 2017* sets out three (3) criteria for residential receivers.

- Intrusive assessment– that is, how audible loud is the emitted noise compared to ambient, background noise. Criteria are determined relative to the measured rating background noise level (RBL + 5 dB(A)).
- Amenity assessment – that is, how loud is the absolute level of emitted noise, including cumulative noise from other existing sources considered to be “industrial” emissions. The NPfI nominates appropriate amenity noise levels depending on the receiver type and prevailing noise environment/zoning.
- Maximum Noise assessment – is not required for the proposed development as operation during the night period is not proposed.

The project noise trigger levels are the lower of the intrusiveness and project amenity noise levels, and are set out in **Figure 51**.

Location	Period/Time	Rating Background Noise Level dB(A) _{L90(Period)}	Intrusiveness Noise Levels dB(A) _{L_{Aeq}(15min)}	Project Amenity Noise Levels dB(A) _{L_{Aeq}(15min)}	Project Noise Trigger Levels dB(A) _{L_{Aeq}(15min)}
Residential Receivers	Day (7am-6pm)	40	45	53	45
	Evening (6pm-10pm)	40*	45	43	43
	Night (10pm-7am)	36	41	38	38
Commercial Receivers	When in Use	-	-	63	63
School Classroom - internal	When in Use	-	-	33	33
Active Recreation Area	When in Use	-	-	53	53

Figure 51 Project Noise Trigger Levels (Source: Acoustic Logic)

There are no specific noise requirements that relate to school developments (other than for complying development). In addition, the Commissioner in *Meriden v Pedavoli* [2009 NSWLEC 183] determined that “all noise that emanates from the normal activities at a school is not offensive”.

6.10.2 Operational Noise – External Noise Emissions

External noise emissions associated with the operation of the school include:

- Noise emissions from school activities (outdoor play and classrooms).
- Noise emissions from public address / school bells.
- Noise emissions from mechanical services and plant.
- Noise emissions from vehicle movements generated by the site.

The external noise emissions from each of these sources was assessed in accordance with the relevant EPA policies and guidelines as detailed below.

Noise Emissions – School Activities

Noise emissions relating to school activities includes noise generated by outdoor play areas and outdoor learning, internal classrooms and use of the school hall.

External noise activity impact by sensitive receivers can be reduced by erecting noise barriers and mounding around the school. However, these barriers can produce negative impacts for security, overshadowing and visual impact. Therefore, due to the moderate impact of normal school activities, barriers are not typically used in schools.

Specific features of the playspace design have been considered for their acoustic impacts.

Outdoor Dance Stage Area

- Maximum sound pressure level emitted is 85dB(A)_{L_{eq}}
- Dance stage is located approximately 50 metres from northern residential receivers, and predicted noise levels at the nearest receiver is 45dB(A)

Use of PE Court

- When the court is in use, predicted noise levels at the nearest receiver is 50dB(A) with ten children evenly distributed across the court
- Courts would be used for passive recreation during break times, after school club activities or during sports competitions

- The residences to the north have an existing 1.5 metre high fence line for visual privacy purposes, and these barriers also provide acoustic screening to the residences. This screening has not been factored into the predicted noise levels given the noise sources are not static, therefore, actual noise levels are likely to be lower than those predicted.

Noise generated by the use of the classrooms has been based on the worst-case scenario with a high noise activity (up to 80dB(A)). The predicted noise level is below amenity noise goals for the nearest sensitive receivers.

Noise Emissions – Public Address / School Bell

The school bell/PA system will only operate during normal school hours and will minimise noise spill to adjacent properties to ensure that noise levels for surrounding residents should not exceed the background noise level by more than 5dBA.

Noise Emissions – Mechanical Services and Plants

The primary sources of plant noise are from mechanical ventilation and air conditioning plant. This plant does not produce “maximum noise events” and would not normally operate during the night period, therefore a maximum noise level assessment is not required. A detailed acoustic assessment of all plant items will be undertaken at construction certificate stage.

However, the acoustic assessment states that:

Noise emissions compliant with the nominated trigger levels can be achieved through a combination of typical mitigation methods including:

- *Selecting quiet plant*
- *Locating plant away from sensitive receivers...*
- *Enclosing or treating plant to reduce noise emissions*

Noise Emissions – Traffic Noise

Noise modelling using SoundPlan has been undertaken to assess noise emissions from traffic movements, carparking and waste collection as detailed in the Traffic and Accessibility Impact Assessment (**Appendix R**). Carpark activity will generally occur during the daytime period, with occasional use up to 10pm for parent teacher interviews, meetings or presentations.

Vehicle movements on Keefers Glen are predicted to generate 56dB(A)_{Leq}, which is a 2dB increase on current vehicle noise impacts and is considered a minor impact.

6.10.3 Construction Noise and Vibration Assessment

The Acoustic Assessment Report includes an assessment of the potential impacts and construction of the acoustic amenity of the surrounding sensitive noise receivers, including an assessment against the NSW EPA's *Interim Construction Noise Guidelines* and *Assessing Vibration, A Technical Guideline*, relevant *Australian Standards* and *DIN4150 Vibration in Buildings 2016-12*.

A range of noise and vibration generating equipment will be used during the proposed construction works. The Acoustic Assessment Report notes that there will be periods where the noise generated by the construction activities will exceed the Noise Management Levels (NMLs) at some of the sensitive receiver locations, including above the “Highly Noise Affected” noise level of 75dB(A). When NMLs are exceeded, mitigation measures are to be considered and incorporated where reasonable and feasible. Detailed recommendations are provided in the Acoustic Assessment Report, including the preparation of a Construction Noise and Vibration Management Plan (CNVMP), use of quiet technologies.

Based on the proposed scope of works, vibration levels are expected to be within the limits as the nearest building to be demolished are not adjacent to residential receivers. However, during excavation and structural works, the vibration levels will need to be monitored to ensure they do not adversely affect neighbours along the northern boundary.

6.10.4 Mitigation Measures

Operational Noise

- A detailed acoustic review of all building services and plant is required prior to installation to ensure that the noise level does not exceed the background noise level by more than 5dBA.
- A review of the proposed public address / school bell system once the final location of the speakers is determined to ensure that the noise levels at surrounding residents does not exceed the background noise level by more than 5dBA.
- Maintenance activities and waste collection should be scheduled to occur between 7am and 6pm Monday to Friday and 8am to 1pm on Saturdays.
- When occasional after-hours activities are occurring, it is recommended to keep windows closed.

Construction Noise and Vibration

- Preparation of a Construction Noise and Vibration Management Plan including the mitigation measures set out in Section 9.7 & 9.8 of the Acoustic Assessment.

6.11 Soil and Groundwater Conditions

The following investigations provide an assessment of the ground and water conditions of the site:

- Geotechnical Investigation Report (**Appendix V**)
- Salinity Investigation and Management Plan (**Appendix W**)
- Acid Sulfate Soils Management Plan (**Appendix NN**)

6.11.1 Ground Conditions

A Geotechnical Investigation Report has been prepared by Nepean Geotechnics (**Appendix V**) to assess the geotechnical conditions of the site. The investigation included the drilling of four (4) boreholes (BH1 – BH4) to a maximum depth of 7.0 m and laboratory testing of sample of natural clayey material from BH1.

According to the Gosford-Lake Macquarie 1:100 000 Geological Series Sheet the site is underlain by Quaternary aged sediments consisting of gravels and sands. Based on the mapping, the site is situated close to a geological boundary with the Clifton Subgroup (Rnp) formation of Narrabeen group consisting of claystone, siltstone and fine-grained lithic sandstone.

The results of borehole testing revealed topsoils in the first 200mm, which are underlain by sands, silty sands and clayey sands of loose to medium density to an average depth of 1m. Below this depth, clayey sands in dense conditions were present. Soil classification is *Class P* and ground surface movement is equivalent to *Class M – Moderately Reactive* for the site in accordance with *AS2870-2011 Residential Slabs & Footings*.

An Acid Sulfate Soils Management Plan prepared by Raw Earth Environmental included drilling and testing of samples from six (6) boreholes of boreholes to a maximum depth of 2.5m on site and the local soils were characterised as follows:

Table 16 Soil Characterisation	
Depth range(m)	Material Description
0.0 – 0.15	Topsoil: Gravely sand. Dark brown, dry, loose, fine to medium grained sand with angular to subangular gravels.
0.15 – 0.75	Natural: Gravely sand clay. Pale grey, moist, loose, fine to medium grained sand.
0.75 – 1.5	Natural: Clay. Pale brown and pale grey, moist hard, low plasticity.
1.5 – 2.5	Natural: Sandy silty clay. Pale brown and pale grey, moist, soft, fine to medium grained sand, low to medium plasticity.

The proposal includes benching works involving cut and fill within the site. A *Natural Material Statement of Compliance* has been prepared by Raw Earth Environmental (**Appendix GG**). Based on soil sampling at 24 locations within the site (**Figure 52**) at depths of between 0.3m and 1.8m below ground level (bgl), all locations met the criteria presented in Table 4 of the *NSW Excavated Natural Material Order and Exemption 2014*, with the exception of samples at S19 and S23. Soil samples at S19 and S23 indicated elevated levels of nickel concentrations and do not meet the requirements for offsite beneficial reuse. The statement concludes that:

With the exception of soils in S19 (0.5mbgl) and S23 (0.3mbgl) results have been reported as being less than both the Absolute Maximum concentrations and the Absolute Average concentrations, and considering the homogenous, naturally occurring profile of the soils free from any anthropogenic sources of contaminants, such as brick, concrete, or debris, as well as no indications of staining, odour or ACM. As such, soils are able to be applied to land as engineering fill or beneficially reused off site in meeting requirements of the Excavated Natural Material Order and Exemption (2014).



Figure 52 Extract of Sampling Plan (Raw Earth Environmental)

Raw Earth Environmental conducted and Acid Sulfate Soil (ASS) Investigation at the site to assess the subsurface soil conditions and the presence of ASS. The investigation included the advancement of six (6) boreholes to a maximum depth of 2.5m, soil characterisation, sampling and analysis. The key findings included groundwater intercepted within boreholes HA04, HA05 and HA06 (**Figure 53**), all located to the northern portion of the development area. The soil analytical results indicated the presence of ASS within soils greater than 2.0m mark.



Figure 3:
Sampling Plan

Figure 53 ASS Investigation boreholes (source: Raw Earth Environmental)

6.11.2 Ground and Surface Water

Groundwater

The closest surface water receptor to the site is a tributary to Wyong River, which is located approximately 1.5km northeast.

The site topography and regional landscape suggests that the groundwater flows from west to east. Analysis has revealed a pattern related to the standing water levels (SWL) of the boreholes. The SWL of the boreholes located to the west of the site (uphill) were deeper, ranging from 14.0 to 19.0m below ground level, compared to the boreholes located to the east of the site (towards the coast) ranging from 3.0 to 10.0m below ground level.

A search of the WaterNSW portal, conducted 10th May 2024, identified 13 registered groundwater boreholes within 1.6km radius around the site.

The Geotechnical Investigation Report (**Appendix V**) encountered significant water seepage at a depth of 2.8m in BH2 at the northern most point of the existing dam. Subsurface material in BH1 and BH3 appeared dry to moist and granular soils below a depth of 2.5m in BH4 appeared moist to wet. It is noted that observed seepage may be a result of recent rainfall or some leakage from the dam.

The Detailed Site Investigation (**Appendix X**) states that testing of groundwater will be required prior to dewatering of the dam to establish the most appropriate disposal method.

Surface Water

Preliminary water sampling has been undertaken at two locations in the dam by Raw Earth Environmental (**Appendix Y**) and found that the concentration of metals were reported to be less than the adopted Guidelines for Fresh Water Quality (2018) 99% protection level and recreational water quality and aesthetics criteria in all samples, with exception of:

- Copper concentrations – 0.005 (SW1) and 0.003 (SW2)
- Lead concentrations – 0.002 (SW2)
- Zinc concentrations – 0.060 (SW1) and 0.003 (SW2)
- Nitrate concentrations – 0.03mg/L (SW1 & 2)
- Total recoverable hydrocarbons – minor levels detected in SW2, none detected in SW1
- Inorganic parameters were within acceptable levels other than nitrate concentrations – 0.0038 (SW1 & SW2)
- Biological parameters were within acceptable levels in SW1 but presented elevated concentrations of Thermotolerant Coliforms and Escherichia Coli in SW2.

Further testing of dam water is required to establish a de-watering strategy prior to works commencing.

6.11.3 Salinity Investigation and Management

A Salinity Investigation and Management Plan has been prepared by Raw Earth Environmental (**Appendix W**) to assess the in-situ material for salinity and aggressivity in accordance with the regulatory framework and guidelines set by the NSW Environmental Protection Agency.

The results of the soil analysis in terms of salinity and aggressivity are as follows:

- Salinity: The soil analysis reported low values on electrical conductivity, ranging from 0.007 to 0.1 dS/m. ECe was calculated using a conversion factor for light-medium clay soil texture (cf = 8) and resulted in ECe < 2 dS/m for all sample results. As such and in accordance with the salinity assessment criteria (National Dryland Program 1993-2004) the site soil conditions are classified as Non-saline.
- Aggressivity: Local soils were found to be non-aggressive to mildly aggressive to steel and non-aggressive to severely aggressive to concrete.

6.11.4 Mitigation Measures

- Further testing of dam water is required to establish appropriate de-watering strategy, likely to be disposed of off-site.
- Detailed mitigation measures in Section 8.1 of Surface and Groundwater Impact Assessment (Appendix HH) for construction phase to be incorporated into Construction Environmental Management Plan.
- Prior to any works commencing on site, sediment and erosion control measures shall be implemented in accordance with the erosion and sediment control plans prepared by James Taylor and Associates and the requirements of Landcom's 'Blue Book'.

6.12 Contamination and Remediation

The following reports have been prepared by Raw Earth Environmental:

- Preliminary Site Investigation (**Appendix X**)
- Detailed Site Investigation (**Appendix Y**)
- Remediation Action Plan (**Appendix Z**)

In addition to the above, an Interim Audit Advice letter has been prepared by Ramboll Australia Pty Ltd and is provided at **Appendix AA**

6.12.1 Existing Environment

The Preliminary Site Investigation (PSI) includes a review of historical records to determine how the land has been used. Until the mid-1970s, the site was largely forested, covered in dense vegetation, with a single farmhouse in the centre of the site. Deforestation occurred in the early-mid 1970s and the creation of a dam. Catholic Diocese of Broken Bay bought the site in 1982, and it has been used as an educational establishment since that time.

In accordance with *NEPM (2013) Schedule B2 – Guideline on Site Characteristics*, a conceptual site model was prepared as part of the PSI, which indicated a potential uncontrolled fill situation across the site beneath the concrete slab. The PSI concluded that a Detailed Site Investigation (DSI) should be prepared including intrusive soil sampling.

The Detailed Site Investigation (DSI) (**Appendix X**) prepared by Raw Earth Environmental conducted soil sampling at 24 locations and water sampling at two (2) locations (**Figure 54**). All samples met beneficial reuse guidelines with the exception of two (2) samples, located where anthropogenic fill materials were encountered, and which exceeded “Maximum Average and Absolute Max”:

- S19 (TP19) 0.5m below ground level (bgl)
- S23 (TP23) 0.3m bgl

Accordingly, the DSI recommended the preparation of a Remediation Action Plan (RAP).



Figure 54 Site and Test location plan (Source: Red Earth Environmental)

6.12.2 Remediation

Based on the findings of the DSI, a RAP is required to identify the overarching mechanisms by which the site can be remediated in an acceptable manner with minimal environmental impacts and ensure that the site is suitable for its proposed use as an educational establishment.

The first stage will be to fill data gaps underneath existing structures and playing courts to determine if potential contamination is found to be present in the in-situ soils following demolition of those items. The preferred remediation strategy in the RAP sets out a series of options, all of which are supported, and recommends weighing the options of each strategy to take into account human health, environmental

impact, financial implications, long-term effects, and associated risks and liabilities before finalising the methodology.

- Option 1 – total excavation and off-site disposal
- Option 2 – Partial excavation and off-site disposal & partial on-site containment
- Option 3 – On-site containment and management
- Option 4 – Removal of surface contamination by Emu Picking ACM

An Interim Audit Advice Letter (**Appendix AA**) has been prepared by Ramboll Australia Pty Ltd (EPA Accredited Site Auditor 1002) of Ramboll Australia. The Interim Audit Report indicates that the RAP:

provides an adequate framework for the assessment of data gaps and provides remedial options that can be considered should contamination be identified during further assessment. The extent and nature of soils requiring remediation is to be confirmed following the DGI [data gap investigation] in an addendum to the RAP that confirms the adopted remediation strategy.

6.12.3 Mitigation Measures

- Data Gap Investigations to be carried out following demolition of playing courts and structures.
- Site remediation to be undertaken in accordance with the recommendations to the RAP.
- Review and approval of the final DSI and RAP by an EPA Accredited Site Auditor prior to remedial works commencing.
- Preparation of Construction Environmental Management Plan (CEMP) by the remediation contractor prior to the remedial works commencing, which should consider the requirements the site management plan presented in the RAP and should include detailed contingency plans.
- Validation of the remediation works is required to be documented in a Validation Report confirming that the works have been undertaken in accordance with the RAP and certifying the suitability of the site for the proposed development. The Validation Report is to be reviewed and approved by an EPA Accredited Site Auditor.
- Preparation of a Section A Site Audit Statement and accompanying Site Audit Report by an EPA Accredited Site Auditor confirming the suitability of the site for the proposed use, as well as any long-term management requirements.
- An unexpected contamination finds protocol is required to be prepared as part of the CEMP.

6.13 Water Management

A Water Cycle Management Plan (WMP) has been prepared by James Taylor & Associates (**Appendix BB**) to address civil engineering requirements for the proposed development pursuant to Items 12, 13 and 27 of the SEARs. The WMP has been prepared with reference to the following standards and guidelines:

- National Construction Code 2022
- AS 3500.3-2018 Plumbing and drainage Part 3: Stormwater Drainage
- Chapter 3.1 in Central Coast Development Control Plan 2022
- Central Coast Local Environmental Plan 2022

All base-line data assumptions on stormwater are therefore in line with adopted policies, plans and guidelines. Assessment of data for the site is prepared in line with the modelling framework required by Council (i.e. MUSIC modelling).

Assessment of the response of the proposal to stormwater is approached through a review of surface water impacts, stormwater quantity management, stormwater quality management, and water conservation. These matters are assessed in turn below.

6.13.1 Stormwater Drainage System

The proposed stormwater system for the school will manage, treat and attenuate flows before discharging stormwater from the site. A majority of the site will discharge into existing Council trunk drainage in Keepers Glen. However, due to the topography of the site, a portion of the site is unsuitable to drain to Keepers Glen and must discharge north-east of the site, as the existing dam currently drains.

There is existing stormwater infrastructure within private property at Lot 1821 D857182, 8 The Shieling, Mardi. This site is part of a community title for the adjacent residential subdivision to collect stormwater from those properties and direct it to Council's open channel to the north and then into Council wetlands to the east.

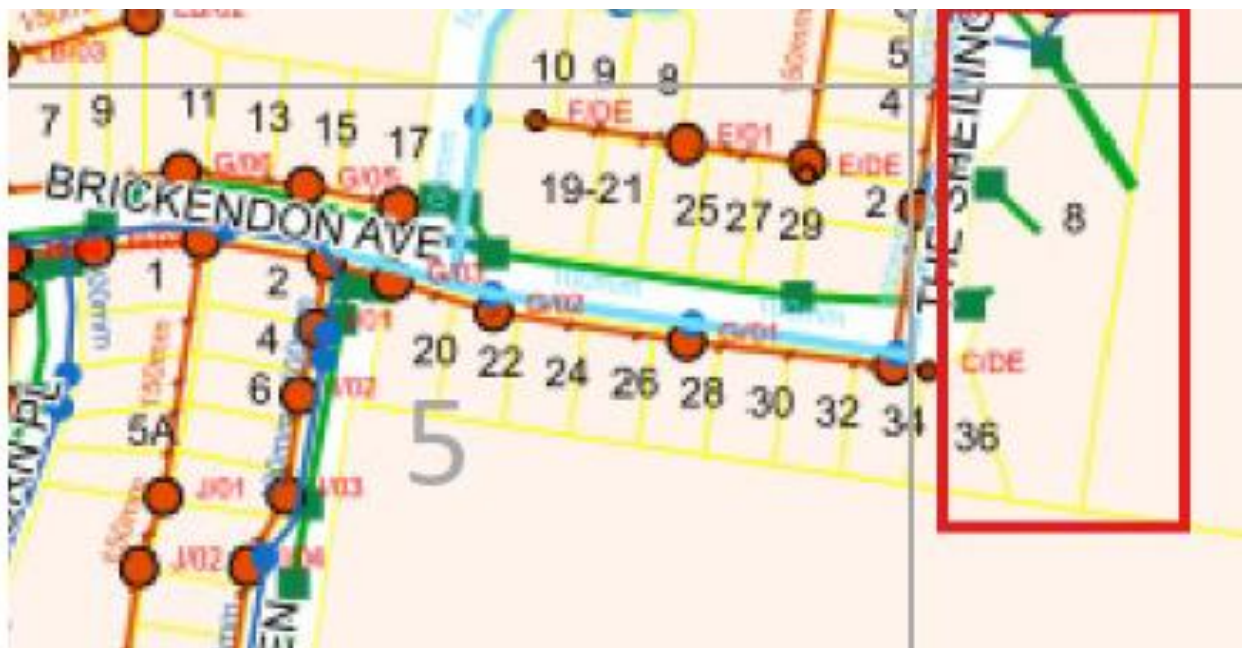


Figure 55 Council trunk drainage within 8 The Shieling (indicated by red outline) (Source: JTA)

Two options were investigated for stormwater drainage:

- Option 1 – discharge into existing pit in 8 The Shieling and upgrading any infrastructure necessary to meet capacity requirements. This option would require the granting of an easement for the school over 8 The Shieling.
- Option 2 – if the easement was refused, discharge overland flow via a level spreader and bioretention swale into the Council wetlands, mimicking pre-development conditions from the dam. An easement will be placed over the required drainage pathway across the land on St Peters Catholic College. No easement is required to discharge to 100 Gavenlock Road.

Representatives from CSBB have made multiple attempts to engage in discussions with the property owner of 8 The Shieling, Cobbs Village Management, over a three-month period but have not received any response from the landowner. On this basis, it has been determined that the easement request has been refused, and therefore Option 2 has been utilised for the school development.

6.13.2 Site Considerations & Analysis

The St Peters Catholic College site is partially mapped as flood prone land, generally in the eastern portion of the site. However, the northern edge of the proposed EO'CCS site falls just within the PMF mapping. Flooding is discussed in more detail in **Section 6.14** of this EIS. The site is mapped as Class 4 and 5 Acid Sulfate Soils, however, in accordance with the Raw Earth report, there is a low probability of occurrence.

Table 17 provides the pre- and post- development area calculations, which indicate that the development will increase the total impervious area of the site by 53%.

Table 17 Pre & Post Development Area Calculations		
Description	Pre-Development	Post-Development
Total Site Area	1.2838 ha	1.2838 ha
Roof Area	0.0457 ha	0.4436 ha
Paved/Impervious Area	0.1573 ha	0.4033 ha
Pervious Area	1.0808 ha	0.3239 ha
Total Impervious Area	0.2030 ha (16% of site)	0.8808 ha (69% of site)

6.13.3 Stormwater Quantity Management

The proposal includes 245m³ of on-site detention in accordance with Chapter 3.1.11.2 of the CCDCP. The Civil and Stormwater Plans (**Appendix CC**) provide details of eight (8) catchments within the site (**Figure 56**) and the pipe network that will collect and direct all stormwater flows to the three (3) on-site detention tanks, before being treated and discharged.

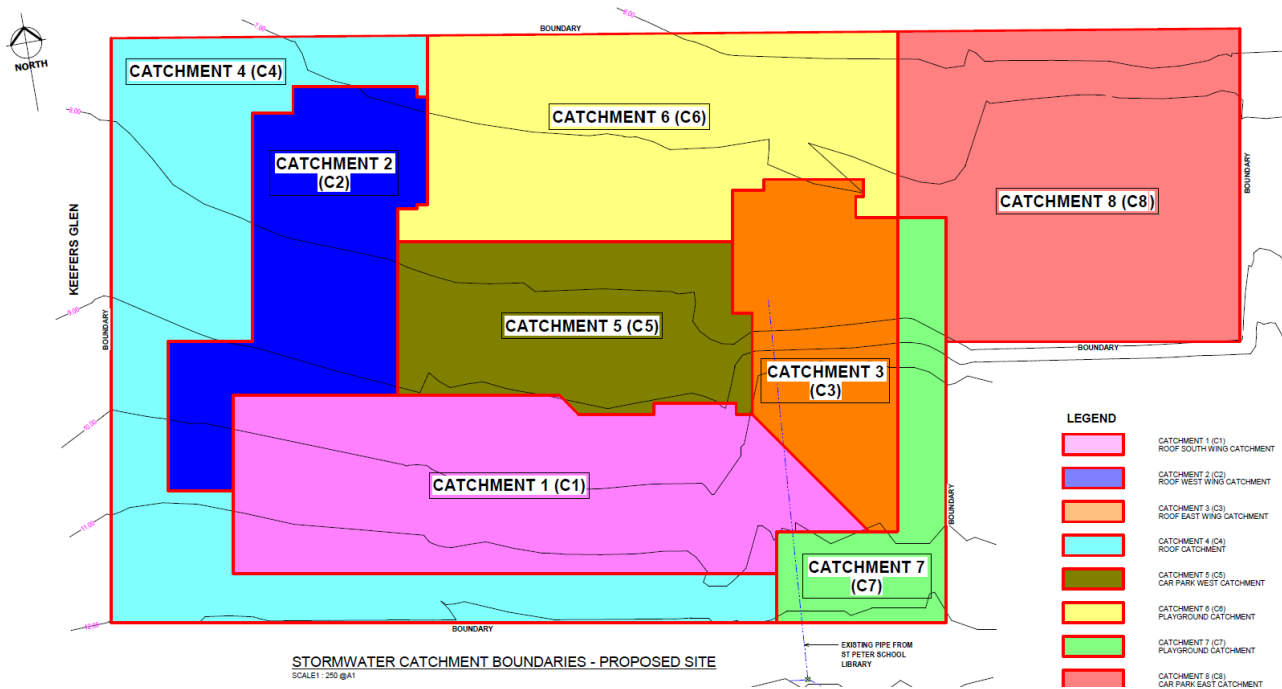


Figure 56 Extract of catchment post-development catchments (Source: JTA)

Drains modelling confirms that the on-site detention network will limit post development peak flows to less than or equal to pre-development flows for all storm events up to and including the 1% AEP (**Figure 57**) in accordance with Central Coast Council requirements.

Post Development - Total Site Discharge		
Discharge System	Flow Rate (L/s) for 1% AEP Event	Flow Rate (L/s) for 20% AEP Event
SPCC Discharge to Keefers Glen	115	65
EOCCS Discharge to Keefers Glen	119	72
EOCCS Discharge to Wetlands	355	158
Post Development - Total Site Discharge	589	295
Pre Development - Total Site Discharge	658	302

Figure 57 Results of Drains modelling (Source: JTA)

Drains modelling was also undertaken to confirm that the proposed level spreader and swale, that drain to Council's wetlands, will achieve Council's overland drainage targets.

Accordingly, the development achieves all stormwater quantity targets.

6.13.4 Stormwater Quality Management

Stormwater quality is managed in accordance with Council requirements, with the aim to reduce the pollutant load of stormwater runoff using a variety of treatment options to achieve all target removal rates. MUSIC modelling results of the stormwater quality management measures have been provided in the WCMP, showing that all pollutant reduction results exceed the target removal rate for all pollutants. The following figures show the treatment train effectiveness for the school site discharging into Keefers Glen and Council wetlands respectively.

Treatment Type	Sources	Residual Load	Modelled Reduction (%)	Target Reduction (%)
Total Suspended Solids (kg/yr)	477	91.2	80.9	80
Total Phosphorus (kg/yr)	1.23	0.31	74.8	45
Total Nitrogen (kg/yr)	13.4	5.61	58.2	45
Gross Pollutants (kg/yr)	154	0	100	90

Figure 58 MUSIC modelling for discharge to Keefers Glen (Source: JTA)

Treatment Type	Sources	Residual Load	Modelled Reduction (%)	Target Reduction (%)
Total Suspended Solids (kg/yr)	708	84.4	88.1	80
Total Phosphorus (kg/yr)	1.37	0.568	58.7	45
Total Nitrogen (kg/yr)	11.6	5.63	51.4	45
Gross Pollutants (kg/yr)	137	0	100	90

Figure 59 MUSIC modelling for discharge to Council's wetlands

Accordingly, the development achieves all stormwater quality targets.

6.13.5 Erosion and Sediment Control

Erosion and sediment control plans have been provided to mitigate impacts during construction. IN addition, erosion and sediment control measures are built into the bioretention swale that directs stormwater towards the Council wetlands.

6.13.6 Mitigation Measures

- Implementation of soil erosion and sediment control measures as outlined in the Civil and Stormwater Plans (**Appendix CC**).

6.14 Flooding Risk

A Flood Risk Assessment has been prepared by Tooker and Associates (**Appendix EE**) in accordance with the *NSW Floodplain Development Manual, Section 5.21 of Central Coast Local Environmental Plan 2022*, and existing Council and Government studies. The Assessment identifies flood behaviour, constraints and risks on the site; and considers the potential impacts of climate change for the full range of events, including the probable maximum flood (PMF) extent.

The proposed EO'CCS is located out of the PMF extent and as such, will not have any significant impact on the flood behaviour or be inundated by flood waters. The 1% annual exceedance probability (AEP) level for the site is 4.25m AHD and the PMF level is 6.49m AHD. The proposed minimum habitable floor level for the development is 7.7m AHD at the lower ground maintenance areas, with all student accommodation significantly higher. Accordingly, the development will not affect flood behaviour, nor will the buildings or the site be impacted by flood waters.

The flood risk for the site is that it could be isolated for long periods during riverine flooding, or shorter periods during intense rainfall events when roads are cut by flooding. It has been classified as "flood isolated elevated" by the Flood Risk Assessment. This is a risk for both the 1% AEP and PMF floods although the roads are cut much later for the 1% AEP compared to the PMF flood. The flash flooding caused by intense rainfall events has a significantly shorter warning time to the PMF level than the riverine flooding (**Figure 60**). The flood risk for the site is based on the PMF flood event.

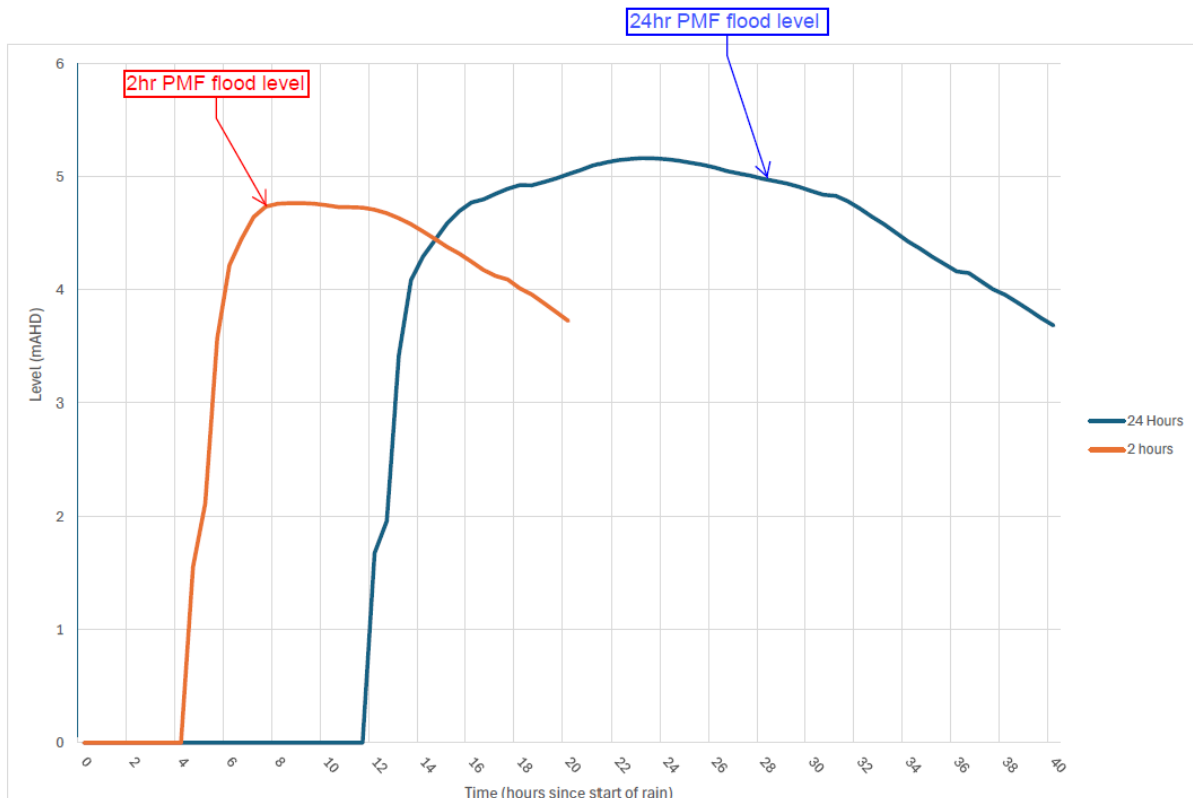


Figure 60 Warning times for Flash Flooding (red) and Riverine Flooding (blue) (Source: Tooker & Associates)

Tooker and Associates has prepared a Flood Emergency Response Plan (FERP) (**Appendix FF**) to address the two different types of flood affectation that can affect the Mardi area.

Flash Flooding Response

In a flash flooding event, the warning time from the commencement of rainfall to the PMF flood level is 2 hours. The Bureau of Meteorology (BoM) will recognise this flooding because the rainfall will be intense and the response at Wyong Bridge will be quick. If this event exceeds the 1%AEP level, it will trigger road closures in the surrounding road network of less than six (6) hours. Accordingly, a shelter in place strategy is proposed during a flash flooding event, which is consistent with the *NSW Shelter in Place Guidelines* (DPHI, 2025).

Long Duration Riverine Flooding

For longer duration riverine flooding, where there is a warning time of up to 24 hours, the response for the proposed school will be as follows:

1. Non school hours – message all parents and Assisted School Travel Program (ASTP) personnel once the BoM flood warning is provided to keep the school children at home;
2. School hours - message all parents and ASTP personnel once the BoM flood warning is provided to collect the children as soon as possible within three to four hours;
3. School hours – those children remaining after the first two actions above are to be transported to the Westfield Shopping Centre and remain under supervision until collected by their parents or ATSP personnel.

6.14.1 Mitigation Measures

- Adoption and ongoing implementation of Flood Emergency Response Plan.

6.15 Hazards and Risks

There are no dangerous goods or hazardous materials associated with the development.

The proposed development is not adjacent to or on land in a pipeline corridor. No mitigation measures are required.

6.16 Waste Management

A Waste Management Plan has been prepared by MRA Consulting Group (MRA) (**Appendix PP**) to address demolition, construction and operational waste management considerations. The plan has been prepared in accordance with Central Coast LEP 2022, Central Coast DCP 2022 and Central Coast Council *Waste Control Guidelines 2022*. Consideration was also given to the following supplementary documents in the preparation of the C&D WMP:

- Better Practice Guide for Resource Recovery in Residential Developments (NSW EPA, 2019)
- Better Practice Guidelines for Waste Management and Recycling in Commercial and Residential Facilities (NSW EPA 2012)

The WMP sets out waste management strategies to prevent the generation of waste, reduce the amount of waste for disposal (through reuse and recycling), manage waste as a resource, and ensure that waste treatment, disposal, recovery and reuse are undertaken in a safe, scientific and environmentally sound manner.

Demolition and construction waste has been categorised and strategies for reuse and recycling are provided.

The operational waste volumes for the school have been calculated in accordance with the *NSW Better Practice Guide for Resource Recovery in Residential Developments 2019* and has assumed that for schools, the waste reflects the weekly generation per student (**Figure 61**).

Student Population	Waste Stream	Generation rate	Weekly Volumes (L)
Primary (140 students)	General waste	15L/student/day	10,500L
	Recycling	20L/student/day	14,000L
Secondary (60 students)	General waste	20L/student/day	6,000L
	Recycling	15L/student/day	4,500L
Total		General Waste	16,500L
		Recycling	18,500L

Figure 61 Extract of operational waste volumes (Source: MRA)

Secured bin enclosures will provide centralised storage that has adequate capacity to receive and store the maximum likely generation of waste and recycling between collection times. The proposed centralised waste storage area will be an enclosed space with suitable access for disposal and collection purposes, and storage space to accommodate the bins required to service the site. The waste storage area will be developed with the following considerations:

- Enclosed room with suitable ventilation;
- Signage for safety and waste bin identification;
- Safety precautions, staff training and signage for plant;
- Floor made of concrete or other approved solid, impervious material that can be cleaned easily;
- Grading and draining to an approved drainage fitting located in the room to facilitate bin washing;
- Adequate supply of water with hose cock as close as practicable; and
- Suitable construction including limited entry to prevent vermin and vandalism.

Temporary waste storage will be provided in circulation areas, classrooms, canteen areas and in the playground, as required. Smaller split receptacles within secured enclosures will be utilised to encourage source separation by students and staff, to promote recycling behaviours. Cleaners will consolidate waste

as part of daily cleaning operations, collecting waste in a janitorial trolley or similar, and depositing into larger MGBs within the centralised waste storage area prior to collection.

Based on the waste volume calculations above and the footprint required from, the following MGB storage requirement is expected at the site show as **Figure 62** below. Options for a three times per week collection is provided.

Waste Stream	Collection Frequency Option	Bins required	*Space requirement
General Waste	Up to three times weekly	5 x 1,100L bins	12m ²
Recycling	Up to three times weekly	6 x 1,100L bins	14m ²

**Note: Space requirements have been multiplied by 1.5 for manoeuvrability within the waste storage room.*

Figure 62 Waste storage requirement (Sourced: MRA)

The car park has been designed to accommodate the swept path of a waste truck, entering and exiting in a forward direction from the northern driveway along Keepers Glen (**Figure 63**). Swept paths are provided in the Traffic and Accessibility Impact Assessment (**Appendix R**).

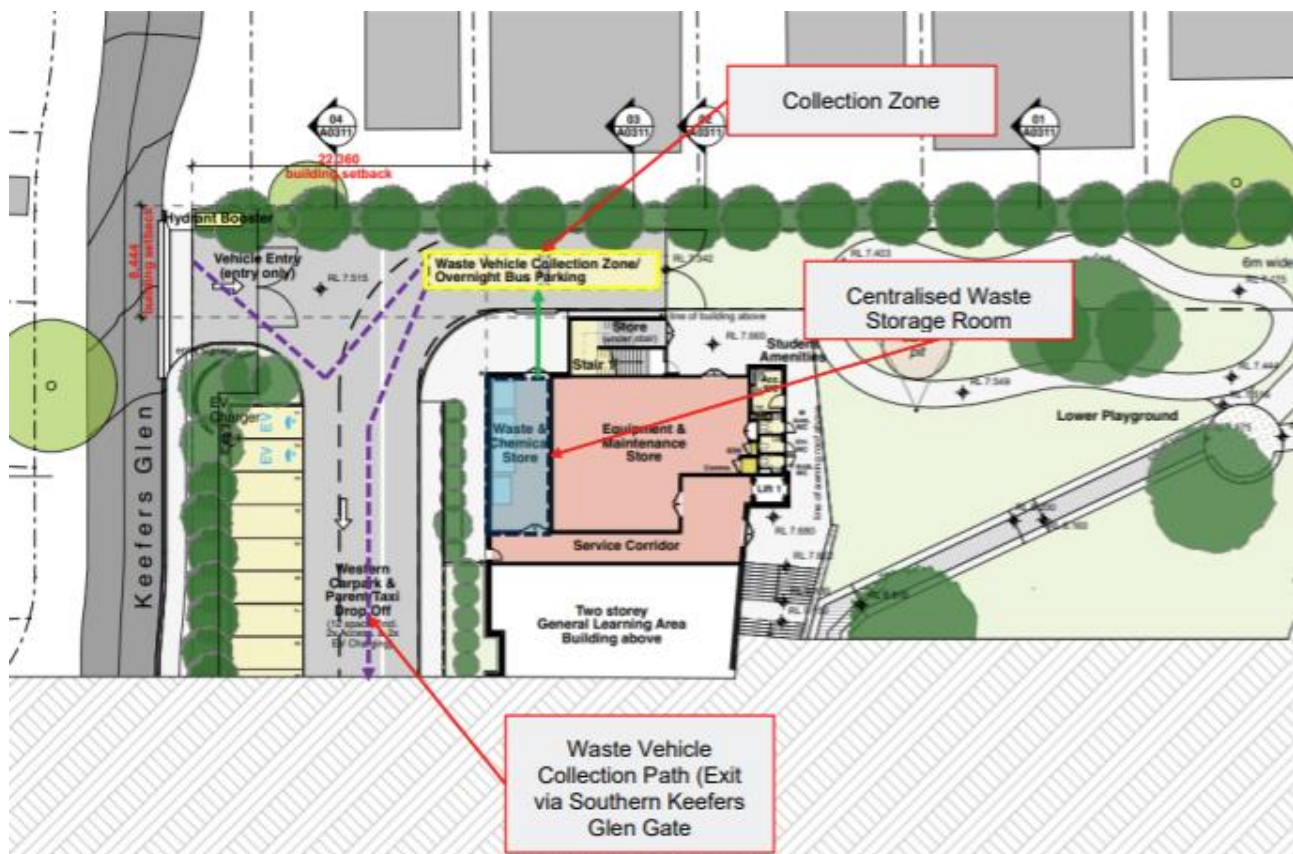


Figure 63 Extract of waste storage, collection area and vehicle collection path (Source: MRA)

Accordingly, it is considered that the operational waste provisions for the school are appropriate and will not generate unacceptable environmental impacts.

6.16.1 Hazardous Materials Survey

A Hazardous Materials Survey (**Appendix MM**) of existing buildings associated with St Peters Catholic College has been prepared by Trinitas Group. The report indicates that the sheds proposed for demolition/relocation from the EO'CCS site have not been identified as having asbestos containing materials.



Site Name:	St Peter's Catholic College, Tuggerah
Site Address:	84 Gavenlock Road, Tuggerah NSW 2259
Building Name:	Maintenance sheds

Item	Location	Level	Room-Specific Location	Hazard Type	Item description	Sample Reference	Sample Status
1	Interior	Ground Floor	All elevation of the floor - division walls	Asbestos	Plaster-like material	NA	Negative
2	Interior	Ground Floor	All elevation of the floor - walls	Asbestos	Plaster-like material	NA	Negative

Figure 64 Extract of Hazmat Survey for maintenance sheds (Source: Trinitas Group)

6.16.2 Mitigation Measures

- All materials should be classified for disposal in accordance with the relevant regulatory requirements including the NSW EPA Waste Classification Guidelines. Such classification may indicate the need for segregation of materials prior to disposal.
- An unexpected finds protocol should be prepared in the event that any hazardous materials are uncovered during the works.

6.17 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment Report (ACHAR) (**Appendix II**) has been prepared by Apex Archaeology to identify any Aboriginal cultural values associated with the site, outline consultation with Aboriginal people who hold cultural knowledge of Aboriginal objects and/or places on the site, assess the impact of the proposed development on Aboriginal cultural heritage values, and demonstrate that any impacts can be avoided or appropriately mitigated.

The ACHAR has been prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2011) (former Office of Environment and Heritage) and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (the 'Consultation Requirements') (former Department of Environment, Climate Change and Water NSW). A separate Archaeological Technical Report (**Appendix JJ**) has been prepared by Apex Archaeology in accordance with the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (2010) (former Department of Environment, Climate Change and Water NSW).

Twelve (12) Aboriginal people and organisations formed the Registered Aboriginal Parties (RAP) for consultation on the project. In accordance with the Consultation Requirements, consultation was undertaken by Apex Archaeology with the Aboriginal community groups in four (4) main stages.

- Stage 1 Consultation: Commencement
- Stage 2 & 3 Consultation: Presentation and Gathering of Information
- Stage 4: Review Of Draft Report

The ACHAR included a pedestrian survey undertaken by Apex Archaeology and the Darkinjung Local Aboriginal Land Council (DLALC) in February 2024, as well as a review of previous archaeological and cultural heritage studies. The ACHAR provides the following statement of significance for the site:

The study area located at 84 Gavenlock Road, Mardi, NSW, is considered to have low Aboriginal cultural significance due to the lack of the cultural material present within the study area. It is acknowledged that the area was inhabited by Aboriginal people in the past and the evidence of this occupation existed within the wider area, even if it has subsequently been disturbed.

Accordingly, subject to the implementation of the mitigation measures set out below, the development will not result in unacceptable impacts to Aboriginal cultural heritage.

6.17.1 The results of the survey and Mitigation Measures

- No further archaeological assessment is required for the site prior to the commencement of proposed development activities.
- It is recommended that consideration is given to the installation of an acknowledgement to the traditional Aboriginal owners of the land. This could be addressed in the future through the Connecting to Country component of the project.
- The proposed development works must be contained within the assessed boundaries for this project. If there is any alteration to the boundaries of the proposed development to include areas not assessed as part of this archaeological investigation, further investigation of those areas should be completed to assist in managing Aboriginal objects and places which may be present in an appropriate manner.
- Should unanticipated Aboriginal archaeological material be encountered during site works, all work must cease in the vicinity of the find and an archaeologist contacted to make an assessment of the find and to advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.
- In the unlikely event that suspected human remains are identified during construction works, all activity in the vicinity of the find must cease immediately and the find protected from harm or damage. The NSW Police and the Coroner's Office must be notified immediately. If the finds are confirmed to be human and of Aboriginal origin, further assessment by an archaeologist experienced in the assessment of human remains and consultation with both Heritage NSW and the RAPs for the project would be required.
- One digital copy of this report should be forwarded to Heritage NSW for inclusion on the Aboriginal Heritage Information Management System (AHIMS).
- One copy of this report should be forwarded to each of the registered Aboriginal stakeholders for the project.

6.18 Non-Aboriginal Heritage

The site is not identified as a heritage item of State or local significance. The site is not located within a heritage conservation area or in the vicinity of any heritage items. Therefore, the proposed development will not have any direct or indirect impacts on the significance of any environmental heritage items.

6.19 Consultation and Social Impact

6.19.1 Community and Stakeholder Consultation

An Engagement Report has been prepared by Lakes Advisory (**Appendix D**) to capture community and stakeholder consultation carried out during the development of the proposal. The main matters raised by community members included:

Table 18 Community Consultation Outcomes and Project Design Response	
Issue	Response
Impacts arising from flooding of the dam	The dam is being de-watered and removed
Concerns if the building was located too close to the northern boundary with residential neighbours	The building is a U-shape that does not contain a northern wing. The northern tips of the eastern and western wings are setback more than 8 meters from the northern boundary.
Desire for a wider Keefers Glen to support increased traffic	Road widening is proposed to increase the road corridor of Keefers Glen to 6 metres
Concerns about removal of vegetation along the northern boundary (between the site boundary and inner fence line)	Planting will be retained between the two fence lines to provide a landscape screen between residents and the school
Acoustic concerns about the public address system being too loud.	The Acoustic Report provides advice about the public address system to mitigate impacts on nearby residents.

Each of these matters has been addressed in the project design, or can be mitigated and/or monitored as the project progresses.

The Engagement Report also reviewed the discussions, responses and outcomes to the stakeholder consultation carried out by the project team, which (as outlined in **Section 5.3** and in the Consultation Report at **Appendix D**) included consultation with the following government stakeholders:

- Central Coast Council
- TfNSW
- NSW RFS
- Government Architect NSW
- NSW State Design Review Panel

6.19.2 Social Impact

A Social Impact Assessment (SIA) has been prepared by Lake Advisory (**Appendix KK**) to identify and analyse the potential positive and negative social impacts associated with the proposed development. The SIA has been prepared in accordance with the Social Impact Assessment Guideline (NSW Department of Planning & Environment, 2023) and the SIA Guideline: Technical Supplement (DPE 2023) in response to Item 20 of the SEARs.

The SIA is structured to provide an assessment across the following areas:

- Social and Demographic Context
- Social Impact Assessment
- Mitigation Measures

These matters are discussed in turn below.

6.19.3 Social and Demographic Context

The SIA provides a review of the site and proposed development, together with the relevant context of the social locality of Tuggerah-Mardi and the Central Coast more broadly, including a review of existing socio-economic and demographic characteristics, and the educational facilities currently available for students with complex special needs.

This review found that there is an increasing population across the Central Coast region. Tuggerah-Mardi is home to young families and a greater percentage of children under the age of 24 than the wider Central Coast region.

One in five Australians experience some form of disability. This diverse group participates actively in all societal aspects, though disabilities can sometimes limit engagement in various areas of life, particularly for those requiring substantial assistance. As per the 2021 Australian Census, approximately 7% of Central Coast residents reported needing help in their daily activities. While the Census indicates that the vast majority of these people are in the older age categories, CSBB has identified a need for specialist school facilities on the Central Coast to support high needs students.

The SIA sets out the schools in the Tuggerah-Mardi and surrounding area that provide programs and support for students with special needs within their mainstream school environment. In addition, there are a number of small specialist Autism Spectrum (Aspect) Schools across the Central Coast. The SIA provides the following discussion about the existing service provision available for students with special needs on the Central Coast:

While these institutions have made strides in accommodating students with disabilities, there are limitations in specialist facilities that are more comprehensive and require significant resources. Specialized educational services such as extensive occupational therapy, speech therapy, and tailored learning programs for severe disabilities might still require access to services outside the immediate area, including in Sydney.

For certain advanced or highly specialised disability support services, families may need to travel to larger cities. This not only adds a logistical challenge but also highlights the need for more localized comprehensive services that could support the community better.

As the community in Tuggerah-Mardi grows, the demand for enhanced and specialized disability support in schools will likely increase. This underscores the importance of expanding current facilities and potentially introducing new educational institutions equipped with state-of-the-art disability support services. Developing these resources locally could significantly reduce the need for travel and make specialized education more accessible to all residents.

6.19.4 Social Impact Assessment

The Social Impact Assessment (SIA) (**Appendix KK**) for the project has included outcomes of both the community and stakeholder consultation processes, with appropriate enhancement, mitigation and/or monitoring reflected in the outcomes of the project (discussed below). The SIA has considered impacts upon:

- Way of life
- Community
- Accessibility
- Culture
- Health and wellbeing
- Surroundings
- Livelihoods
- Decision-making systems

The following sections address each of these matters.

Way of life

The key considerations for potential impacts on the way of life of existing residents require assessment, particularly:

- *Will privacy, peace, and quiet enjoyment for neighbours and the local area be affected, particularly people's daily lives and activities (during both construction and operation)?*
- *How will people be affected if traffic/parking demands or noise levels change?*

Traffic and parking impacts (as discussed in **Section 6.7**) have been addressed through a suitable assessment of current and future transport demands, connectivity and access to and from the site. The widening of Keefers Glen along the school frontage and on-site car and bus parking, and kiss and drop. The Construction Traffic Management Plan (**Appendix T**), Traffic and Parking Impact Assessment (TPIA) (**Appendix R**) and Green Travel Plan (**Appendix S**) details the mitigation measures to ensure traffic impacts do not have an unacceptable impact on way of life during construction and operation of the school.

Acoustic impacts (as discussed in **Section 6.10**) have been addressed by identifying the typical noise emissions of the school and controlling any elements which may exceed the relevant thresholds, such as PA systems and use of outdoor play areas. The approach adopted by the project will ensure that all noise generated by the proposal is deemed acceptable. The Noise and Vibration Management Plan (**Appendix U**) details mitigation measures to ensure noise and vibration impacts will not have an unacceptable impact on way of life during construction and operation of the school.

Community

The key considerations for potential impacts on the community require assessment of in consideration of the following questions:

- *Will the school result in marked changes to community composition and character?*
- *How will demand for support services (e.g. childcare, or social infrastructure) change?*
- *Will there be an impact on community cohesion, identity or sense of place?*

The SIA notes the school for 200 students with special needs and 71 staff has a minor to moderate capacity to change the composition of the local area, noting that most students will be existing residents on the Central Coast. The development may deliver benefits to community cohesion and functioning associated with the provision of high quality special needs education.

Mitigation measures for community, as the same as above during construction, and preparation of a Plan of Management, including any out of hours activities during operation.

Accessibility

The key considerations for potential impacts on accessibility require assessment in consideration of the following questions:

- *What are the likely social impacts of traffic changes in the area, including any provision of public or active transport options?*

- *Will the project impact accessibility of or demand for community facilities, services or public spaces (e.g. sports fields)?*
- *Will there be social impact if traffic levels or parking demands change, especially during construction?*

The SIA reiterates the assessment of traffic and transport impacts as provided in the TPIA (**Appendix R**). As discussed in **Section 6.7** of this EIS, most students will arrive by private bus or taxi in small groups under the Assisted School Travel Program, which provides free specialised transport for eligible students with a disability. Arrival will be entirely managed within the site. Staff parking is provided on-site and a Green Travel Plan will encourage alternate modes of transport and carpooling.

In regard to accessibility in and around the site, traffic will enter the site from Keefers Glen, which will increase traffic along the local road network. Widening of Keefers Glen is proposed in addition to the construction of a paved footpath to connect the school with existing pedestrian infrastructure. The TPIA has assessed the impacts of traffic generated by the new school and concludes that it will not give rise to unacceptable traffic impacts.

Culture

The key considerations for potential impacts on culture require assessment in consideration of the following question:

- *Are there opportunities for cultural expression, e.g. through design?*

The new school has been designed in consultation with local Aboriginal knowledge holders to inform the connecting with Country process. This is discussed further in the Architectural Design Report (**Appendix I**) and Landscape Report (**Appendix M**). The cultural design elements include:

- Layout of the school
- Views beyond the site
- Retention of trees where possible
- Creation of gathering spaces that are welcoming
- Repair and restoration of the land through removal of the dam

The SIA concludes that the redevelopment of the site will be done to high architectural standards, as long as construction and operational impacts are well mitigated, the school can “contribute to new place narratives and reinforce the locality and connection to Country”.

Health and wellbeing

The key considerations for potential impacts on health and wellbeing require assessment in consideration of the following questions:

- *Will community health be improved by public access to school facilities (e.g. sports facilities)?*
- *Will there be benefits from better active transport and the ability of local children to live near the school?*

The widening of Keefers Glen will improve safety in the area for local residents as well as users of the school. Kiss and drop will be conducted entirely within the school grounds to provide a welcoming and safe arrival experience for the student. The proposal will include suitably designed and fully accessible recreation facilities for students, therefore contributing to the health and wellbeing of students. The construction of a new footpath along Keefers Glen will connect the school with the existing pedestrian network and provides adequate opportunities for staff to use active transport when connecting with the school site.

In terms of construction impacts, the SIA notes that there may be temporary health impacts generated by the demolition and construction phase of works, however these are generally controlled and minimised through waste removal, conditions of consent around delivery and construction times, as well as other mitigation measures implemented through the Noise and Vibration Management Plan (**Appendix U**).

The SIA finds that the proposed development does not generate any negative, long term impacts in terms of the health and wellbeing of the community.

Surroundings

The key considerations for potential impacts on the site's surroundings require assessment in consideration of the following questions:

- *Will there be impacts to public open space, public facilities, or streets?*

- *Will there be changes to environmental values, visual landscape, or aesthetic values?*
- *How will nearby residents experience changes in their surroundings during construction?*
- *Will construction or operations affect public safety for pedestrians, children, drivers, or cyclists?*

The SIA outlines that the construction phase has the capacity to generate short-term negative amenity impacts in relation to visual impact of construction hoardings, vibration, dust, noise, truck movements and construction traffic, as well as removal of trees. The extent of these impacts is considered acceptable given the findings and mitigation measures presented in the TPIA and NVIA that will be implemented.

An assessment of the design and visual impact considerations outlined in the Architectural Design Report (**Appendix I**) is provided, together with an assessment of the findings of the Noise and Vibration Impact Assessment (**Appendix U**). The SIA finds that the project is not envisaged to result in any impacts in respect of public safety for drivers of cyclists in the construction phase, and in operation the site will not generate any impacts in respect of public safety.

Livelihoods

The key considerations for potential impacts on livelihoods require assessment in consideration of the following questions:

- *How does the development impact on people's capacity to sustain themselves through employment or business?*

The development will generate employment for 100+ people during the construction phase and will employ up to 71 specialised staff during operations. This will stimulate the local economy and provide new employment opportunities for residents. In addition, increased patronage of the site, has the capacity to generate increased patronage for other local businesses in the area with families staying in the area rather than travelling to the Sydney metropolitan area.

Decision-making systems

The key considerations for potential impacts on decision-making systems require assessment of a response to the following question:

- *Can affected people make informed decisions and feel they have power to influence project decisions, including elements of project design?*

The SIA reiterates the community and stakeholder consultation carried out by project team, as set out in the Consultation Report (**Appendix D**), within the context of an application assessed within a transparent determination system, and finds that the local community will be able to contact the Contractor if there are any issues during construction of the school; or contact the school if there are any issues with the operation of the school.

6.19.5 Mitigation Measures

The SIA includes a review of all proposed mitigation measures required to address matters relevant to social impact, and these measures are already incorporated into the existing supporting material, as summarised in **Appendix E**.

6.20 Infrastructure Requirements and Utilities

The new infrastructure and utility requirements of the new school have been addressed in the Infrastructure Management Plan (IMP) (**Appendix LL**), which includes a review of the existing services and the following proposed and augmented services required for the proposal:

- Electricity services
- Telecommunications services
- Sewer services
- Water services
- Gas services
- Proposed fire protection services

The needs of the project have been addressed having regard to Item 21 of the SEARs, which includes the need to assess existing and future demands and services. The IMP confirms that all necessary infrastructure and utility requirements will be provided as part of the new school development.

Main items assessed in the IMP are summarised below:

- A new electricity substation is required to service the project. This is designed into the project and is provided at the south-western frontage of the site to Keepers Glen.
- A new Photovoltaic (PV) solar system will be installed.
- Connectivity to Telstra infrastructure for telecommunications will be provided.
- A diesel generator is required to meet NCC 2022 requirements. This is designed into the project and is provided at the southern boundary of the site.
- The project will incorporate electric vehicle (EV) charging provisions for future installation.
- New sewer drainage connection to be provided to the site.
- New potable water connection to be provided to the site.
- Audio visual, lift and mechanical ventilation provisions.

The approach outlined in the IMP has been informed by a consultative approach with each of the service/utility providers, and therefore reflects an achievable outcome for the site. No mitigation of impacts are required in regard to infrastructure and utility provisions.

6.21 Bush Fire Risk

The site is partially mapped as bushfire prone land, “vegetation buffer” under Central Coast Council’s bushfire prone land map. Accordingly, a Bushfire Assessment Report has been prepared by Bushfire Consulting Services (**Appendix P**), which has assessed the proposal in accordance with the *Rural Fires Act 1997* (RF Act) and *Planning for Bushfire Protection 2019* (PBP 2019). A school is a Special Fire Protection Purpose (SFPP) pursuant to Section 100B of the RF Act, and while a Bush Fire Safety Authority (BFSA) is not required for SSD, a SFPP must comply with Section 6 of PBP 2019.

The proposed buildings will be located within 100 metres of “forested wetland” vegetation to the north-east of the site. A slope assessment was undertaken in accordance with PBP 2019 (**Figure 65**) and the slope within the proposed asset protection zone (APZ) for the site was determined to be a downward slope of 0-5°.



Figure 65 Extract of APZ, slope and minimum distance to bushfire source (Source: Bushfire Consulting Services)

The development has been designed to BAL 19, in accordance with National Construction Code (NCC) 2022.

The table at **Figure 66** sets out the APZ requirements for the site.

Aspect	Vegetation Classification	Slope Under Classified Vegetation	APZ required	Available APZ
North	N/A	N/A	N/A	N/A
East	Forested Wetland	Downslope >0- 5°	42m	75m
South	N/A	N/A	N/A	N/A
West	N/A	N/A	N/A	N/A

Figure 66 Extract of APZ requirements (Source: Bushfire Consulting Services)

The report indicates that all APZs can be met within the site and recommends that the curtilage between the proposed buildings and the site boundaries (and for a distance of 42 metres to the east and south), be managed as an Inner Protection Area (IPA) in accordance with PBP 2019 Appendix 4 and 'Standards for Asset Protection Zones'. The proposed landscape plan is consistent with these requirements.

The Bushfire Assessment concludes:

This report has considered all the elements of bushfire attack, and the development satisfies the aim, specific objectives, the intent and performance criteria of Chapter 6 of the NSW RFS document 'Planning for Bush Fire Protection', as amended in 2022, subject to implementation of the recommendations made by this report.

A Bushfire Emergency Management Plan has been developed in accordance with A Guide to Development in a Bushfire Emergency Management and Evacuation Plan and NSW Rural Fire Service Schools Program Guide (**Appendix RR**).

6.21.1 Mitigation Measures

- Area between buildings and boundary to be managed as an Inner Protection Area (and extending to 42m to the east and south)
- Mature tree canopy should be less than 15% at maturity, trees should not touch or overhang the building, low limbs should be removed up to a height of 2m above ground, canopies should be separated by 2-5 metres, preference should be given to smooth barked and evergreen trees.
- Shrubs should not form more than 10% of ground coverage, should not be located under trees, should be separated by large gaps, and should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation
- New landscaping is to comply with PBP 2019 Appendix 4
- All fences and gates constructed of non-combustible materials
- Water and electricity supplies must comply with the acceptable solutions of PBP 2019 table 6.8c and relevant Australian Standards
- Incorporate the Bush Fire Emergency Management and Evacuation Plan into the Operational Management Plan for the school.

6.22 Construction Management

The site is effectively a greenfield site, and the school will be constructed in a staged construction over a period of approximately 18 months. Hours of construction are proposed to be 7am to 5pm Monday to Friday and 7am to 3pm on Saturdays with no activities being carried out on Sundays or Public Holidays.

A Preliminary Construction Traffic Management Plan has been prepared by Traffix (**Appendix T**), which indicates that the primary construction access will be via Keefers Glen, and contractor car parking will be facilitated within the site. The Noise and Vibration Management Plan prepared by Acoustic Logic (**Appendix U**) sets out the construction noise and vibration management procedures, which are included in the Mitigation Measures Table (**Appendix E**).

A detailed Construction Management Plan will be prepared as part of the application for a Construction Certificate.

6.22.1 Mitigation Measures

- Prepare a Construction Management Plan prior to commencement of works

6.23 Contributions and Public Benefit

The following Development Contributions Plans apply to the site:

- Wyong District Development Contributions Plan 2019 (s7.11)
- Central Coast Section 7.12 Local Infrastructure Contribution Plan 2024 (s7.12)

The *Wyong District Development Contributions Plan 2019* was adopted on 27 April 2020. The site is identified within the Mardi Urban Release Area in the Wyong District map. The proposal includes subdivision, however, the land upon which the EO'CCS is proposed, is already an educational establishment, accordingly no change of use is proposed. The works identified under the plan relate to public open space provisions and infrastructure to support the targeted residential population in Mardi. The proposed school development will not impact on the needs identified under the Plan and includes public domain upgrades to support the development in the form of road widening and footpath infrastructure to Keefers Glen.

The *Central Coast Section 7.12 Local Infrastructure Contribution Plan 2024* was adopted on 23 July 2024 and generally requires payment of a 1% levy for non-residential development applications with an EDC of more than \$200,000. However, subject to Clause 1.5 of the Plan, applications for an educational establishment are exempt from the application of this levy.

6.24 Crime Prevention through Environmental Design

Crime Prevention Through Environmental Design is a crime prevention strategy that focuses on the planning, design and structure and neighbourhoods. It seeks to reduce the opportunities for crime through the use of design and place management principles. The four (4) key strategies of Crime Prevention Through Environmental Design (CPTED) are:

- Surveillance measures
- Territorial reinforcement
- Access control
- Space / activity movement.

Each of these strategies is discussed below.

Surveillance measures

Opportunities for crime can be reduced by providing effective surveillance. The surveillance principle indicates that offenders are often deterred from committing a crime in areas with high levels of surveillance. From a design perspective, deterrence of crime can be achieved by providing:

- Clear sight lines between public and private places and maximising natural surveillance.
- Appropriate lighting and effective guardianship of communal and/or public areas.
- Landscaping that makes places attractive but does not provide offenders with a place to hide or entrap victim.

There is one (1) pedestrian entry to the school from Keefers Glen, which directs entrants into the foyer of the administration area, and two vehicle entries (at the northern and southern corners of the site). There is a clear line of sight to and from the front pedestrian gate and the entry to the school building adjacent to the administration area. Passive surveillance is provided to all three entries, as well as across the site from building windows. The entries are clearly defined through the use of signage and built elements. Circulation throughout the site is legible and doesn't provide offenders with any places to hide or entrap victims.

Appropriate lighting will be provided across the school. The proposed landscaping across the school has been designed to provide a safe and attractive environment for students.

Territorial reinforcement

This principle involves community ownership of public spaces, and that staff, students and visitors will be more comfortable in visiting a communal area that is well-cared for and to which they feel they own. Well used places reduce opportunities for crime and present as a deterrent to criminals.

The site has been designed with clear transitions and boundaries between public and private spaces, and clear design cues on how different areas should be used. During school term, the school will be heavily

used by staff and students. Outside of school term, the site will have restricted access and some staff will be present.

Territorial reinforcement such as fences, signs, doors and other physical thresholds will clearly indicate the separation between public and private spaces, which helps to convey where visitors should and should not be within the school.

Access control

The principle of access control is to use physical and symbolic barriers to attract, channel or restrict the movement of people to minimise opportunities for crime and increase the effort required to commit a crime.

During school hours, access to the school is restricted with all visitors being required to sign in. The school grounds are surrounded by a 2.1m high security fence with a secondary fence behind the waste collection area to the north of the site to separate vehicle access/waste area from the playground space. The building line will form a secure line along the southern and eastern boundaries, with fencing in the north-east of the site to separate the driveway from the playground. The school will be a secure education facility with access control minimising opportunities for crime. This will also discourage vandalism and activism.

Space / Activity movement

This principle provides that space which is appropriately utilised and well cared for reduces the risk of crime and antisocial behaviour. Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of lighting and the removal or refurbishment of decayed physical elements.

Presentation of the school is managed by the school with general repairs and maintenance of lighting and broken equipment occurring as required. The proposed school is a high quality contemporary educational establishment that will contribute the amenity, casual surveillance and sense of security within adjacent residential precinct.

6.25 BCA & Accessibility Compliance

A Preliminary BCA Assessment report has been prepared by Steve Watson & Partners (**Appendix J**), which has assessed the proposed building works against the deemed-to-satisfy provisions of the Building Code of Australia (BCA) in accordance with the SEARs requirements.

The assessment demonstrates that the proposal is generally consistent with the deemed-to-satisfy provisions of BCA 2022, with the exception of the following matters, which are identified in the report as requiring performance solutions.

- Separation of Stair 1 and maintenance store on lower ground as different fire compartments
- Stair 5 requires a fire engineering performance solution due to glazed openings in the public lobbies, and discharges internally within the building
- Exit distance from staff WCs on Level 1
- Ground floor distance between Stair 5 and ramp leading to open space on lower ground floor (79m instead of 60m)
- Travel distances by non-fire isolated stairways
- Hydrant booster assembly located more than 20 metres from principal pedestrian entry
- PV panels will be addressed as a special hazard

The report concludes that the design documentation complies with, or is capable of complying with, the BCA, subject to the above matters being suitably addressed during detailed design development.

An Access Assessment Report has also been prepared by Vista Access Architects (**Appendix K**), which has assessed the proposal against the deemed-to-satisfy provisions relating to Access for Persons with a Disability and the associated mandatory legislative requirements under:

- Building Code of Australia 2022 – Performance Requirements of D1P1, D1P2, D1P8, D1P9, EcP4, F4P1 and Parts of Part D4, E3 and F4 (where applicable),
- Disability (Access to Premises-Buildings) Standards 2010,
- Australian Standards (AS) – AS1428.1-2021; AS/NZS 1428.4.1-2009; AS/NZS2890.6-2009 and AS1735-1999,

The Access Report confirms that the design achieves the spatial requirements to provide access for people with a disability under the legislative framework listed above.

6.25.1 Mitigation Measures

- Compliance with the recommendations in the Access report will ensure the design is consistent with the relevant legislative and design framework for people with a disability.

6.26 Cumulative Impacts

A detailed consideration of cumulative impacts is provided at **Section 2.3**, which outlines and assesses the proposal against a CIA methodology which follows the CIA Guidelines published by DPHI. This assessment found that the main cumulative impacts requiring investigation related to traffic and transport impacts. These impacts have been addressed in detail at **Section 6.7**, with relevant mitigation measures detailed at **Appendix E**.

Further assessment of cumulative impacts is not required having regard to the CIA methodology established for this project.

7 Project Justification

This section of the EIS provides justification and evaluation for the project as a whole having regard to the potential economic, environmental and social impacts of the project and the principles of ecologically sustainable development.

7.1 Project Design

The proposal will deliver a new independent school for approximately 200 students in a three-storey U-shaped built form that runs east-west along the northern site boundary, with frontage to Keefers Glen. The building has been designed in accordance with design quality principles for schools, consultation with local Aboriginal knowledge holders and the needs of students and staff for the safe and efficient operation of the school. Design elements such as articulation, materiality, colours and landscaping mitigate the bulk and scale impacts of the built form and provide an attractive streetscape.

The built form will provide modern, flexible learning and teaching spaces that have been designed with ecologically sustainable development principles including natural light and ventilation. The development will provide a solar array as well as infrastructure to support electric vehicle charging in the future. The building is capable of compliance with the BCA and the entire site is fully accessible.

The proposal includes provision of a welcome garden along the Keefers Glen street frontage. The development proposes a one-way, on-site student drop-off from the north-western vehicle entry on Keefers Glen exiting at the south-western vehicle crossover. Five (5) drop-off spaces are provided under a porte cochere at the main entrance to the proposed school, which will be closely managed by staff to escort students between the vehicle and school buildings.

Staff can utilise the southern driveway to access the vehicle circulation and parking areas along the southern and eastern boundaries of the site. The traffic report (**Appendix R**) confirms that the road network is suitable to support the school and that traffic generated as a result of the development will not have an unacceptable impact on the local road network.

Road widening works are proposed along the length of Keefers Glen to increase the road corridor to six (6) metres, along with a new footpath between the school site and Brickendon Avenue. 60 on-site staff car parking spaces are provided, and visitors can utilise the five (5) kiss and drop spaces for parking outside of the morning and afternoon peaks. A Green Travel Plan (**Appendix S**) has been prepared to encourage staff to utilise active and public transport, noting that students will either utilise the Assisted School Travel Scheme or be dropped off in a private vehicle.

7.2 Strategic Context

The strategic context of the site has been considered in **Section 2** of this EIS. The proposed EO'CCS is consistent with the strategic objectives of the regional plans, precinct plan and zoning. In addition, it is located within the site of an existing educational establishment, thereby the development does not require a change of land use.

7.3 Statutory Compliance

The site is located zoned R2 low density residential, which is consistent with the existing character of the area. The proposed school development is permissible in the zone and consistent with the zone objectives.

This assessment has been prepared in accordance with the SEARs and has determined that the development is generally compliant with the objects of the EP&A Act, and relevant statutory controls. The built form is predominately two-storey, with small portions containing a lower ground level in accordance with the fall of the site. The roof line is consistent throughout the development and the building presents to the streetscape as a two-storey built form. This EIS provides detailed discussion about the site constraints including sloping land, bushfire asset protection zone, as well as design quality principles, streetscape considerations and residential amenity that has been considered in the design.

7.4 Community Views

The project team has carried out consultation with the community through the design phase. The key items raised by the community were:

- Retention of double fence and vegetation along the northern boundary of the site
- Concerns if building was too close to the northern boundary with residential neighbours
- Impacts arising from flooding of the dam
- Widening Keefers Glen and inclusion of a footpath
- Acoustic concerns about the public address system being too loud.

The above items have been addressed in the relevant sections of the EIS and in the SIA (**Appendix KK**).

7.5 Economic, Social and Environmental Impacts

The economic impact of the proposal has been considered in the Estimated Development Cost Plan at **Appendix F**. The project represents an investment in the area of over \$64 million to provide essential school infrastructure for students with special needs across the Central Coast. The project will generate 225 construction jobs and 71 teaching, administrative and allied health jobs in the local area.

EO'CCS will provide specialist facilities for a wide variety of students with physical, intellectual and emotional special needs on the Central Coast. Currently students must travel to Sydney or Newcastle for specialist educational facilities (with the exception of students with Autism). The social impacts of the proposal has been considered in **Section 6.19** of this EIS and in the SIA at **Appendix KK**.

With regard to the environmental impacts, current testing confirms that no contamination is present in soil samples, however a Remediation Action Plan (**Appendix Y**) has been prepared should contamination be found following demolition of the maintenance sheds and playing courts within the site. An Interim Audit Statement by an EPA Accredited Auditor (**Appendix AA**) has reviewed the options for remediation set out in the RAP. A Hazmat Survey (**Appendix Z**) has confirmed that the structures proposed for removal do not contain asbestos. Subject to compliance with the requirements in these documents, the site can be made suitable for the school development.

The site is partially mapped as bushfire prone land and the school site will be managed as an Inner Protection Area Asset Protection Zone. The landscape plan (**Appendix L**) has specified planting of native endemic species to the area and will result in tree canopy coverage for the site of 11.4%, which is consistent with the bushfire affectation of the site. The landscape plan will provide a range of passive and active playspace, outdoor learning and gathering spaces and has been designed in consultation with local Aboriginal knowledge holders. Street tree planting is proposed in accordance with Central Coast Council's guidelines.

The edge of the site's northern boundary is just within the PMF mapped area, however, the school buildings, playspace area, vehicle circulation and parking areas are not on flood affected land. A Flood Emergency Response Plan (**Appendix FF**) to confirm that students and staff should shelter in place during heavy rainfall as the surrounding road network can be impacted for up to two (2) hours. Riverine flooding can also affect the surrounding road network, in this instance, early closure of the school is proposed, however, if students are already at the site and cannot be collected in time, an evacuation strategy is proposed involving relocation to the nearby Tuggerah Shopping Centre for flood free collection by parents or drivers in the Assisted School Travel Program.

7.6 Compliance Monitoring and Communication

This development application will be subject to conditions of consent imposed by DPHI that will require ongoing compliance, monitoring and reporting. These conditions will be complied with prior to, and during the construction, and ensure adequate compliance, monitoring and communication is carried out.

7.7 Impact Assessment and Resolution

Section 6 of this EIS provides a detailed assessment of the impacts of the proposal and all mitigation measures are detailed in **Appendix E**. Subject to compliance with the mitigation measures, the development will not generate unacceptable environmental impacts.

7.8 Suitability of the Site

The site has been assessed in **Section 6** of this EIS and the development has been designed in accordance with the opportunities and constraints of the site. The land is already being utilised for an educational purpose. The design of the teaching facilities and playspace has considered the natural slope of the land and suitable accessibility measures have been provided where necessary. Testing for contamination has been carried out and no remediation is currently required. However, further soil testing must be carried out following demolition of the maintenance sheds and sports courts, to determine whether remediation works are required in those areas. The RAP has set out options for remediation should it be required, and this has been reviewed by an EPA Accredited Auditor.

The development has been designed in accordance with the bush fire affectation of the land, and appropriate flood response has been prepared to address regional flooding and impacts to the surrounding road network. Upgrades are proposed to Keefers Glen to accommodate the traffic movements associated with the school. Accordingly, the site can be made suitable for the proposed school development.

7.9 Public Interest

The development is generally consistent with the statutory and strategic context of the site, and in addition, the land is currently approved for educational use for St Peters Catholic College, which occupies the remainder of the wider site. The development will result in new Catholic education facilities to support students with diverse special needs that cannot be adequately supported in a mainstream educational environment.

The design will provide modern, flexible learning and teaching spaces designed specifically for these students, as well as a variety of play spaces, with quality design and streetscape presence. The forecast increase in traffic generation along Keefers Glen is mitigated by on-site drop off and car parking, and the road widening works proposed to be undertaken by the proponent as part of this application.

Subject to the implementation of the mitigation measures in **Appendix E** and carrying out the development in accordance with the documentation appended to this EIS, the development is in the public interest.