MINARAH COLLEGE CATHERINE FIELD

Environmental Impact Statement

Prepared for
MINARAH COLLEGE
02 June 2022

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Alaine Roff
Senior Consultant	Naomi Ryan
Assistant Planner	Eliza Hannah
Project Code	P0033387
Report Number	V06 – Final

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

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Project details		
Project name	Minarah College	
Application number	SSD-30759158	
Address of the land in respect of which the development application is made	268-278 Catherine Fields Road, Catherine Field Lot 11 DP 833983 and Lot 12 DP 833784	
Applicant details		
Applicant name	Minarah College C/- Urbis Pty Ltd	
Applicant address	Urbis Pty Ltd Level 8, 123 Pitt Street Sydney NSW 2000	
Details of people by whom this EIS was prepared		
Names and professional qualifications	Alaine Roff (Director) Bachelor of Arts, University of Newcastle Master of Planning, University of New South Wales	Naomi Ryan (Senior Consultant) Bachelor of Urban and Regional Planning, University of New England
Address	Level 8, Angel Place, 123 Pitt Street, Sydney NSW 2000	

Declaration

The undersigned declares that this EIS:

- has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulation 2021*;
- 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;
- 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 *State Significant Development Guidelines - Preparing an Environmental Impact Statement*;
- 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.		
Signatures	 Alaine Roff, Director	 Naomi Ryan, Senior Consultant
Date	02 June 2022	

GLOSSARY AND ABBREVIATIONS

Reference	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BC Reg	*Biodiversity Conservation Regulation 2017*
BDAR	Biodiversity Development Assessment Report
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
CMP	Construction Management Plan
CTMP	Construction Traffic Environmental Plan
DCP	Development Control Plan
DPE	NSW Department of Planning and Environment
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA Regulation	*Environmental Planning and Assessment Regulation 2021*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
HIPAP	Hazardous Industry Planning Advisory Paper
LEP	Local Environmental Plan
MNES	Matters of National Environmental Significance
NRAR	Natural Resource Access Regulator
OEMP	Operational Environmental Management Plan
PBP	Planning for Bushfire Protection 2019
PCT	Plant Community Type
POM	Plan of Management
PSI	Preliminary Site Investigation
SARs	Commonwealth Supplementary Assessment Requirements

Reference	Description
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
Site	268-278 Catherine Fields Road, Catherine Field
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
SSD	State Significant Development
SSDA	State Significant Development Application
TIA	Traffic Impact Assessment
WMP	Waste Management Plan
WSUD	Water Sensitive Urban Design
WWTP	Wastewater Treatment Plant

SUMMARY

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

This EIS has been prepared in response to *Secretary's Environmental Assessment Requirements* (**SEARs**) issued on 29 October 2021. This EIS contains an assessment of the proposal against the relevant considerations under section 4.15 of the *Environmental Planning and Assessment Act 1979* (the Act). The *State Environmental Planning Policy (Planning Systems) 2021* Schedule 1 Clause 15 identifies that development with a capital investment value of over $20 million for the purpose of new schools is State Significant Development (SSD).

The proposed development is for the construction of a new school and will have a CIV of $93,399,314 million. Therefore, the proposal is to be classified as a State Significant Development.

The intended outcomes of the project are to:

- Provide a diversity of learning spaces and associated facilities that will meet contemporary learning standards.
- Utilise design elements to provide sustainable outcomes for the development as well as reflect Islamic, Fijian and indigenous cultural beliefs.
- Providing social and economic benefits to the local community through job creation and educational opportunities.

An aerial photograph of the site detailing the development footprints is provided at **Figure 1.**

Figure 1 Aerial Photograph

Source: Urbis 2021

Feasible Alternatives

Minarah College identified three project alternatives which were considered in respect to the identified need for the educational establishment. Each of these options is listed and discussed in the following table.

Table 1 Project Alternatives

Option	Assessment
Do Nothing	The 'Do Nothing' approach would result in the site remaining predominantly rural, unplanned, and unserved. The consequences of not carrying out the project are far reaching and include failure to support the growing demand of Minarah College Green Valley and failure to support the predicted population growth of Catherine Field, and surrounding suburbs which form part of the South West Growth Area. The Western City District Plan outlines that a significant population growth is expected in Camden local government area (LGA), specifically for children and young people. Over the 20 years to 2036, projections show an expected increase of 24,950 children aged four years and younger, with 41 per cent of this growth in Camden local government area. The population growth data alone illustrates the need and likely demand for early education and childcare facilities and schools. Minarah College would cater for growing population by providing a diverse education facility in a growth area. Without Minarah College, there could be a significant undersupply in private school education opportunities which cater for a diverse cross section of people.
Alternative Design and Location	The following key design requirements have been considered in preparation of the final architectural plans: - The site is identified as being bushfire prone land, specifically Vegetation Category 1, Vegetation Category 2 and Vegetation Buffer. The need for asset protection zones has been considered. - The site is within the Upper South Creek Catchment and is mapped as being subject to overland flooding. Flooding impacts have been considered in the preparation of the architectural plans. - The site contains numerous significant trees and biodiversity is required to be considered. The final design minimises development at the rear of the site, where heavily vegetated. - The Government Architect NSW Design Guide for Schools and Environmental Design in Schools and the Education Facilities Standards and Guidelines. <u>Alternative Design Options at Catherine Field:</u> Numerous alternative options have been explored, including two options where the high school was located along within the southern portion of the site. The site however has numerous constraints including bushfire, ecology, and the rural residential interface to the southern boundary. The proposed design was

Option	Assessment
	determined to respond to the constraints and rural landscape most appropriately, whilst also meeting the needs of the school. Alternative Design Options at Green Valley: Consideration was also given to upgrades to the existing Minarah College campus at Green Valley to cater for the growing school population. The current campus has reached capacity with limited scope for significant upgrades to accommodate the growing school population and demand in Western Sydney. The final proposed design has considered the above, and additional concerns as detailed below which has resulted in the final proposal.
Proposed Design	The proposed scheme prepared by Tonkin Zulaikha Greer Architects presents the most appropriate and viable of all the options, considering the design requirements outlined above. The proposal will provide an educational establishment to service the growing demand of Minarah College Green Valley and will also support the growth of the population within the South West Growth Area. The proposal will provide learning spaces and associated facilities that will meet contemporary learning standards and will also result in positive social and economic benefits for the local community particularly in terms of job creation and reducing pressure of surrounding public schools.

The Proposal

The site was identified as being the most suitable location to deliver the project objectives. The SSD seeks consent for the construction of a co-educational establishment (Minarah College) accommodating 1,580 students. The school will comprise of an Early Learning Centre (ELC) for 60 students, a School for Specific Purpose (SSP) for 20 students, a primary school accommodating 840 students and a high school for 660 students. The new school will be constructed in stages, growing in line with growth in the local population.

The key features are summarised below:

- Demolition of the existing dwellings and ancillary structures on-site;
- Bulk earthworks across the site;
- The construction of the following:
  - One-storey early learning centre with attached two-storey administration building to service the high school and early learning centre;
  - Two-storey primary school building comprising of primary school classrooms,
  - SPP classrooms,
  - primary school hall with attached outside school hours care (OSHC);
  - Two-storey high school building comprising high school classrooms;
  - Two-storey high school hall;
  - Shared one-storey canteen adjoining the high school building; and
  - Shared library located on the second storey above administration building below.

- Site access from Catherine Fields Road at two points with a bus zone, 30 kiss and drop car parking spaces, and car parking;
- Works within Catherine Fields Road to allow for a right-turn bay from Catherine Fields Road and bus bays on the eastern side of Catherine Fields Road;
- Removal of 230 trees and replacement planting and landscaping;
- On-site effluent management including the construction of a sewerage treatment plant to be used on a temporary basis until the site can connect to reticulated sewerage infrastructure;
- Associated site landscaping and public domain improvements;
- An on-site car park for 138 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

The proposal will be undertaken in accordance with the Architectural Plans prepared by Tonkin Zulaikha Greer Pty Ltd at **Appendix B**. The proposed site plan is provided at **Figure 2.**

Figure 2 Proposed Site Plan

Source: Tonkin Zulaikha Greer

Consultation

Community and stakeholder engagement has been undertaken by Urbis, Midson Group and Australian Public Affairs in the preparation of the SSDA. This includes direct engagement and consultation with:

- Adjoining landowners and occupants;
- Local community
- Local indigenous groups
- Staff and parents or Minarah College Green valley

- Government, agency and utility stakeholders

The outcomes of the community and stakeholder engagement have been incorporated into the Consultation Outcomes Reports attached in **Appendix G** of this EIS. The project team will remain available to engage with the community about the proposed as it progresses through the planning process, in line with both the SEARs and the project teams commitment to community engagement.

Justification of the Project

This EIS assesses the development as proposed with regard to relevant planning instruments and policies and outlines the mitigation measures to ensure the project does not result in unreasonable or adverse environmental effects. Additionally, the proposed development satisfies the SEARs issued for the project.

The key issues for all components of the project identified in the SEARs have been assessed in detail, with specialist reports underpinning the key findings and recommendations identified in the Assessment of Impacts in Section 6. It has been demonstrated that for each of the likely impacts identified in the assessment of the key issues, the impact will either be positive or can be appropriately mitigated.

The proposal represents a positive development outcome for the site and surrounding area for the following reasons:

- **The proposal is consistent with state and local strategic planning policies:**

  The proposal is consistent with the relevant goals and strategies contained in:

  – Greater Sydney Region Plan: A Metropolis of Three Cities

  – Our Greater Sydney 2056: Western City District Plan

  – Future Transport Strategy 2056

  – Camden Development Control Plan 2019 (CDCP 2019)

  – Camden Local Strategic Planning Statement

  – Government Architect NSW Connecting with Country Framework

- **The proposal satisfies the applicable national, state and local development controls:**

  The proposal is permissible with consent and meets the relevant statutory requirements of the relevant Acts and environmental planning instruments, including:

  – Environmental Planning and Assessment Act 1979 (**EP&A Act**),

  – Biodiversity Conservation Act 2016 (**BC Act**),

  – NSW Rural Fires Act 1997 (Rural Fires Act)

  – NSW Roads Act 1973 (Roads Act)

  – Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Commonwealth)

  – State Environmental Planning Policy (Planning Systems) 2021,

  – State Environmental Planning Policy (Precincts – Western Parkland City SEPP) 2021,

  – State Environmental Planning Policy (Resilience and Hazards) 2021,

  – State Environmental Planning Policy (Transport and Infrastructure) 2021,

  – State Environmental Planning Policy (Biodiversity and Conservation) 2021 and

  – Camden Local Environmental Plan 2010 (CLEP 2010).

- **The design responds appropriately to the opportunities and constraints presented by the site:**

  – The proposed design has taken a considerate and holistic approach that has resulted in the sensitive treatment of the sites natural level changes. The proposal will deliver a diversity of landscape spaces and a masterplan that responds to both the current and future needs of the school in response to expected population growth.

- The proposed development will provide a new school facility that is necessary to support the growth of the south west region. The proposal is in a strategic and currently underutilised area that will catalyse future growth in the Camden local government area.

- The design of the school aims to promote values of inclusivity and diversity through the inclusion of Islamic, Indigenous and Fijian elements. Throughout the design development the project team have actively engaged with and implemented the protocols of the Connecting with Country Framework (refer to the Connecting with Country Report at **Appendix Z**).

- The buildings have been designed to provide a flexible and welcoming environment for children ranging from 3 to 18 years old, with the opportunity for interaction and separation as appropriate. A compact two storey built form both respects the low-scale surrounding development, and maximises the area of the site available for landscaping and play.

- Generous front side and rear setbacks allow for tree planting to preserve the amenity of the adjoining residences. A simple grid structure ensures economical construction and future adaptability, enlivened by the articulated building forms and generous external shading. A clearly defined entry sequence strengthens the relationship to the wider community and gives the new school a defined and appropriate presence.

- **The proposal is highly suitable for the site:**

  - The proposed development is defined as 'Educational establishments' in accordance with the Camden LEP. Educational establishments are permitted with development consent in the RU4 Primary Production Small Lots Zone.

- **The proposal is in the public interest:**

  - The proposal is in the public interest as it will cater for growth in the Macarthur region of Sydney's South West Growth Centre which is undergoing significant transformation with numerous residential subdivisions and development. The selected site for the proposed new school aims to cater for the projected growth of the area over next 20 year period and beyond, providing necessary educational opportunities for a diverse range of students catering from early learning to year 12, as well as providing special purpose facilities.

  - The design also caters to the specific cultural and communal requirements of the students and local users through sensitive, engaging and considered design.

  - The School will be a new educational building in a fast growing and expanding area. A large school hall and playing field will be integrated in this staged construction which will become accessible and utilised by the wider community and as such will become an extension of the public realm. It will be a space of equal access and a shared domain for social engagements, events and interaction and recreation. This can become a significant public asset and promote further urban growth. The two storey built form along Catherine Fields road will create a new civic address and become a landmark community building.

  - The proposal will have minimal environmental impacts upon nearby residential receivers. Construction works will be managed to ensure that these impacts are as minor as reasonably possible. Subject to the various mitigation measures recommended by the specialist consultants, the proposal does not have any unreasonable impacts on adjoining properties or the public domain in terms of views, traffic, acoustic impacts during construction and ongoing operation

In view of the above, it is considered that this SSD Application has significant merit and should be approved subject to the implementation of the mitigation measures described in this report and supporting documents.

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 and feasible alternatives explored in the development of the proposed design, including key strategies to avoid or minimise potential impacts.

1.1. APPLICANT DETAILS

The applicant details for the proposed development are listed in the following table.

Table 2 Applicant Details

Descriptor	Applicant Details
Company	Green Valley Islamic College Ltd, trading as Minarah College
ABN	38 097 528 008
Nominated Contact	Jay Halai, Principal

1.2. PROJECT DESCRIPTION

This EIS is submitted to the Department of Planning and Environment (**DPE**) on behalf of Minarah College and in support of an application for SSD-30759158 at 268-278 Catherine Fields Road, Catherine Field.

The SSD seeks consent for the construction of a co-educational establishment (Minarah College) accommodating 1,580 students. The school will comprise of an Early Learning Centre (ELC) for 60 students, a School for Specific Purpose (SSP) for 20 students, a primary school accommodating 840 students and a high school for 660 students. The new school will be constructed in stages, growing in line with growth in the local population. The proposal seeks consent for:

- Demolition of the existing dwellings and ancillary structures on-site;
- Bulk earthworks across the site;
- The construction of the following:
  - One-storey early learning centre with attached two-storey administration building to service the high school and early learning centre;
  - Two-storey primary school building comprising of primary school classrooms,
  - SPP classrooms,
  - primary school hall with attached outside school hours care (OSHC);
  - Two-storey high school building comprising high school classrooms;
  - Two-storey high school hall;
  - Shared one-storey canteen adjoining the high school building; and
  - Shared library located on the second storey above administration building below.
- Site access from Catherine Fields Road at two points with a bus zone, 30 kiss and drop car parking spaces, and car parking;
- Works within Catherine Fields Road to allow for a right-turn bay from Catherine Fields Road and bus bays on the eastern side of Catherine Fields Road;
- Removal of 230 trees and replacement planting and landscaping;
- On-site effluent management including the construction of a sewerage treatment plant to be used on a temporary basis until the site can connect to reticulated sewerage infrastructure;

- Associated site landscaping and public domain improvements;
- An on-site car park for 138 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

The key objectives for the proposed development and the way in which these have been achieved are summarised in **Table 3**.

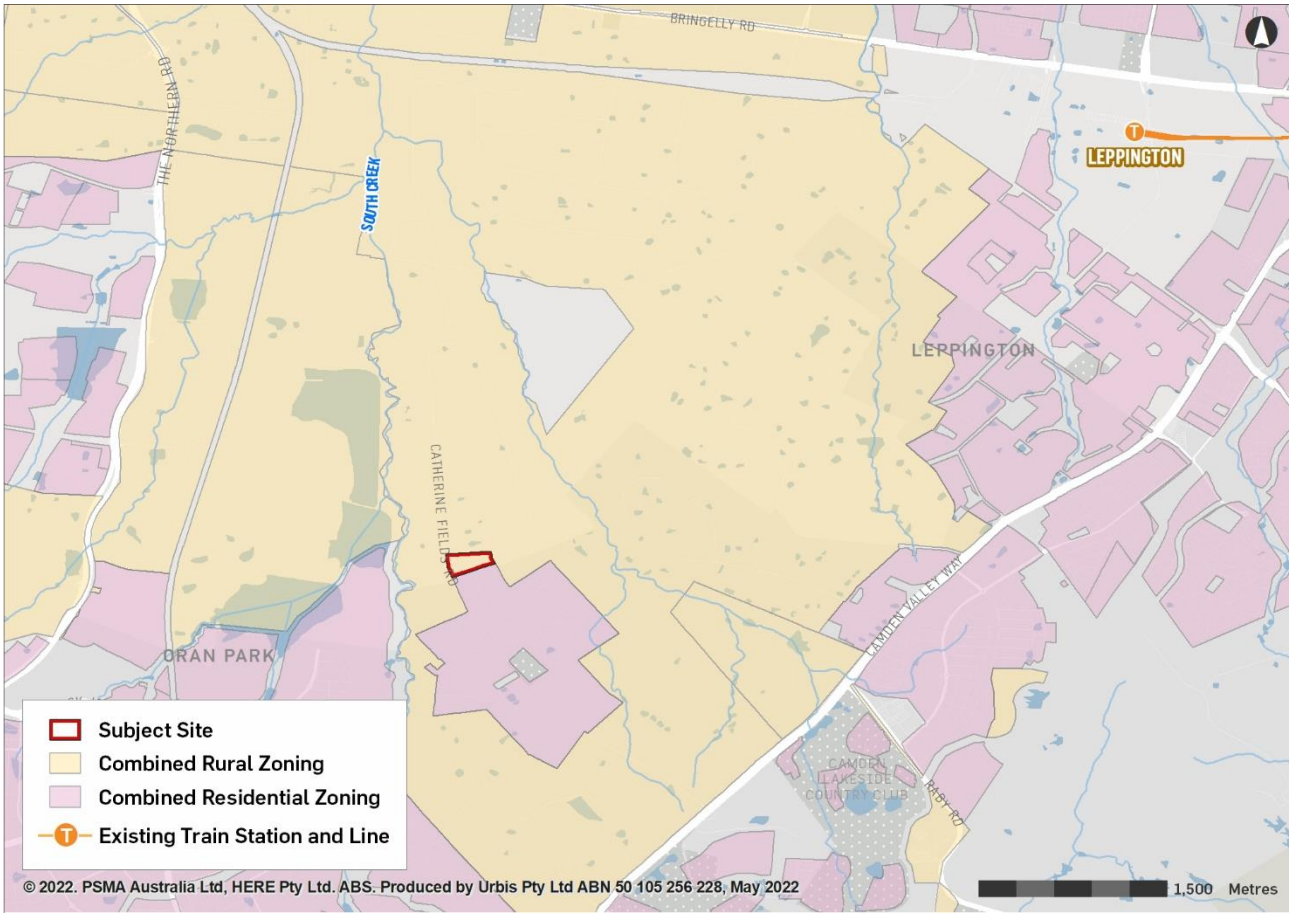
Table 3 Project Objectives

Project Objective	**Proposed Development**
Deliver an educational establishment that caters for students of the Catherine Field community and neighbouring areas, and is staged to accommodate growth	Minarah College will accommodate 1,580 students, 840 in primary school and 660 in high school. Also included in the proposal is an Early Learning Centre (ELC) for 60 students and a School for Specific Purpose (SSP) for 20 students. New schools are urgently needed, with the NSW Government estimate that 77,798 student places are needed by 2036. The new school will be constructed in stages, growing in line with growth in the local population. It is anticipated that the school will be delivered in the following stages: - Stage 1 will be delivered in 2025 and accommodate 300 students - Stage 2 will be delivered in 2031 and accommodate 650 students - Stage 3 will be delivered in 2035 and accommodate 980 students - Stage 4 will be delivered in 2038 and accommodate 1,280 students - Stage 5 will be delivered in 2040 and accommodate 1,580 students Minarah College will meet a fraction of the demand. Families of Western Sydney deserve the highest standards of education, and the proposed new school would offer the latest, Science, Technology, Engineering, Art and Math (STEAM) and Vocational, Educational and Training (VET) opportunities, to prepare students for a diverse range of university and vocational careers.
Provide a safe and inclusive educational establishment that accommodates people of all creeds and has strong ties with the local community	Minarah College – Catherine Field will be an inclusive school welcoming all students and families from the community and leverage the teaching expertise of Minarah College – Green Valley. The educational rationale for Minarah College is to provide an exciting and inclusive curriculum, meeting

Project Objective	Proposed Development
	students' academic, social, and emotional needs, and levels of development. It plans to deliver challenging programs that make the school relevant and engaging in the 21st century, where rapidly advancing technology and global connection demands that curriculum planning and program delivery acknowledges and uses student knowledge and expertise with technology, now and in the future.
Deliver a built form outcome that has strong positive connection with nature and country, and is underpinned by strong ESD principles	The built form outcome and landscape design embraces the incorporation of Islamic cultural expression and Australian Indigenous cultural forms as an integrated design aesthetic. In addition, the built form is underpinned by the following ESD targets: - Potable water conservation through effective fixtures and rainwater collection and reuse - Waste recycling scheme for operational excellence, including multiple waste streams to reduce waste - Efficient HVAC systems to deliver comfort, provide clean, safe air and reduce energy consumption - Technology in the building to encourage connectivity and futureproofing - LED lighting with High Rendering Index and excellent control to reduce energy and improve quality - Clean and health materials that are both responsive for the environment and good for the occupant - Design for resilience to resist impacts of climate change, operations, stresses and grid stresses - Construction practices design to maintain a clean space, reduce waste and provide upstream - High performance facades with optimised window to wall ratio and shading devices to improve comfort and reduce operational energy demands - Photovoltaic array on rooftops - COVID-responsive design through high-performance air filtration, low-touch surfaces and cleaning materials

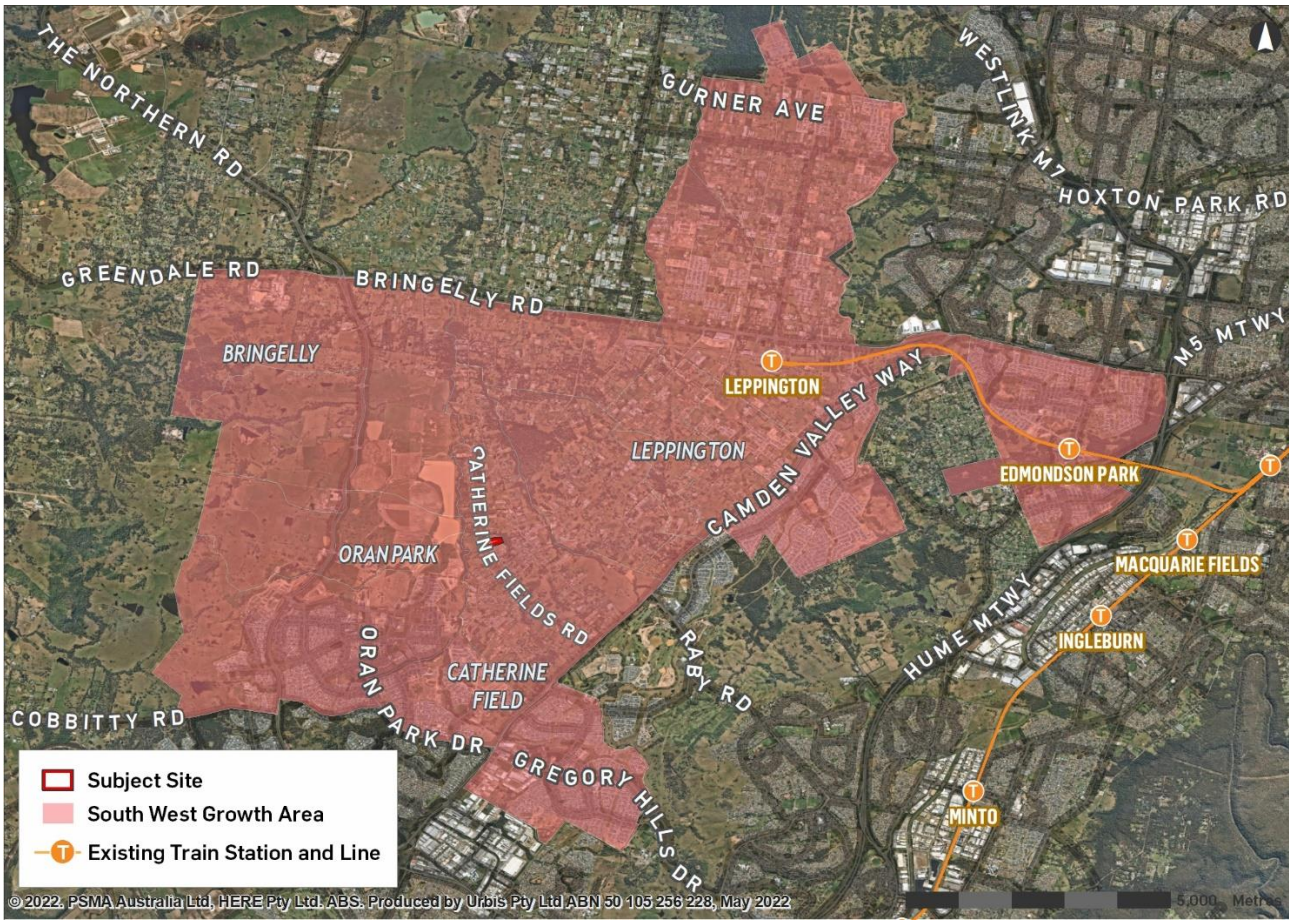
A map of the site in its regional setting is provided as Map 1 and Map 2. Map 1 illustrates the sites location in terms of rural zone land against residential zoned land, whilst Map 2 shows the sites location in the South West Growth Area.

Map 1 Regional Context in terms of zoning



Source: Urbis

Map 2 Regional Context in terms South West Growth Area



Source: Urbis

1.3. PROJECT BACKGROUND

A search of Camden Council's DA tracker found that no relevant development applications have been proposed for the subject site at 268-278 Catherine Fields Road since 2010.

The site currently contains rural residential dwellings with ancillary farm structures including numerous sheds, farm buildings and water tanks. Lot 11 contains two prominent dams.

The site is located on currently underutilised land in a highly strategic location within the South West Growth Area (SWGA), refer to Map 2. The release of land for housing in this area will see the rapid growth in population in Sydney's South West. A new revitalised community is planned for Catherine Field, where up to 3,200 new homes and local amenities will be delivered. To support this growth, it is essential to deliver new local infrastructure such as educational establishments.

This site has been strategically selected to support the growth of Western Sydney. The Minarah College – Catherine Field campus will provide support to the existing Minarah College – Green Valley campus which is at capacity and providing education to children from a wide array of locations across Western Sydney.

The site is not located on land for which the Catherine Field (Part) Precinct Plan (Nov 2013) applies, where a dwelling yield target of approximately 3,200 is envisaged. Rather, the site is located approximately 2 km north, as illustrated in Map 3.

Map 3 Proximity to Catherine Field (Part) Precinct

Source: Urbis

1.4. RELATED DEVELOPMENT

Minarah College is an existing educational establishment at 264 Wilson Road, Green Valley, located in Sydney's western suburbs. The proposed new campus will aim to bring forward the existing values of the campus, whilst fostering a new and inclusive education rationale based on academic excellence.

The College was established in January 2002 and currently has approximately 1,000 students from K-12, supported by approximately 90 staff members.

The existing education rationale of Green Valley is based on three distinct principles. These are 1) Creating reflective, successful learners 2) Developing Expert Teachers and 3) Building positive connections.

The school has a high percentage of non-English speaking background with over 40 different languages spoken with the main languages being Arabic, Vietnamese, and Hindi. The whole school approach to behaviour management through Positive Behavioural Interventions and Supports (PBIS) is consistently implemented and clear for all parents, staff and students. Ongoing support for students is provided by teachers of English as an Additional Language or Dialect (EALD) staff, specialist teachers of students with additional learning needs via in-class support and withdrawal groups.

2. STRATEGIC CONTEXT

This section of the EIS describes the way in which the proposal addresses the strategic planning policies relevant to the site. It identifies the key strategic issues relevant to the assessment and evaluation of the project, each of which are addressed in further detail in **Section 7** of this EIS.

2.1. PROJECT JUSTIFICATION

The proposed development is aligned with the State, district and local strategic plans and policies applying to the site as outlined below.

2.1.1. Greater Sydney Region Plan: A Metropolis of Three Cities

The *Greater Sydney Region Plan* (**Region Plan**) provides the overarching strategic plan for growth and change in Sydney. It is a 20-year plan with a 40-year vision that seeks to transform Greater Sydney into a metropolis of three cities - the Western Parkland City, Central River City and Eastern Harbour City. It identifies key challenges facing Sydney including increasing the population to eight million by 2056, 817,000 new jobs and a requirement of 725,000 new homes by 2036.

The Region Plan includes objectives and strategies for infrastructure and collaboration, liveability, productivity and sustainability. The subject site is within the Western Parkland City. This city will leverage off the growth of the new Western Sydney International Airport and Aerotropolis. It will be a polycentric city capitalising on the established centres of Liverpool, Greater Penrith and Campbelltown-Macarthur.

The Plan includes objectives and strategies for infrastructure and collaboration, liveability, productivity and sustainability. The Region Plan identifies the following objectives which relate to the site and project:

- **Objective 1**: Infrastructure supports the three cities
- **Objective 2:** Infrastructure aligns with forecast growth – growth infrastructure compact
- **Objective 5:** Benefits of growth realised by collaboration of governments, community and business.
- **Objective 6:** Services and infrastructure meet communities' changing needs.
- **Objective 14:** A Metropolis of Three Cities – integrated land use and transport creates walkable and 30-minute cities.
- **Objective 21:** Internationally competitive health, education, research and innovation precincts
- **Objective 24:** Economic sectors are targeted for success.
- **Objective 29:** Environmental, social and economic values in rural areas are protected and enhanced.

Better access to educational opportunities is a key theme throughout the Plan, with schools being considered 'essential local infrastructure' to support local and regional growth. The proposed development will assist in supporting the expected growth of the South-West, catalytic of the establishment of the Western Sydney Aerotropolis. When fully operational, Minarah College is expected to accommodate 1,500 primary and high school students along with an Early Learning Centre that can accommodate 60 students and a Special Purpose School for 20 students. The proposal will therefore contribute to providing diverse educational services in a strategic location, that will support the future growth of the area.

2.1.2. Our Greater Sydney 2056: Western City District Plan

The *Western City District Plan* (**District Plan**) is a 20-year plan to manage growth in the context of economic, social and environmental matters to implement the objectives of the Greater Sydney Region Plan. The intent of the District Plan is to inform local strategic planning statements and local environmental plans, guiding the planning and support for growth and change across the district.

The District Plan contains strategic directions, planning priorities and actions that seek to implement the objectives and strategies within the Region Plan at the district-level. The Structure Plan identifies the key centres, economic and employment locations, land release and urban renewal areas and existing and future transport infrastructure to deliver growth aspirations.

The planning priorities and actions likely to have implications for the proposed development are listed and discussed below:

- **Planning Priority W1**: Planning for a city supported by infrastructure.
- **Planning Priority W3:** Providing services and social infrastructure to meet people's changing needs.
- **Planning Priority W4:** Fostering healthy, creative, culturally rich and socially connected communities.

Planning Priorities are identified to achieve a liveable, productive and sustainable future for the district aligning with the Greater Sydney vision of the metropolis of three cities.

The district plan identifies the following points that are relevant to the site and project:

- Schools are essential local infrastructure. The NSW Department of Education estimates that an extra 77,978 students will need to be accommodated in both government and non-government schools in the District by 2036.
- Planning for early education and child-care facilities requires innovative approaches to the use of land and floor space, including co-location with compatible uses such as primary schools and office buildings, close to transport facilities.

Therefore, the proposed development will assist in providing essential educational infrastructure which will support the objectives of the Western City District Plan. The proposal will to support the expected growth of the Western City District. The proposal also includes a school for special purpose and early education facility that has been co-located with the primary and high school facilities.

2.1.3. Camden Local Strategic Planning Statement

The Local Strategic Planning Statement (LSPS) is a 20-year planning vision, emphasising land use, transport and sustainability objectives to demonstrate how Camden Local Government Area (Camden) will change to meet the community's needs over the next 20 years.

The LSPS implements the strategic direction of The Greater Sydney Region Plan and Western City District Plan at the local level by setting clear local priorities for the jobs, homes, services and parks that the Camden community will require over the next 20 years. The LSPS sets short, medium and long-term actions linked to the local priorities, to deliver on the community's future vision. These priorities are guided by four themes of infrastructure, liveability, productivity and sustainability. The following is relevant to the subject site and project:

- **Local Priority L3:** Providing services and facilities to foster a healthy and socially connected community.
- **Local Priority P1**: Increasing the quantity and diversity of local jobs and improving access to jobs across the Western City District.
- **Local Priority I4**: Working in partnership to deliver a more liveable, productive and sustainable Camden.

The Camden LSPS identifies the following points that are relevant to the site and project:

- 21% of all jobs across the Camden LGA are in health and education, which comprises approximately 500 jobs in Catherine Field.
- The site is mapped as being part of the 'Future Urban Area (South-west Growth Area) – Housing Capacity'.
- The 'Future Urban' area is identified as currently accommodating small and large lot agricultural land planned for change through State Government led growth precincts. This will be the primary area to accommodate housing growth of all types over the next 20 years. New housing in Future Urban will be balanced with employment, environment, cultural and recreation requirements.
- With the SWGA being located almost entirely within the Camden LGA there is an important partnership between Council and the DPE to deliver new urban development for the local community. Council will continue to work closely with DPE to plan and deliver the SWGA.
- Action 28 states that "Council will work with the Department of Education to investigate the co-location and shared used of facilities."

- Camden is currently the fastest growing council area in Australia. Camden's population is expected to grow to 233,950*, with the need for up to 49,552 additional dwellings, by 2036.
- Council is planning for most of the future housing to be delivered in the SWGA precincts, which are at different stages of release, planning, rezoning and development. In particular, Catherine Field is identified to have a planned housing capacity of 5,000 dwellings.
- Council acknowledges that, "Co-locating schools, health and aged care facilities, and sporting and cultural facilities will deliver a healthy and socially connected community."

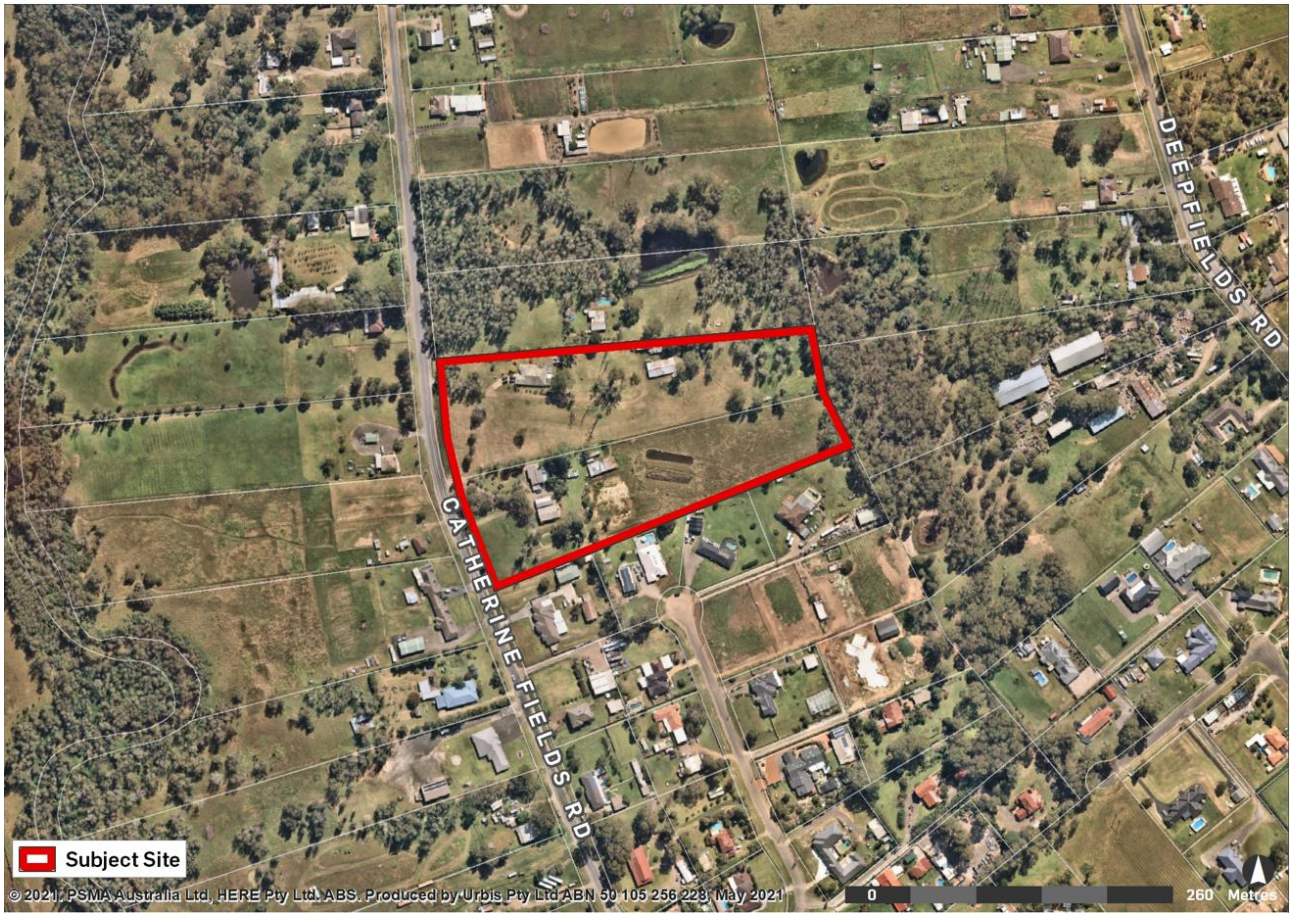
As an expected growth area, the provisioning of new education facilities is essential to supporting the future development of the South-West Growth Area. The new Minarah College development will provide both education and employment opportunities for local residents which will contribute to fostering a healthy and socially connected community.

2.2. KEY FEATURES OF SITE AND SURROUNDS

The site is located at 268-278 Catherine Fields Road, Catherine Field, Dharawal Country, NSW and is legally described as Lot 11 in DP 833983 and Lot 12 in DP 833784. The site is located within Camden local government area (LGA) and has a site area of approximately 4.50ha.

The location of the site is illustrated in Map 4. Photographs of the current site condition are provided in Figure 3 Site Photographs.

Map 4 Aerial Map



Source: Urbis

Figure 3 Site Photographs

Picture 1 Internal view of the site

Source: Urbis

Picture 2 View south toward Heatherfield Close

Source: Urbis

Picture 3 View north along Catherine Fields Road

Source: Urbis

Picture 4 View west from the site to Catherine Fields Road

Source: Urbis

The key features of the site which have the potential to impact or be impacted by the proposed development are summarised in the table below.

Table 4 Key Features of Site and Locality

Descriptor	**Site Details**
Land Configuration	The site is in a typical large lot rural residential subdivision area. The site has a gentle fall from the east to west with a minor ridgeline along the east to west axis. Diagonal falls lead to the southwest and north west areas of the site. The northern and eastern boundaries of the site are characterised by remnant regenerating bushland, whilst majority of the site is former pastureland with sparsely scattered trees.
Existing Development	Both lots contain rural residential dwellings with ancillary farm structures including numerous sheds, farm buildings and water tanks. Lot 11 contains two prominent dams.

Descriptor	Site Details
Local Context	The surrounding locality is described below: North: to the north of the site are large rural residential properties, with single dwellings and ancillary structures East: directly to the East of the site is a pocket of bushland separating the subject site from rural residential properties. This vegetation is classified as a Category 1 Buffer Zone. South: directly South of the site are smaller residential lots which are zoned R5 Large Lot Residential. West: To the west of the site are large rural residential properties that separate Catherine Fields Road from South Creek.
Regional Context	Catherine Field is a suburb of greater Sydney and is part of the Macarthur Region refer to Figure 4 below. It is situated approximately 43 kilometres south west of the Sydney Central Business District and is within the Camden Local Government Area. Catherine Field sits between Oran Park and Leppington, both of which are undergoing significant transformation with numerous new residential subdivisions. The closest town centres are Gledswood Hills to the south and Oran Park to the West. Catherine Field is also located within the Southwest Sydney Growth Area (SWGA), which will see the revitalisation of the region. The overarching vision for the area is to improve connectivity between existing and proposed suburbs planned for the Western Sydney Employment Area.
Infrastructure	The site is located along Catherine Fields Road, which is a single lane, sealed road that runs in both directions. Camden Valley Way is an arterial road that runs off Catherine Fields Road and connects Sydney to Camden. The site is not situated within walking station of a train station. Leppington Station 5km to the northeast or Minto Station approximately 8km to the south-east. Bus routes along Catherine Fields Road provide connection to Narellan Town Centre, Minto and Liverpool.
Site Access	Existing access to the site is from Catherine Fields Road.
Easements and Covenants	Nil
Services	Sewer Drainage: There is currently no authority sewer available for the site. Potable Water The site has an existing site frontage to an authority water main but there is not existing incoming site connection. Gas Service

Descriptor	Site Details
	Currently there is no gas infrastructure available for the site. Existing Telecommunications Existing Telstra overhead fibre networks reticulate along the proposed site frontage on the eastern side of Catherine Fields Road. These assets are proposed to be relocated from the proposed site frontage.
Acid Sulfate Soils	The subject site is not affected by a policy adopted by council, or with council being notified of a policy adopted by any other public authority that restricts development of the subject land because of the likelihood of acid sulphate soils.
Contamination	The subject site is considered suitable for the proposed development of the site for the purpose of a school, subject to the mitigation measures outlined in Section 6.
Stormwater and Flooding	To the west of the site, across Catherine Fields Road is land identified as flood prone and major creeks land. There are also pockets of land identified as subject to overland flow on the subject site and directly north of the site.
Bushfire Prone Land	The eastern portion of the site contains a vegetation buffer for Category 1 Bushfire prone land.
Flora and Fauna	A number of threatened ecological communities were identified with the Site, including: BC Act Listed Critically Endangered Ecological Community: River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions (RFEF); BC Act Listed Critically Endangered Ecological Community: Cumberland Plain Woodland in the Sydney Basin Bioregion (CPW); and EPBC Act Listed Critically Endangered Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CPSW). No threatened species were identified as occurring on the site.
Aboriginal Heritage	An assessment of the Aboriginal Cultural Heritage of the site has confirmed that the site has the potential to contain Aboriginal objects. Whilst no Aboriginal objects were identified on the surface during the inspection Two objects were identified during the test excavation sampling that will be impacted by the proposed works. Consent should be obtained from Heritage NSW to move these objects to an agreed reburial site, or to be managed under an agreed care and control agreement before the works proceed.
European Heritage	The site is not located in proximity to any identified heritage items or within a conservation area.

2.3. DEVELOPMENT HISTORY

A search of Camden Council's DA tracker found that no relevant development applications have been proposed for the subject site at 268-278 Catherine Fields Road since 2010.

The site currently contains rural residential dwellings with ancillary farm structures including numerous sheds, farm buildings and water tanks. Lot 11 contains two prominent dams. The site is located on currently underutilised land in a highly strategic location within the South West Growth Area (SWGA).

2.4. CUMULATIVE IMPACTS WITH FUTURE PROJECTS

The site is located within the suburb of Catherine Field which is within the South West Growth Centre. The South West Growth Centre is undergoing significant transformation to support expected population growth. Areas of Catherine Field have already been identified for new residential development.

The selected site for the proposed new school aims to cater for the projected growth of the area over next 20-year period and beyond, providing necessary educational opportunities for a diverse range of students catering from early learning to year 12, as well as providing special purpose facilities. Therefore, the development of Minarah College is essential to support the growth of the area and provide occupational and educational opportunities into a key location.

As noted above, the site currently contains rural residential dwellings with ancillary farm structures including numerous sheds, farm buildings and water tanks. This built form and use is typical for the Catherine Field area.

There are no significant development proposals, under assessment or approved, within the immediate locality that need to be considered from a cumulative impacts' perspective.

2.5. FEASIBLE ALTERNATIVES

Clause 192 of the *Environmental Planning and Assessment Regulation 2021* (the Regulation) requires an analysis of any feasible alternatives to the proposed development, including the consequences of not carrying out the development.

Minarah College has identified three project alternatives which were considered in respect to the identified need for the educational establishment. Each of these options is listed and discussed in the following table.

Table 5 Project Alternatives

Option	Assessment
Option 1 - Do Nothing	The 'Do Nothing' alternative would result in the site remaining predominantly rural, unplanned, and unserved. The consequences of not carrying out the project are far reaching and include failure to support the growing demand of Minarah College Green Valley and failure to support the predicted population growth of Catherine Field, and surrounding suburbs which form part of the South West Growth Area. The Western City District Plan outlines that a significant population growth is expected in Camden local government area (LGA), specifically for children and young people. Over the 20 years to 2036, projections show an expected increase of 24,950 children aged four years and younger, with 41 per cent of this growth in Camden local government area. The population growth data alone illustrates the need and likely demand for early education and childcare facilities and schools. Minarah College would cater for growing population by providing a diverse education facility in a growth area. Without Minarah College, there could be a significant undersupply in

Option	Assessment
	private school education opportunities which cater for a diverse cross section of people.
Option 2 - Alternative Design and Location	Multiple options were prepared and analysed when considering the proposed design for the site. The following key design requirements have been considered in preparation of the final design: ▪ The site is identifies as being bushfire prone land, specifically the site is identified as Vegetation Category 1, Vegetation Category 2 and Vegetation Buffer. The need for asset protection zones has been considered. ▪ The site is mapped as being located within the Upper South Creek Catchment and is mapped as being subject to overland flooding. Flooding impacts have been considered in the preparation of the architectural plans. ▪ The site has numerous significant trees on-site and biodiversity is required to be considered. The designminimises development at the rear of the site, where heavily vegetated. ▪ The Government Architect NSW Design Guide for Schools and Environmental Design in Schools and the Education Facilities Standards and Guidelines. <u>Alternative Design Options at Catherine Field:</u> Numerous alternative options have been explored on the site, including two options where the high school was located along within the southern portion of the site. The site however has numerous constraints including bush fire, ecology, and the rural residential interface to the southern boundary. The proposed design was determined to respond to the constraints and rural landscape most appropriately, whilst also meeting the needs of the school. <u>Alternative Design Options at Green Valley:</u> Upgrading of the existing Minarah College Green Valley to cater for the growing school population was also considered. The current campus has reached capacity with limited scope for significant upgrades to accommodate the growing school population and demand in Western Sydney. The final proposed design has taken into account the above considerations, and additional concerns as detailed below which has resulted in the final proposal.
Option 3 – Proposed Design	It is considered that the proposed scheme prepared by Tonkin Zulaikha Greer Architects presents the most appropriate and viable of all the options, considering the design requirements outlined above. The proposal will provide an educational establishment to service the growing demand of Minarah College Green Valley and will also support the growth of the population within the South West Growth Area. The proposal will provide learning spaces and associated facilities that will meet contemporary learning standards and will also result in positive social and

Option	Assessment
	economic benefits for the local community particularly in terms of job creation and reducing pressure of surrounding public schools.

3. PROJECT DESCRIPTION

The following sections of the EIS summarise the key numeric components of the proposed development and describe the demolition, site preparation, construction and operational phases in further detail.

3.1. PROJECT OVERVIEW

The key components of the proposed development are summarised in **Table 6**. A copy of the architectural drawings is attached as Appendix B.

Table 6 Project Details

Descriptor	Project Details
Project Area	The site has a total area of 4.5ha.
Site Description	Lot 11 in DP 833983 and Lot 12 in DP 833784.
Project Description	The project comprises the construction of a co-educational K-12 school (Minarah College) accommodating 1,580 students, 840 in primary school and 660 in high school, as well as an Early Learning Centre (ELC) for 60 students and a School for Specific Purpose (SSP) for 20 students
GFA	The proposal is to be conducted in five (5) stages, the proposed GFA for each stage is as follows (cumulative increase): ▪ Stage 1: 3,080m^2 ▪ Stage 2: 5,389m^2 ▪ Stage 3: 7,091m^2 ▪ Stage 4: 9.994m^2 ▪ Stage 5: 13,109m^2 (Total)
Maximum Height	9.5 metre and two storeys. The building height will not exceed the prescribed building height, with all built form being two-storey in height.
Access	The project comprises separate vehicular entry and exit points. The vehicular entry is located in the northern corner and vehicular exit is located on the southern corner of the Catherine Fields Road frontage. The pedestrian access is located in the centre of the Catherine Fields Road frontage. The proposal also involves works within Catherine Fields Road to allow for a right-turn bay from Catherine Fields Road and bus bays on the eastern side of Catherine Fields Road. The channelised right-turn bay will be designed per Austroads Part 4A for 80km/hour speed zones and have storage of 55m. The indented bus bays and connecting footpath will be utilised for public buses during the School's AM and PM peak operating periods. After these hours, the bays will have no restrictions and can be utilised as regular on street parking. In addition, the proposed development includes a kiss and ride area. The proposed kiss and ride area has been designed in excess to

Descriptor	Project Details
	AS2890.5:2020 requirements with 2.5m wide and 6m long kiss and ride bays to allow for safe dropping off / picking up of students. Access to the internal kiss and ride area is from the northern entry with one way southbound only movement permitted and exiting to the southern exit. There is indented bus parking bays along the sites frontage that will facilitate safe and efficient pick-up and drop-offs/ The kiss and ride area has also been designed with the wider circulation aisle to accommodate 12.5m bus access.
Parking Spaces	138 on-site parking spaces are proposed, which accommodates 86 spaces for staff members, 15 spaces of the early learning centre and 37 spaces for students. Of the 138 on-site parking spaces, 5 accessible spaces are proposed.
Bicycle Spaces	48 bicycle spaces in the form of 24 double racks have been proposed
Servicing and Utilities	All deliveries will occur within the designated loading area on the northern side of the school with deliveries restricted to outside of school peak hours. Construction of an on-site effluent management and temporary sewerage treatment plant for Stage 1 to 2. It is anticipated that reticulated sewer services shall be available prior to stage 3 commencing in approximately 2035.
Landscaped Area	Removal of 230 trees and replacement planting and landscaping. 34,651m^2 of landscaped zones including outdoor courtyards, outdoor play space, soft landscaping, and sports field. The outdoor play space complies with the relevant guidelines, as broken down below: ▪ ELC requirement for 420m^2 outdoor play space, 500m^2 of outdoor play space is provided for the ELC. This is based upon the requirement of 7m^2 per child. ▪ School requirement for 15,000m^2 outdoor play space, 20,140m^2 of outdoor play space is provided. This is based upon the requirements of 10m^2 per child.
Construction hours	Standard hours of construction: ▪ Monday to Saturday inclusive: 7.00 am to 5:00 pm. ▪ Sunday and Public holidays: No planned work, unless permitted otherwise
Bulk Earthworks	Bulk earthworks comprising approximately 12,199m^3 of cut and 10,736m^3 of fill, resulting in a balance of 1,463m^3. All earthwork material is assumed to be re-used on site, subject to further laboratory testing. In addition,

Descriptor	Project Details
	117m3 of fill is to be imported for Stage 1 works and 1,463m^3 of earthworks removed from site at competition of the development.
Hours of operation	The proposed hours of operation are outlined below for different components of the proposed development: ▪ ELC: 7:00am to 6:00pm, Monday to Friday ▪ OOSH: 7:00am to 6:30pm, Monday to Friday ▪ School Hours: 8:20am to 3:20pm, Monday to Friday ▪ Multi-purpose Hall: 9:00am to10:00pm, Saturday to Sunday ▪ Primary Hall: 8:20am to3:20pm, Monday to Friday ▪ Sports field (during the week): During school hours and 5:00pm to 9:00pm, Monday to Friday ▪ Sports field (weekend): 9:00am to 9:00pm, Saturday and Sunday
Capital Investment Value	$93,399,314

3.2. DETAILED DESCRIPTION

3.2.1. Project Area

Catherine Field, part of the Macarthur region of Sydney's South West Growth Centre, sits between Oran Park and Leppington, both of which are undergoing significant transformation with numerous new residential subdivisions. The closest town centres are Gledswood Hills and Oran Park.

The site has a frontage of approximately 192 metres with Catherine Fields Road to the west. To the north of the site are large rural residential properties, with single dwellings and ancillary structures. Directly to the east of the site is a pocket of bushland separating the subject site from rural residential properties. To the south of the site are smaller residential lots which are zoned R5 Large Lot Residential.

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

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

Most of the site area is expected to be distributed by the proposal, either by built form or landscaping, as shown in **Figure 4** below.

Figure 4 Project area

Source: Urbis

3.2.2. Physical Layout and Design

3.2.2.1. Site Layout

The proposed layout of the site has been developed in a holistic and considerate way that allows the integration of the school with its surrounding rural environment considering the bush fire, flooding, and the ecology requirements of the site.

The primary siting principles are characterised predominately by the site shape which offers the potential for a long northern facing building or buildings running east west with excellent solar gain and minimal privacy implications to the norther neighbour.

The site layout has considered the existing site conditions and the functional requirements of the educational uses. As shown in **Figure 5,** the proposal will involve:

- Two distinct double storey wings run east to west and house the primary school and high school respectively, granting each a northerly aspect and creating a centralized shared courtyard space in between.
- A grid structure has been utilised to ensure economical construction and future adaptability of the site. Ample space has been left for side and rear setbacks to allow for tree planting and preservation, ensuring the retention of adjoining neighbours amenity.
- The administrative building runs parallel to Catherine Fields Road, creating a public address and presence and marking a distinct public entry into the school, see
- **Figure** 6**.** A clear entry sequence strengthens the relationship of the new development to the wider community.
- Landscaping within the front setback, side boundaries and central spine to improve the overall amenity of the site.

Figure 5 Proposed Ground Floor Site Plan

Source: *Tonkin Zulaikha Greer*

Figure 6 Courtyard and Main Entrance

Picture 5 Courtyard Perspective

Source: *Tonkin Zulaikha Greer*

Picture 6 Front Facade

Source: Tonkin Zulaikha Greer

3.2.2.2. Design and Built Form

The buildings have been designed to provide flexible and welcoming learning environments for children ranging from 3 to 18 years old which will allow for the appropriate separation and integration of year groups as appropriate. The development is to consist of a compact two storey built form which respects the surrounding low-scale character of development whilst also maximising the area of the site available for landscaping and play spaces.

A central courtyard spine has become integral to the design approach. The northern high school wing and southern primary school wing can be used as separate spatial entities but share a common courtyard space which encourages connections and interactions in controlled moments. The central spine leads from the front entry through the heart of the school and through the COLA which links on to the sports field at the rear of the site.

The front building runs along Catherine Fields Road and houses the administrative faculties of the school as well as the school library. Its architectural design will be essentially the public interface and will need to be welcoming and have a positive civic presence, as well as fit into the existing architectural and urban fabric. Behind the front building will run two wings of the high school and primary school. These wings will orient east-west for good aspect and will have articulated massing with break out spaces and integrated landscape design.

The design rationale for the more fine grain architectural approach is defined by the arrangements of the learning spaces off the semi external circulation spaces. The circulation corridors are to be wide and active encouraging cross ventilation and shading to the classrooms. The learning units are to be highly flexible, with shared facilities and well considered outdoor connections

3.2.2.3. Materials and Finishes

Minarah College has been designed with thoughtful consideration of the surrounding site context and is to utilise high quality materials that will integrate the development into the landscape.

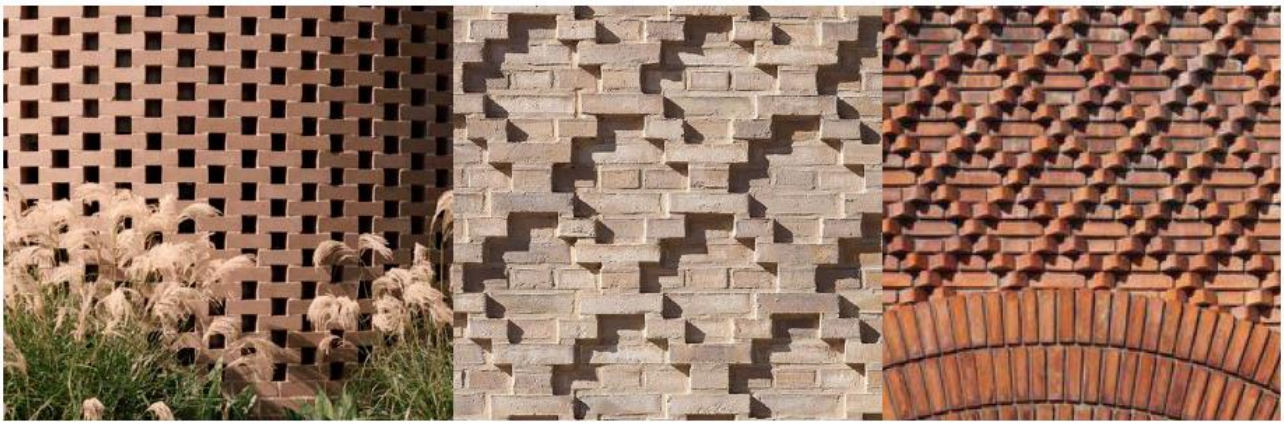
The design will aim to blur the lines between indoor and outdoor spaces and promote the idea of outdoor learning through considered landscape design. The Architectural Design of the façade will promote visual interest through the introduction of screening and patterned brickwork as shown in **Figure 7** below.

The architectural expression of the building fabric has been influenced by the natural colours of the surrounds, particularly the white and ochre that are representative of the coloured muds of Wianamatta Creek, these being important to Country as they were used in First Nation Ceremonies prior and during the early days of colonial occupation. In this way the feature panels and materiality of the building links to the surrounding context of the site and acknowledges that Aboriginal cultural heritage of the land.

Figure 7 Architectural Design Features

Picture 7 Screening design for the west façade and north and south elevations

Source: ***SDRP Presentation***



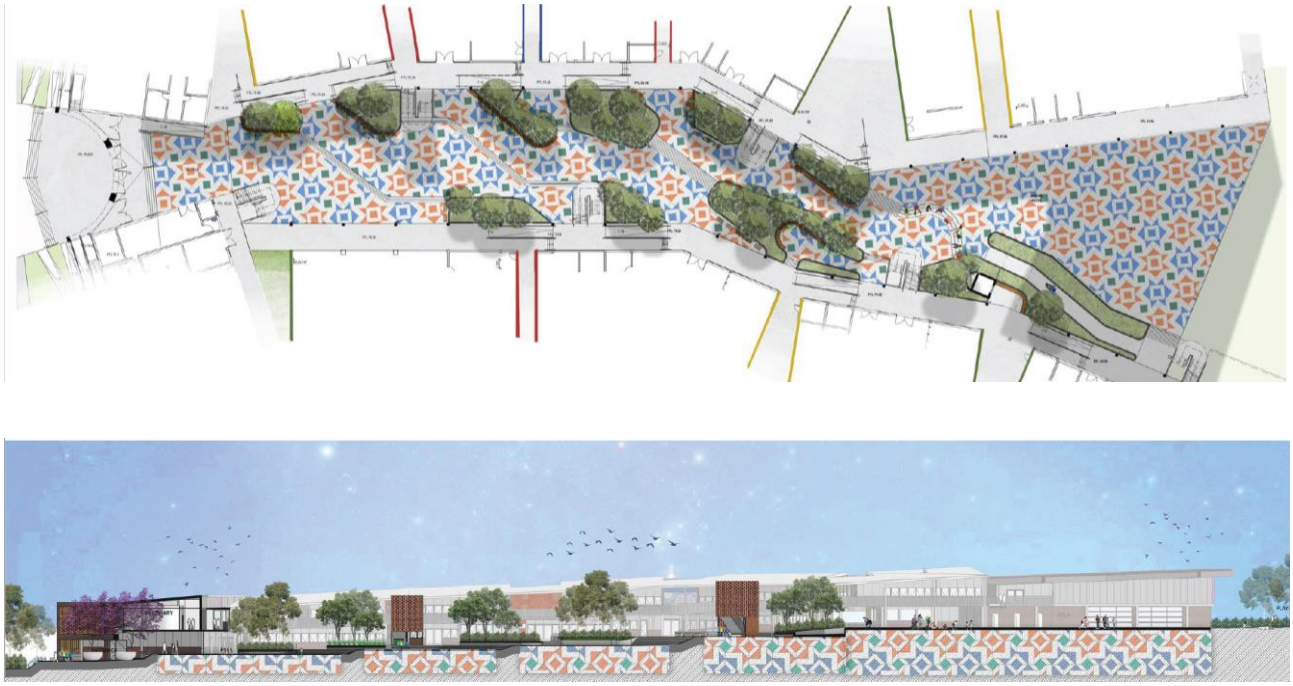
Picture 8 Patterned Brickwork design for the western façade and stair towers

Source SDRP Presentation

Cultural expression has also been realised through the mosaic patterning of the ground plane through the central spine of the school buildings. This star mosaic pattern is symbolic to both First Nations people and the Islamic religious tradition, as both cultures would historically look to the stars to find place and meaning in the universe, refer to **Figure 8**. Within the Mosaic pattern, handball courts and other play spaces are defined, or can be invented by the students. The mosaic pattern will be expressed in the school colours enforcing that Minarah College is a school that is accepting of students and staff from a myriad of different backgrounds and that it is this diversity which will enrich the fabric of the school community.

Seating along the central spine of the school will be a mix of formal timber bench seats attached to walls and, informal seating in the form of sandstone steps and blocks. The materiality of the seating options is in accordance with the earthy tones of the surrounding architectural elements, which are a key design feature. The buildings will also feature panels that are of a colour and materiality that reflects the surrounding environment.

Figure 8 Mosaic Patterning along the central spine



Source: SDRP Presentation

3.2.2.4. Landscaping

To ensure that the proposed built form remains connected with the surrounding landscape and reflects the cultural values of the school, a Landscape Plan has been prepared by Taylor Brammer, an extract has been included in **Figure 9** below.

A key focus of the landscape design was reflecting Islamic cultural expression and Australian Indigenous cultural forms as an integrated design aesthetic. This has been realised through the unique mosaic patterning of the ground floor plan that is located along the central spine of the school.

The proposed design responds to Aboriginal cultural heritage through the informal plantings of native species and the inclusion of yarning circles. The planters of native and indigenous trees and shrubs are to provide shade, comfort and human scale,

The school address to Catherine Fields Road includes a layering of tree canopies, through which the building is visible through the openings created between and under the tree canopies. The tree planting also provides cooling and shade to the kiss and drop area, and the bus set down layback. Screen planting will also be introduced along the northern and southern boundary to filter the views of the school from neighbours whilst also providing shade. This planting will take into account the Asset Protection Zones, pre-existing on the site.

A sports field at the east of the site sits within the APZ offset from the Remanent vegetation at the east boundary of the site, forming the managed landscape that is required on the site. In the vegetation on the eastern boundary of the site nature play, nature education and a small nursery to cultivate indigenous plants, reinforce the education and caring for Country amongst the students is to be provided.

Figure 9 Landscape Plan

Source: Taylor Brammer Landscape Architects

3.2.3. Uses and Activities

The school will be operational seven days a week to accommodate different activities in the ultimate Stage 5 scenario, a breakdown of the uses and hours of operation are in **Table 7** below. The school will be used for community uses outside the core school hours, primarily from Stage 4 onwards.

The school would not be used on weekends during Stage 1 to Stage 3. The weekend use of the school would only occur from Stage 4 onwards once the multi-purpose hall and sports fields are constructed and to align with infrastructure upgrades including road upgrades to Catherine Fields Road and sewer upgrades.

Table 7 Uses and Hours of Operation

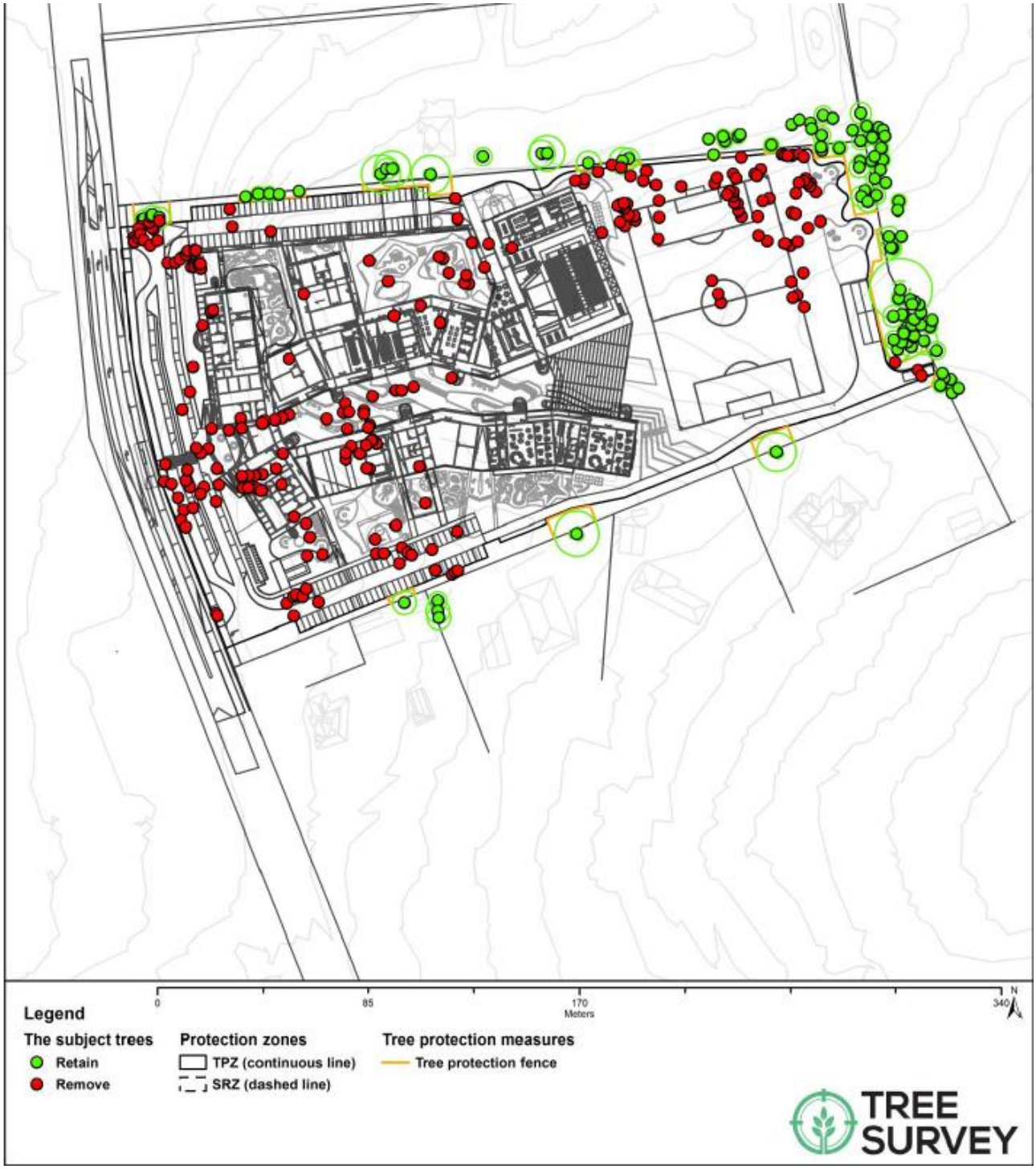
Use	Hours of Operation	Days	Details
Stage 1 to 3 (2025 – 2038)			
ELC	7:00am to 6:00pm	Monday to Friday	Typical ELC operation, no community uses forming part of this component.
OOSH	7:00am to 6:30pm	Monday to Friday	Typical OOSH operation, no community uses forming part of this component.
School Hours	8:20am to 3:20pm	Monday to Friday	Staggered lunch and recess

Use	Hours of Operation	Days	Details
Primary Hall	8:20am to 3:20pm	Monday to Friday	Typical school operation, no community uses forming part of this component.
Stage 4 onwards (2038 onwards)			
Multi-purpose Hall	9:00am to 10:00pm	Saturday and Sunday in addition to school hours	Training, competition, and community use
Sports field (during the week)	School hours and 5:00pm to 9:00pm	Monday to Friday	Training, competition, and community use
Sports field (weekend)	9:00am to 9:00pm	Saturday and Sunday	Training, competition, and community use

3.2.3.1. Tree Removal

A total of 335 trees are located on the site, of which 230 trees are proposed for removal to facilitate the proposed development as they will be subject to a major encroachment of greater than 20% within the Tree Protection Zone (TPZ). The extent of the proposed tree removal and retention is depicted in Figure 10 below. Significant landscaping and replacement forms part of the proposal as explored above in **Section 3.2.2.4.**

Figure 10 Tree Protection Plan



Source: Tree Survey

3.2.3.2. Demolition and Earthworks

The demolition of existing buildings and ancillary structures are required to prepare the site for construction. Cut and fill works will also be required, as per the Civil Engineering Drawings prepared by Martens &

Associates (refer to Appendix Q). The demolition and excavation stage of the proposal is expected to take 6 weeks.

Approximately 12,199m^3 of cut is required and 10,736m^3 of fill, resulting in a balance of 1,463m^3. All earthwork material is assumed to be re-used on site, subject to further laboratory testing. 117m^3 of fill is to be imported for Stage 1 works and 1,463m^3 of earthworks removed from site at competition of the development (subject to further staging work).

3.2.3.3. Stormwater Management

The proposed stormwater management system includes several components to ensure that stormwater runoff is appropriately treated and safely conveyed to a legal point of discharge. The proposed stormwater system includes:

- Overland flow paths that direct water away from buildings and towards the internal stormwater pit and pipe network or via overland flow to Catherine Fields Road reserve drainage system.
- Buried stormwater pit and pipe drainage network that collects and conveys the stormwater to the stormwater quality and quantity treatment devices and the eventual discharge point.
- Primary water quality treatment via gross pollutant traps (GPTs) and tertiary water quality treatment using a cartridge filter system. This stormwater quality treatment system has been designed based on modelling using MUSIC software to ensure compliance with the Camden Council's stormwater quality reduction targets.
- An onsite detention (OSD) tank is provided to manage stormwater quantity and ensure excessive flows are not discharged from the site. The OSD has been preliminarily sized using DRAINS software to ensure that Camden Council's requirements, that post development flows discharging from the site do not exceed predevelopment flows, are achieved.
- The majority of the stormwater leaving the site is via piped discharge to the upgraded pit and pipe drainage network within Catherine Fields Road reserve.

Additional detail of the stormwater management system is outlined in the Civil Engineering Drawings at Appendix Q.

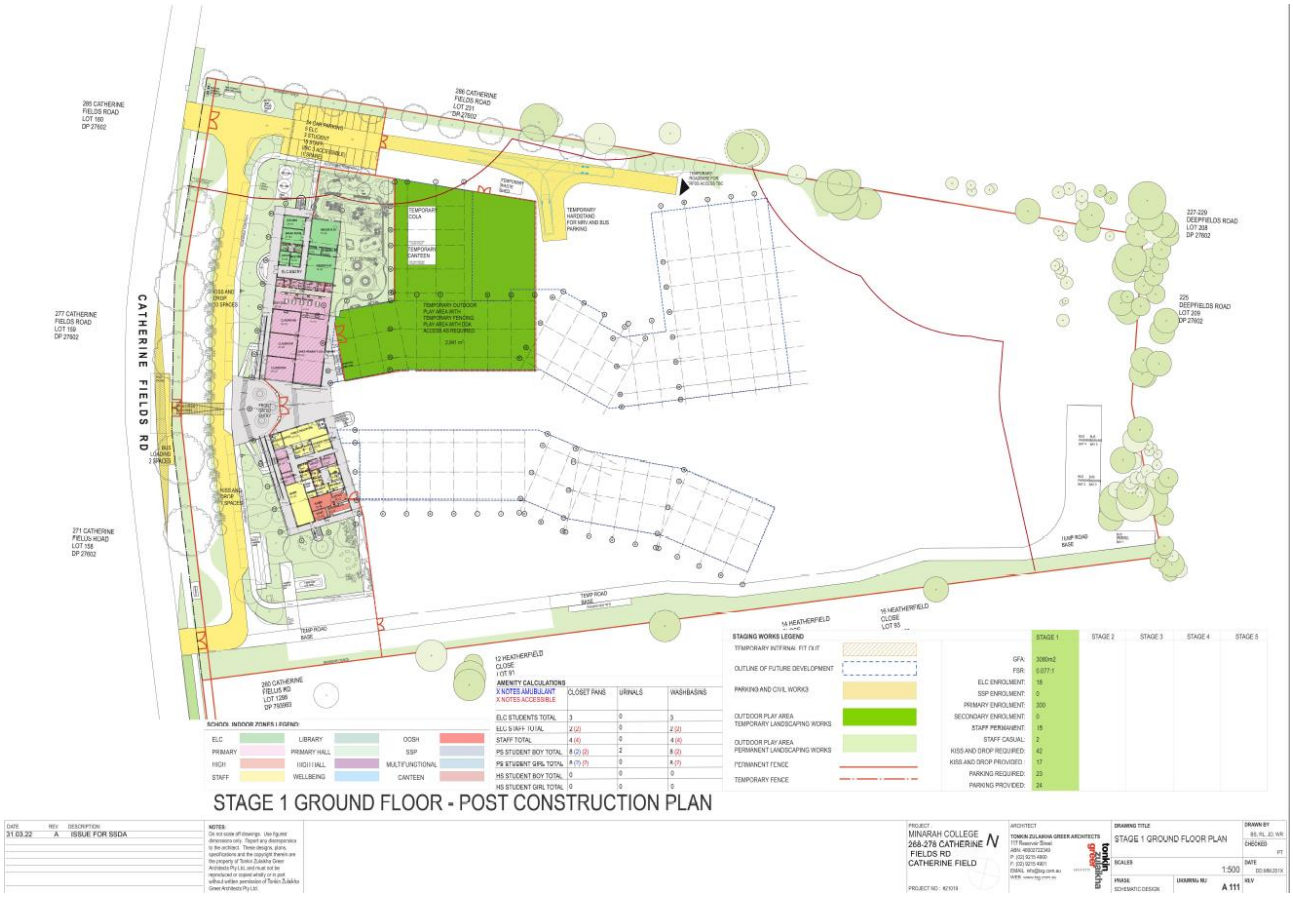
3.2.3.4. Access

Existing access to the site is off Catherine Fields Road, via two separate cross overs to reach the respective dwelling house. Catherine Fields Road is a local road which incorporates two single lanes running in both directions. Catherine Fields Road runs perpendicular to Camden Valley Way which is an Arterial Road. Construction vehicles will enter and exit the site via the existing driveways from Catherine Fields Road.

To provide improved accessibility and encourage safe movement in and out of the school it is proposed to introduce a northern crossover lane to enable a right-hand turn into the school. Exit from the school will be via the southern egress point. The primary entry and egress points along Catherine Fields Road, will be installed during stage 1 to provide access to the site throughout the duration of the development and operational phases, as shown in Figure 11. A temporary road base will be installed in Stage 1 as the northern car park is not to be completed until Stage 2. Additionally, another temporary road base will be installed along the southern boundary for RFS access until the permanent road is built in Stage 4.

In summary, the access arrangements for the carparking will remain the same throughout the development given access is proposed to be delivered as part of Stage 1.

Figure 11 Stage 1 Ground Floor Plan



Source: Tonkin Zulaihka Greer

Also included in the proposed development is the construction of a dual lane, 30-vehicle "kiss and ride" service which will allow for the safe and efficient delivery of students to the school. These spaces are accessed via the northern crossover and exit via the southern crossover throughout all stages of the development.

3.2.3.5. Works to Catherine Fields Road

The proposal also involves works within Catherine Fields Road to allow for a right-turn bay from Catherine Fields Road and bus bays on the eastern side of Catherine Fields Road, as per the road design drawings at Appendix S.

The works to Catherine Fields Road are broken down into the following elements:

- A channelised right-turn bay designed per Austroads Part 4A for 80km/hour speed zones and have storage of 55m.
- Indented bus bays (7 in total) utilised for public buses during the school's AM and PM peak operating periods. After these hours, the bays will have no restrictions and can be utilised as regular on street parking.
- A 1.8m wide footpath will be provided adjacent to the indented bus bays with a direct pedestrian crossing to/from the main front gate. The proposed width is in accordance with the Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling for pedestrian paths with high volumes where a minimum width of 1.8 m is required to allow two wheelchairs to comfortably pass each other.

The works to Catherine Fields Road will require some cut and fill works and are generally centralised to the frontage of the site.

The channelised right-turn bay will be delivered under Stage 4 consistent with the growth rate modelling undertaken as part of the Traffic and Accessibility Impact Assessment (Appendix L). Whilst the 2 of the 7

indented bus bay and footpath will form part of Stage 1, and the remaining 5 indented bus bay to form part of Stage 4. Suitable footpaths will be constructed to ensure indented bus stops into the school.

Furthermore, the works to Catherine Fields Road have been discussed with Camden Council, this consultation is documented in detail in the Traffic and Accessibility Impact Assessment.

3.2.3.6. Transport and Parking

Parking

The school proposes a total of 138 on-site car parking spaces which accommodates 86 spaces for staff members, 15 spaces for ELC, and 37 spaces for students. The current provision of 138 spaces complies with the Camden DCP 2019. Access to the staff parking area will occur via the norther crossover on Catherine Field Road, staff accessing the southern car park will proceed through the kiss and ride area.

Limited student parking is proposed in the northern car park and is accompanied by pick-up / drop-off spaces for parents and staff requiring access in proximity of the ELC Building.

Car parking for each stage is stipulated in **Table 8** below.

Table 8 Parking numbers across stages

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**
ELC	5	11	15	15	15
Staff	15	33	51	66	86
All students (K-12)	3	6	10	12	15
Year 12	0	0	2	12	22
Accessible (inclusive in the above numbers)	5	5	5	5	5
Total	23	50	78	105	138
Kiss and Ride spaces	17	17	30	30	30
Bicycle Parking	48	48	48	48	48

Source: Ason Group

Accessible Parking

Camden Council's DCP requires accessible parking to be provided in accordance with Building Code of Australia. As such, schools are categories as building classification 9b, thereby requiring 1 accessible space per 100 parking spaces and 1 accessible space for the ELC. Application of this rate to the requirement of 138 spaces results in a requirement of 2 spaces plus 1 space for the ELC. The school proposes a total of 5 accessible spaces in excess of the Camden DCP 2019.

These accessible spaces will be spread between the northern and southern car park.

Service Vehicles

All major deliveries and waste collection will occur in the designated loading area north of the hall through the student carpark. Delivery times will be strictly managed, whereby regular services are subject to strict timelines that to ensure the minimum movements possible and these occur outside of the school peak periods. Deliveries will be managed by the school's administration and management staff and will ensure

that drivers are familiar with the details of the Plan, as well as the Code of Conduct (refer to the School Travel Plan).

Servicing vehicle loading and unloading areas are to be constructed in Stage 1 and be used across all stages. A temporary road base will be provided at Stage 1 and this will be updated to be permanent in Stage 2.

Bicycle Parking

No cycleway connections currently exist to the school, and none are planned to be built by TfNSW or Council. However, a preliminary assessment of the Planning Guidelines for Walking and Cycling 2004 and the Austroads Guide to Traffic Management Part 11 has been undertaken and will inform the future provisioning of bicycle parking spaces if required.

Regardless of the lack of bicycle routes to the school, 48 bicycle spaces in the form of 24 double racks have been proposed. All required bicycle parking will be delivered as part of Stage 1.

Bus Stops and Bus Parking

A bus stop servicing the school will be situated on Catherine Field Road and exist as a dedicated shoulder as detailed in **Section 3.2.3.5** above. In addition, provision of private bus parking will be provided on-site catering for the school's private buses.

The works to Catherine Fields Road have been discussed with Camden Council, this consultation is documented in detail in the Traffic and Accessibility Impact Assessment (Appendix L).

Bus parking for each stage is stipulated in **Table 9** below.

Table 9 Bus parking numbers across stages

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**
Bus parking on-site (private buses)	5	5	5	5	5
Bus parking off-site (public buses)	2	2	2	7	7
Total	7	7	7	12	12

3.2.4. Development Timing and Staged Construction

The development of the proposal will occur in five stages. A breakdown of the stages is as follows and is depicted in the staging plans in

Figure 12:

- Stage 1: Stage 1 will involve the construction of the western wing for temporary use by primary and ELC students. Stage 1 will also comprise the construction of a portion of the northern carpark and the kiss and drop area. It is estimated that Stage 1 would take 52 weeks to construct and be operational by 2025.
- Stage 2: Stage 2 will see the construction and landscaping of the western portion of the primary school and the completion of a portion of the administration offices along the frontage of the site. The construction of the northern carpark will also be completed under this stage. It is estimated that Stage 2 would take 40 weeks to construct and be operational by 2031.
- Stage 3: Stage 3 will see the completion of the primary school wing and associated landscaping. It will also see the construction of a portion of the southern carpark and the second lane of kiss and drop parking. It is estimated that Stage 3 would take 40 weeks to construct and be operational by 2035.
- Stage 4: Construction will begin on the high school wing. The playing field and outdoor play areas will be finalised. Stage 4 will also see the implementation of proposed road widening and upgrades to Catherine Fields Road including the introduction of a right hand turning lane and bus parking along the frontage. It is estimated that Stage 4 would take 52 weeks to construct and be operational by 2038.
- Stage 5: The secondary school will be completed, with the addition of the Secondary School Hall. It is estimated that Stage 5 would take 40 weeks to construct and be operational by 2040.

It is noted that each stage of construction will have the required parking provision and open space for the proposed student and staff populations.

A breakdown of the students and staff projections for each stage of works is shown in the table below:

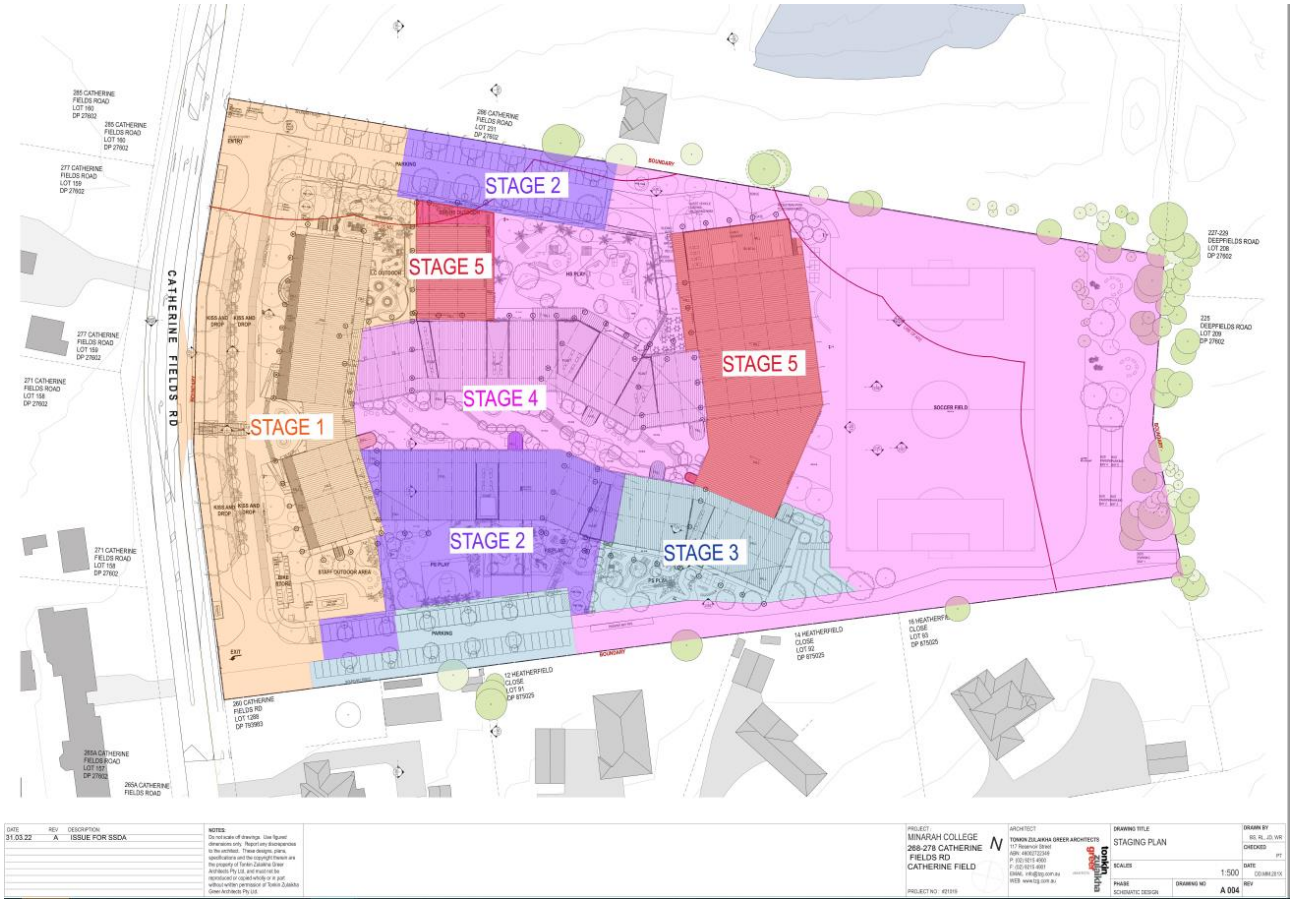
Table 10 Minarah College Projections

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**
Student					
ELC	18	42	60	60	60
SSP	0	10	20	20	20
Primary	300	600	840	840	840
Secondary	0	0	60	360	660
Total	318	652	980	1280	1580
Staff					
ELC	3	4	8	8	8
SSP	0	3	6	6	6
School – FTE	15	30	45	60	80
School – PTE	2	4	6	8	12
Total	20	41	65	82	106
Indicative Construction Time Frames	52 weeks	40 weeks	40 weeks	52 weeks	40 weeks

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Operational Targets	2025	2031	2035	2038	2040

Source: Midson Group

Figure 12 Staging Plan



Picture 9 Staging Plan

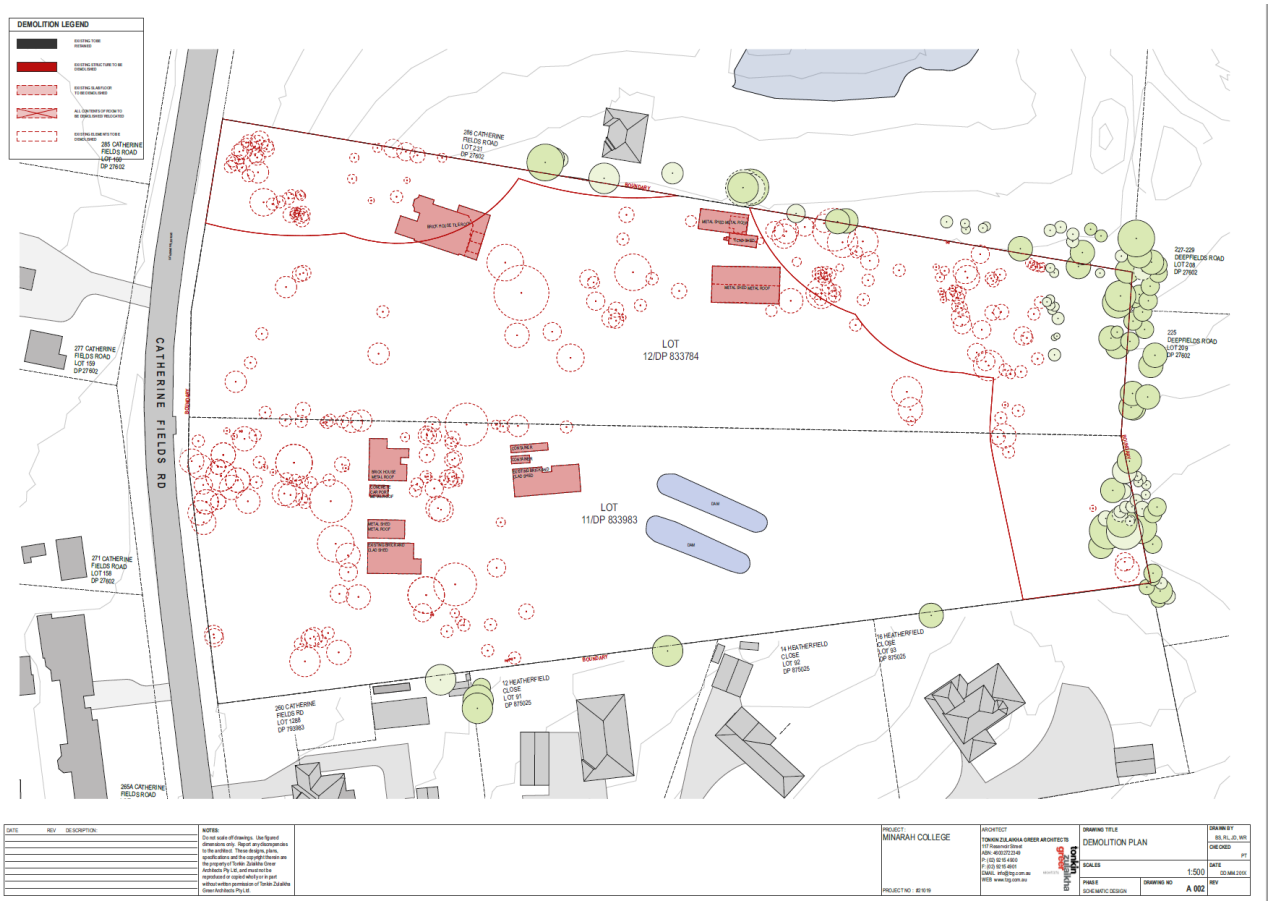
Source: Tonkin Zulaikha Greer – Design Report

3.2.4.1. Phases

Demolition

Prior to the construction of the new school, demolition of existing structures is required as a part of the proposal. The northern lot is occupied by a dwelling and two sheds, whilst the southern lot is occupied by a dwelling and three sheds, all of which are to be demolished. The proposed demolition works will require minimal excavation works. Where possible materials will be re-used and recycled. The proposed demolition plan is illustrated in **Figure 13** below.

Figure 13 Proposed Demolition Plan



Source: Tonkin Zulaikha Greer

Earthworks

All earthworks are to be carried out in accordance with AS3798 (2007) and Council earthworks specification. Site specific recommendations for site preparation and earthworks are:

- Strip and remove all vegetation and unsuitable materials such as topsoil and root affected soils from the development area up to a depth of approximately 0.3mbgl.
- The existing fill in the central portion of the Southern lot (Lot 11 in DP833983) near the existing garage shed comprising unsuitable material, should be removed from the site. The actual extent and depth of removal will be subject to additional investigations and/ or actual site conditions.
- Fill material shall be placed in horizontal layers of generally not more than 300mm in loose thickness and with a mixture of materials as uniform as possible from an approved borrow source.
- Subgrade to be proof rolled with a 8 tonne smooth drum roller with a minimum of 6 passes in accordance with Clause 5.5 of AS3798 (2007). If soft spots are identified, these shall be treated until conditions are assessed by the geotechnical engineer to be suitable.
- Fill material shall be moisture conditioned and compacted to a minimum 98% density ratio (DR) of 75% density index (DI) for granular fill at a standard compactive effort within + or – 2% of OMC. The upper 300mm of fill material shall be compacted to a DR of 100% or DI of 80% at a standard compactive effort within + or – 2% of OMC.
- Smooth drum vibratory rollers are considered as suitable plant in accordance with AS2187.2 (2006) If vibrating rollers are adopted, resultant ground vibration should be assessed and monitored in accordance with AS 2187.2 (2006) to ensure no adverse impacts on nearby structures.

It is envisaged that only minimal excavation will be required for the site. Batter slopes and temporary shoring and retaining walls will be installed where required. The re-use of site soils as fill placement has been

deemed unsuitable as they are comprised of high plasticity clays. The material may however be mixed with lime/ gypsum, to improve its properties/ characteristics.

Excavation near the southern lot may encounter groundwater seepage in the soil profile, particularly in areas in proximity to the existing dam and overland drainage channel. The seepage flow is expected to be low and will be managed by sump and pump methods.

Construction

To ensure that the proposed development is safely accessible, road works are to occur as a part of the proposal as detailed in the preceding sections. The construction program would generally consist of the following construction stages with duration to be determined once a contractor has been appointed:

- Phase 1: Demolition of existing buildings – expected timeframe 2 weeks
- Phase 2: Excavation and earth moving – expected timeframe 4 weeks
- Phase 3: Construction (Stage 1 to 5)
  - Stage 1 expected timeframe 52 weeks
  - Stage 2 expected timeframe 40 weeks
  - Stage 2 expected timeframe 40 weeks
  - Stage 2 expected timeframe 52 weeks
  - Stage 2 expected timeframe 40 weeks

It is noted that during all stages, all vehicle entry and exit movements are to be in a forward direction only, with spoil to be loaded within the site and under the careful supervision of an authorised traffic controller. Accordingly, supervision by an authorised traffic controller would also be required for the movements of vehicles that would cross the footpath during deliveries.

4. STATUTORY CONTEXT

This section of the report provides an overview of the key statutory requirements relevant to the site and the project, including:

- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Commonwealth)*
- *Environmental Planning and Assessment Act 1979 (**EP&A Act**).*
- *Biodiversity Conservation Act 2016 (**BC Act**).*
- *NSW Rural Fires Act 1997 (Rural Fires Act)*
- *NSW National Parks &Wildlife Act 1974 (NPW Act)*
- *NSW Roads Act 1973 (Roads Act)*
- *State Environmental Planning Policy (Planning Systems) 2021*
- *State Environmental Planning Policy (Precincts – Western Parkland City) 2021*
- *State Environmental Planning Policy (Resilience and Hazards) 2021*
- *State Environmental Planning Policy (Transport and Infrastructure) 2021**.***
- *State Environmental Plan (Biodiversity and Conservation) 2021**.***
- *Camden Local Environmental Plan 2010 (**LEP 2010**).*
- Camden Development Control Plan 2019 (**DCP 2019**).

It identifies the key statutory matters which are addressed in detail within the EIS, including the power to grant consent, permissibility, other approvals, pre-conditions and mandatory considerations.

Note: Catherine Field is located in the South West Growth Area as identified in the *State Environmental Planning Policy Precincts – Western Parkland City* under Appendix 5 Camden Growth Centres Precinct Plan. The site is mapped within the South West Priority Growth Area; however, the site falls within the 'unreleased' Catherine Field Precinct. Thereby the provisions of the principal planning controls in the Camden LEP 2010 apply rather than the provisions of the State Environmental Planning Policy (Precincts – Western Parkland City) 2021.

4.1. STATUTORY REQUIREMENTS

Table 11 categorises and summarises the relevant requirements in accordance with the DPE *State Significant Development Guidelines*. A detailed statutory compliance table for the modified project is provided at **Appendix C**.

Table 11 Identification of Statutory Requirements for the Project

Statutory Relevance	**Action**
Power to grant approval	In accordance with Schedule 1 Clause 15 of *State Environment Planning Policy (Planning Systems) 2021,* development for the purpose of a new school with a capital investment value of over $20 million is SSD. The proposed development is for the construction of a new school and will have a CIV of $93,399,314 (refer **Appendix F**). Therefore, the proposal is SSD for the purposes of the Planning Systems SEPP.
Permissibility	The subject site is zoned RU4 Primary Production Small Lots under the Camden LEP 2010. The proposed development is for a new "Educational Establishment".

Statutory Relevance	Action
	Educational Establishments are not expressly prohibited in the zone and are therefore permissible with consent. Additionally, the RU4 zone is identified as a prescribed zone under *State Environmental Planning Policy (Transport and Infrastructure) 2021.* Development for the purpose of a new educational establishment in a prescribed zone is permitted with consent under Part 3.4 clause 3.36(1) of *State Environmental Planning Policy (Transport and Infrastructure) 2021.*
Other approvals	**NSW National Parks and Wildlife Act 1974 (NPW Act)** The NPW Act aims to prevent the unnecessary or unwarranted destruction of relics and the active protection and conservation of relics of high cultural significance. The provisions of the Act apply to both indigenous and nonindigenous relics. Section 4.41 of the EP&A Act provides that SSD is exempt from the need for a section 90 permit for the removal of items of Aboriginal heritage. An archaeological assessment has been undertaken as part of the EIS to identify and minimise potential heritage impacts in relation to the Proposal. This is further explored in **Section 6.16** of this report.
	NSW Roads Act 1973 (Roads Act) Section 138 of the Roads Act requires the consent of the relevant roads authority Camden Council or Transport for NSW (TfNSW) for work in, on, under or over a public road. Consultation has been undertaken with the TfNSW during the preparation of the EIS to ensure adequate consideration of potential issues affecting public roads within and surrounding the site. This is further explored in Section 6.7 of this report.
	State Environmental Planning Policy (Transport and Infrastructure) 2021 The proposed development is for the purpose of a new school that has direct vehicular access to Catherine Fields Road and is to accommodate 1,580 students, therefore Part 3.7 clause 3.58 applies. The application is to be referred to TfNSW within 7 days after the application is made.
	NSW Rural Fires Act 1997 (Rural Fires Act) The Rural Fires Act requires consideration of potential bush fire impacts on development at the planning assessment stage in order to protect people and property from the effects of bush fire. Section 100B requires a bush fire authority to be issued prior to undertaking certain types of development on bushfire prone land. Section 4.41 of the EP&A Act provides that SSD is exempt from the need for a bushfire safety authority under section 100B of the Rural Fires Act. Regardless, the proposal will be referred to NSW Rural Fire Service by DPE for comment.

4.2. PRE-CONDITIONS

Table 12 outlines the pre-conditions to exercising the power to grant approval which are relevant to the project and the section where these matters are addressed within the EIS.

Table 12 Pre-Conditions

Statutory Reference	Pre-condition	Relevance	Section in EIS
State Environmental Planning Policy (Resilience and Hazards) *2021*	A consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	Potential sources of contamination exist at the site but are not expected to preclude the proposed development of the site. A Preliminary and Detailed Site Investigation was conducted by Geotechnique Pty Ltd. Based upon the test results, it is understood that the site is considered environmental suitable for the proposed use subject to additional testing and reporting as outlined in Part 14 of the Preliminary and Detailed Investigation Report (**Appendix V**) and Remedial Action Plan **(Appendix W**).	**Section 6.14, Appendix V** and **Appendix W**
State Environmental Planning Policy (Precincts – Western Parkland City) 2021	*State Environmental Planning Policy (Precincts – Western Parkland* City) 2021) sets out the provisions for development that is located within the Sydney Priority Growth Areas. The proposed development must demonstrate consistency with clause 3.21 which outlines matters for consideration by the consent authority where land is identified in the growth centre, but the land has not been 'released' and a precinct plan does not apply.	The site is mapped within the South West Priority Growth Area; however, the site falls within the 'unreleased' Catherine Field precinct. Thereby the provisions of the principal planning controls Camden Local Environmental Plan 2010 apply, not the provisions of the Western Parkland City SEPP The consent authority is to take into consideration the provisions of clause 3.21 of the SEPP when determining the application. As an expected growth area, the provisioning of new education facilities is	**Appendix C**

Statutory Reference	Pre-condition	Relevance	Section in EIS
		essential to supporting the future development of the South-West Growth Area. The new Minarah College development will provide both education and employment opportunities for local residents which will contribute to fostering a healthy and socially connected community.	

4.3. MANDATORY CONSIDERATIONS

Table 13 outlines the relevant mandatory considerations to exercising the power to grant approval and the section where these matters are addressed within the EIS

Table 13 Mandatory Considerations

Statutory Reference	Mandatory Consideration	Section in EIS
Consideration under the EP&A Act and Regulation		
Section 1.3	**Relevant objects of the EP&A Act**	**Appendix C**
Section 4.15	**Relevant environmental planning instruments**	
	State Environmental Planning Policy (Planning Systems) 2021	**Appendix C**
	State Environmental Planning Policy (Resilience and Hazards) 2021	**Section 6.14, Appendix C, Appendix V** and **Appendix W.**
	State Environmental Planning Policy (Precincts – Western Parkland City) 2021	**Appendix C**
	State Environmental Planning Policy (Transport and Infrastructure) 2021	**Appendix C** *Note: Appendix C and Appendix GG also provide an assessment against the Child Care Planning Guideline.*
	State Environmental Planning Policy (Biodiversity and Conservation) 2021	**Appendix C**
	Camden LEP 2010	**Appendix C**

Statutory Reference	Mandatory Consideration	Section in EIS
	Relevant planning agreement or draft planning agreement ▪ *Nonrelevant to the proposed development*	**N/A** Note: the proposed works to Catherine Fields Road would not form part of a WIK or VPA. Minarah College will be responsible for the delivery of these works.
	Development control plans ▪ *Camden Development Control Plan 2019 (CDCP 2019)*	**Appendix C**
	The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.	**Section 6**
	The suitability of the site for the development	**Section 2, 6 & 7**
	The public interest	**Section 7**
Mandatory relevant considerations under EPIs		
State Environmental Planning Policy (Resilience and Hazards) 2021	*Chapter 2 – Hazardous and offensive development* Departmental guidelines: Applying SEPP 33 (identify relevant requirements) HIPAP No.3 – Risk Assessment (identify relevant requirements) HIPAP No.12 – Hazards – related Conditions of Consent *Chapter 4 – Remediation of Land* As the development will involve a change of use within an investigation area a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.	**Section 6.13, Section 6.14, Appendix T, Appendix V** and **Appendix W**
Camden LEP 2010	Objectives and land uses for RU4 Zone Part 4 – Principal development standards Part 5 – Miscellaneous provisions Part 6 – Urban release areas Part 7 – Additional local provisions	**Appendix C**

Statutory Reference	Mandatory Consideration	Section in EIS
Considerations under other legislation		
Biodiversity Conservation Act 2016 (BC Act) – section 7.14 and 35	Under section 7.9(2) of the Biodiversity Conservation Act 2016 (BC Act), State Significant Development (SSD) applications are "to be accompanied by a biodiversity development assessment report (BDAR) unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values". Any future SSD applications will need to be accompanied by Biodiversity Development Assessment Report, unless the site has been previously certified	**Section 6.8 and Appendix C**
Development Control Plans		
Camden DCP 2019	Clause 2.10 of the SEPP (Planning Systems) 2021 states that development control plans (whether made before or after the commencement of this Policy) do not apply to SSD. As such, there is no requirement for assessment of the proposal against the CDCP 2019 for this SSDA. Notwithstanding this, consideration has been given to the relevant provisions of *2. General Land Use Controls.*	**Appendix C**

5. COMMUNITY ENAGAGEMENT

The following sections of the report describe the engagement activities that have been undertaken during the preparation of the EIS and the community engagement which will be carried out if the project is approved.

5.1. ENGAGEMENT CARRIED OUT

Community and stakeholder engagement has been undertaken by the Project Team in the preparation of the SSDA. This included direct engagement and consultation with:

- Adjoining landowners and occupants;
- Local community
- Local indigenous groups
- Staff and parents or Minarah College Green valley
- Government, agency and utility stakeholders listed within the SEARs.

The community and stakeholder engagement undertaken has sought to address the requirements of the SEARs and includes:

- Information about the proposal and an invitation to online community sessions were shared with the community through flyers letterbox dropped to 945 residential dwellings and 8 commercial premises surrounding the site.
- In addition to the letterbox dropped flyer, letters were delivered along with the flyer to 17 adjacent neighbours inviting them to a dedicated online information for near neighbours only.
- Media coverage and an advertisement in the Camden-Narellan Times.
- Online community sessions, in line with health advice relating to COVID-19, were delivered to:
  - Provide information about the proposal, the planning process and feedback opportunities.
  - Provide opportunity for community and stakeholders to meet the project team, discuss the proposal, share feedback, and ask questions.
  - Invite follow-up feedback through feedback forms.
  - Provide a follow-up information sheet to participants with detail presented at the sessions.
- A dedicated project website to provide information and updates about the proposal, as well as information on the Minarah College Green Valley website.
- A dedicated project email for the community and stakeholders to ask questions and provide feedback was available throughout the consultation phase.
- Opportunity to contact the project team via the Minarah College Green Valley email address.
- Stakeholder meetings and briefings including telephone and videoconferencing discussions with individual stakeholders and groups were offered.
- Stakeholder correspondence by email to individuals and organisations, and groups, including provision of a community information sheet and community questions and answers document.
- Updates to the community and stakeholders as the proposal progresses through the planning process, including reporting back to the community and stakeholders on issues raised and how the project team has responded through a community question and answers document.

This engagement was consistent with the community participation objectives in the Undertaking Engagement Guidelines for State Significant Projects and complied with the community engagement requirements in the SEARs. Details of the outcomes of the community and stakeholder engagement is contained in the Engagement Outcomes Report prepared by Australian Public Affairs in **Appendix G.**

In accordance with the Regulations, the EIS will be placed on formal public exhibition once DPE has reviewed the EIS and deemed it 'adequate' for this purpose. Following this exhibition period, the applicant will respond to any matters raised by notified parties.

5.2. COMMUNITY VIEWS

The key issues raised by the community and key stakeholders are summarised in the table below. A detailed community engagement table is provided as **Appendix D** which details the way in which these issues have been addressed in the EIS.

Table 14 Community Feedback

Key Issue	Applicant Response
Planning and construction	
Questions were asked about timing and details around the planning process, construction program and staged opening of the school. Questions were also asked about whether any approvals had been granted to date from Camden Council or other authorities, and the engagement with Camden Council so far. A concern was raised about vibrations from heavy vehicles during roadworks.	The proposal is being assessed as a State Significant Development by the NSW Government, and it is hoped the process will be completed by the end of 2022, though this will depend on the government's timelines. The proposal is in the early planning phase and no approvals have been granted to date. Camden Council is a key stakeholder in the process. The project team has had an initial meeting with Council about the proposal and will continue to liaise with them throughout the planning phase. If all planning milestones are met, construction of the first stage of the new campus could start in 2024, for opening at the start of the 2025 school year. Student numbers would start small and then grow to 318 students as part of the first stage. Future stages would be delivered over the next 20 years to align with growth in the local community. Specific timeframes for these stages are not currently known as they will be dependent on local population growth. A detailed construction and construction traffic management plan is to be created to supplement the SSDA. This will cover vehicle movements, noise and vibration. These documents will also need will need to be approved prior to any works commencing. The project team will engage with neighbours before construction work starts to minimise impacts as much as possible.
Traffic and Parking	
Residents raised questions about the capacity of local roads to accommodate increased traffic, slowing traffic around the school, and associated safety issues. It was noted that the site is located at a curve and rise in the road, which increased safety concerns. Concerns were raised about	Robust traffic and parking studies will form part of the State Significant Development application and will need to demonstrate that vehicle movements generated by the school – both during construction and once opened – can be accommodated safely on the local road network. Staggered start and finish times have been recommended by the traffic engineers. This will slightly extend traffic movements around the site with a view to mitigating other impacts such as congestion and noise, however, these times would not deviate too far from

Key Issue	Applicant Response
congestion around the site despite internal pick-up/drop-off and that staggered start and finish times would extend periods of impact, and would need to accommodate families with children across multiple grades. A question was asked about the number of car parking spaces on site, and concerns were raised about parking outside of the school site both during normal use and school functions, and how this would be accommodated on Catherine Fields Road. There were some questions around who would fund an upgrade of Catherine Fields Road, and whether that would fall to rate payers. Safety concerns were raised in relation to the increase in foot traffic with there being no footpath. There was one comment about homes along Catherine Fields Road being built close to the road, and not having capacity to lose frontage should road widening and associated land acquisition be required.	standard school hours. During these periods there will be increased traffic movements around the school, but peaks will dissipate relatively quickly. The school will make arrangements for families across multiple grades, with this most likely involving students who finish earlier waiting in a specified area until their siblings are finished. The project team has had initial discussions with Transport for NSW and preliminary discussions with Camden Council around traffic and these will continue. Some form of upgrade to Catherine Fields Road in front of the site is likely to be a planning requirement to accommodate vehicle movements into the College. Any upgrades or widening required to support the school's operations, such as improvements directly in front of the school, would be a responsibility of the school and not rate payers, and would be accommodated on the school site. The provision of a footpath on Catherine Fields Road in front of the site may be requirement of Camden Council with the intention for this to connect to any future plans for footpath along Catherine Fields Road. Catherine Fields Road has an 80km speed limit in front of the school, which drops to 60km just to the south. This matter would need to be given further consideration by Camden Council as it is a local road, and there may be a requirement for the introduction of a school zone for reduced speed during specified hours. Traffic impacts will be reduced through the provision of private chartered buses for students, and the project team is also in discussion with Transport for NSW about providing additional public transport in the area. The traffic studies that will form part of the State Significant Development application will consider increased bus movements on the local road network. Car parking numbers have not been confirmed at this stage, however, there will be sufficient parking for staff, students and visitors, and the school will have management plans in place to prevent parking on local streets. Parking arrangements for school events will be considered as part of an operational management plan that will form part of the State Significant Development application. It is expected that events will need to be managed to ensure parking is limited to the school site given there are no parking provisions on surrounding roads. This may involve using the oval for overflow parking during events such as
Operations	
Questions were asked about the school's hours of operations, including OOSH care, and whether use by the community of sports facilities would entail	School and OOSH care hours will be typical of other public and independent schools. Details around how sports facilities could be shared with the community will form part of the part of the State Significant

Key Issue	Applicant Response
weekend sport on site, with some suggesting that this would be more impactful than beneficial for the majority of near neighbours. A concern was raised about noise and light spill from the school generally. Questions were also asked about the number of staff on site. A question was asked about whether it will be an Islamic school, and if the school needs to be welcoming of students form all faiths, or no faith, to be eligible for government funding. There were enquiries about enrolment at the school, the teaching of religion, cultural/religious aspects of the uniform, and the special education offer.	Development application, taking into consideration community feedback. Lighting in and around the school will meet stringent standards to avoid light spilling on to the street and any loss of amenity to neighbours. Noise will be mitigated using a range of acoustic treatments and barriers to ensure that it meets acceptable standards and that neighbour amenity is maintained. Staff numbers will start small and then build to 32 staff on completion of the first stage of the College. They will then continue to gradually increase to 106 staff as the College grows over the next 20 years. The College will have an ethos that follows the principles of the religion of Islam, and it will be open to all students to enable diverse and rewarding community connections. The College's welcoming approach is irrespective of its funding. The Catherine Field campus would be funded through bank loans. Details about enrolling at the school will be shared as soon as the planning process permits. Students will be taught religion, though non-Islamic students will have the option to not join prayer sessions, and instead participate in other quiet learning activities during these times. Parts of the uniform that are designed for students from the Islamic faith, such as head coverings for girls, would not need to be worn by non-Muslim students. There will be a Special Education School, and this will cater for students with moderate to high learning and support needs. The mix of students will be considered when the planning process is further progressed
Building and Design	
Questions were asked about fencing to maintain privacy for neighbours, and plans for any other buildings on the site.	A range of privacy measures will be considered to maintain privacy for neighbours, such as privacy screens, louvres and decorative mesh for windows on the upper floor of school buildings, and landscaping for screening along the boundaries. There will also be a generous setback from school buildings to neighbouring properties, and landscaping and fencing to provide separation. No other buildings are currently being considered for the site.
Environment	
A concern was raised about the cumulative impact on the environment and animal habitats	Environmental studies will be completed as part of the State Significant Development application, and these will identify any

Key Issue	Applicant Response
from developments in the area, including turtles.	potential impacts on the environment and outline how those impacts will be mitigated. This will include biodiversity and ecology studies. Stormwater and overland flow will be managed so as not to cause any negative impact on neighbouring properties.
Strategic Context and Infrastructure	
Questions were asked around whether the proposed school would affect plans for rezoning surrounding land for increased residential density. One concern was raised about the school not aligning with community needs in the semi-rural area. A question was raised about how Catherine Field's current septic system would accommodate the school.	The proposed school will not have an impact on any potential rezoning in the area by the NSW Government or Camden Council. However, the location is part of the South West Growth Area and there have been recent rezonings nearby in precincts like Oran Park and Leppington. New schools are urgently needed in the area, and this proposal will meet a small fraction of the demand as the local population grows. Access to sewer carriers is a key consideration in the staged opening of the school. The project team has had initial discussions with Sydney Water around the provision of sewerage services, and in the interim, the size of the school will not exceed that which can be supported by a waste water system that is independent of mains sewerage.

5.3. ENGAGEMENT TO BE CARRIED OUT

Further consultation will be undertaken to respond to community feedback during the assessment of the EIS and community participation objectives in the *Undertaking Engagement* guide, including ongoing consultation with:

- Local community
- Relevant agencies
- Registered Aboriginal Parties.

Minarah College will continue to keep stakeholders and the community informed of the project approval process through the exhibition and determination phases.

The following actions will be undertaken to inform, consult and engage with the community during the implementation of the project:

- Continuing to engage with the community about the project, its impacts, and the approval process.
- Providing information on how the community's views have been addressed in the EIS.
- Enabling the community to seek clarification about the project through the two-way communication channels.

The proposed actions are consistent with the community participation objectives in the *Undertaking Engagement* guide as summarised below:

- Providing consistent, relevant, jargon-free and up to date information on the proposal, impacts, benefits, and the SSDA process through accessible, tailored open lines of communication
- Responding appropriately and in a timely manner to concerns or questions raised by the community and stakeholders

- Facilitating information flow to the project team by establishing working relationships to ensure stakeholder and community views and local knowledge are appropriately incorporated into the design of the project
- Managing expectations by closing the feedback loop through sharing how stakeholder and community views influenced the proposal.
- The effectiveness of the engagement will be monitored, reviewed and adapted over time to encourage community participation in the project.

6. ASSESSMENT OF IMPACTS

This section describes the way in which the key issues identified in the SEARs have been assessed. It provides a comprehensive description of the specialist technical studies undertaken regarding the potential impacts of the proposed development and recommended mitigation, minimisation and management measures to avoid unacceptable impacts. Further detailed information is appended to the EIS, including:

- SEARs compliance table identifying where the SEARs have been addressed in the EIS (**Appendix A**).
- Statutory compliance table identifying where the relevant statutory requirements have been addressed (**Appendix C**).
- Community engagement table identifying where the issues raised by the community during engagement have been addressed (**Appendix D**).
- Proposed mitigation measures for the project which are additional to the measures built into the physical layout and design of the project (**Appendix E**).

The detailed technical reports and plans prepared by specialists and appended to the EIS are individually referenced within the following sections.

6.1. DESIGN QUALITY

A Design Report has been prepared by TZG Architects and is attached at **Appendix I**. The Design Report articulates the design qualities of the proposal and demonstrates how it responds to the objectives for good design in *Better Placed.*

6.1.1. Existing Environment

The site is in a typical large lot rural residential subdivision area and dwelling houses with ancillary structures including sheds and dams. The local area is characterised by a mix of rural and large lot residential properties.

6.1.2. Potential Impacts

In accordance with Better Places, it has been demonstrated that the proposal achieves design excellence as outlined below:

- It will provide a high standard of architectural design. The materials and detailing of the building will make a positive contribution to the streetscape, neighbourhood, and neighbouring sites. The design has also considered the existing rural character of the area and its interfaces
- The built form successfully responds to its setting and considering the site constraints, including bushfire, flooding, and ecology. The form and scale of the built form responds to the functionality of the space, operation, and integration with the surrounding use context to present a modern, considered approach to the deliver much needed education facilities in the Catherine Field community
- The design responds to the project brief which has been developed through workshops with Minarah College, and in consultation with the local community. The design seeks to balance the needs of the users efficiently and effectively. The design provides a usable and adaptable spaces which accommodate a range of users including the community, school, ELC and SSP.
- The proposal facilitates a safe, supportive, challenging, and engaging learning environment. It provides an environment that fosters inquiry, questioning, and experimentation; one that recognises and caters for individual learning styles and encourages students to take responsibility for their learning and their achievements. Material selections, durability and their relationships have been considered as has the detailing and weather implications to ensure the quality of the finished form and its life cycle into the future.
- The landscape plan embraces the incorporation of Islamic cultural expression and Australian indigenous cultural forms as an integrated design aesthetic. Specifically, the mosaic star paving pattern to the central pedestrian spine is a manifestation of the constellation of the night sky. The landscaping approach reflects a well-considered site-specific approach, developed in consultation with the Islamic and Aboriginal community.

- Connecting with Country has been a fundamental design principle underpinning the design response. Tocomwall has provided the following recommendations, which have been included in the design response: yarning circle, reflective materials, curves in design, creek bed design feature, multi-lingual signage, welcome wall, Aboriginal artwork, interactive native garden, Lyrebird design feature and animal architecture. Refer to the Connecting with Country Report at **Appendix Z.**
- The detailed design for the proposed school will consider the principles of CPTED and include lighting of entrances, paths, and car parking areas, minimising the number of areas where people could hide, security fencing and territorial reinforcement in the form of distinct and secure fencing and signage.
- The design has taken on board the design principles identified and produced a building that has resolved the challenges and embraced the opportunities to achieve an elegant coherent outcome. In addition, the design considers the feedback received from the SDRP.

6.1.3. SDRP Feedback

SDRP First Review 27/10/21

The Minarah design team presented the early scheme for the proposal to the Design Review Panel on the 27 October 2021. The project team were commended for a thorough presentation and efforts to achieve a successful design outcome for the school and community. The following design elements were supported:

- Well considered and holistic approach to the masterplan, landscape and architecture
- Commended engagement with Tocomwall to guide the community consultation and Connecting with Country response
- Sensitive treatment and consideration of the site's natural level changes
- Richness and diversity in landscape areas
- Screening to the north and southern boundaries providing a sense of enclosure to the school
- Intent to reassess and reduce parking and related circulation.

In addition to the positive feedback received, the panel also provided recommendations relating to Connecting with Country and Landscape, Traffic and Circulation and Sustainability to further strengthen the proposal.

SDRP Second Review 16/02/22

At the second SDRP the project team were once again commended for a comprehensive presentation and efforts to address advice from the previous SDRP. The following design elements are supported:

- The well considered and promising deisgn of the proposal
- The initiatives arising from the connecting with country consultation
- Consideration of the three cultures (Aboriginal, Islamic and Fijian) with a key relationship woth the school
- The sustainability approach and strategies proposed.

Further commentary and advice for the project was given by the SDRP in regard to Connecting with Country, Landscape, the Masterplan and built form. Each of the recommendations made by the SDRP have been addressed and are detailed within the Design Report attached in 119Appendix I. Such amendments have included:

- The strengthening of the Indigenous cultural narrative and integration of Islamic and Fijian cultural values through the thoughtful design of spaces.
- The consideration and preservation of biodiversity values on site where possible.
- The introduction of a diversity of outdoor spaces for different user groups.
- A focus on the role of the central spine in providing additional learning spaces.
- Ensuring that the school is accessible and that wayfinding tactics have been employed to improve legibility of the site.

- That the front fence line recedes 3 metres back from Catherine Fields Road to allow for a new landscaped zone.
- Consideration of additional features pertaining to ESD.

6.1.4. Summary

Overall, it is considered the proposed development provides for a high level of design quality and will have a positive impact on the site and the surrounding context. The proposal received a positive response from the State Design Review Panel on both occasions, with all appropriate recommendations incorporated into the final design of Minarah College.

6.2. BUILT FORM AND URBAN DESIGN

A Design Report has been prepared by TZG Architects and is attached at **Appendix I**. The Design Report describes the design response to the site and site context and the design principles that have guided the development of the proposal.

6.2.1. Existing Environment

The existing buildings on-site comprise of two typical residential dwellings set back from Catherine Fields Road with surrounding associated structures including sheds and dams. The height of surrounding development is typical of low-density residential ranging in height between one (1) and two (2) storeys.

6.2.2. Potential Impacts

The layout and design have been carefully considered to provide a positive visual outcome and an efficient use of the site. The buildings have been designed to provide a flexible and welcoming environment for children ranging from 3 to 18 years old, with the opportunity for interaction and separation as appropriate.

A compact two (2) storey-built form both respects the low-scale surrounding development and maximises the area of the site available for landscaping and play, as shown in Figure 14. Generous front side and rear setbacks allow for tree planting to preserve the amenity of the adjoining residences. Specifically, the northern and southern facades of the school share boundaries with residential neighbours, more predominately to the south. The school buildings have been designed in a modest scale, complying with the prescribed 9.5 metre height limit.

Figure 14 Photomontage of the proposed entrance to Minarah College

Source: Tonkin Zulaihka Greer

The architectural facades are composed of predominately white and grey panels and white aluminium windows, between the classrooms are punctuations of colour created by perforated screening with defines the locations of the breakout spaces adjacent to classrooms. To the southern facades, privacy panels are applied to the first-floor windows to a height of 1600mm which mitigates overlooking to the southern neighbours.

The design of the front façade has been carefully designed to reinforce the street presence and create a distinct public entrance through a curved brick 'portico' that nestles between the two distinct building forms (Figure 14). The brick 'portico' has a hit and miss pattern which permits light through but creates shading to the library behind. The hit and miss brickwork pattern is a nod towards the intricate geometric patterns inherent in Islamic architecture and will be designed in further detail in subsequent detailed design phases (Figure 15).

A simple grid structure ensures economical construction and future adaptability, enlivened by the articulated building forms and generous external shading. A clearly defined entry sequence strengthens the relationship of the school to the wider community and give the new school a defined and appropriate presence.

Furthermore, Group DLA were engaged to undertake a Building Code of Australia Design Compliance Review. The assessment has found that the proposed development shall accord with the relevant principles and provisions of the Building Code of Australia 2019 Amendment 1 subject to its compliance with any condition of approval and certification of the installation of the nominated fire safety systems.

Based on the above, the built form and urban design outcomes are considered acceptable and generally consistent with the development anticipated for the site in accordance with the relevant controls.

Figure 15 Photomontage of the proposed Courtyard

Source: Tonkin Zulaihka Greer

6.3. ENVIRONMENTAL AMENITY

A Design Report has been prepared by TZG Architects and is attached at **Appendix I.** The Design Report addresses how good internal and external environmental amenity including cross ventilation and circulation is achieved and provides a solar access analysis of the overshadowing impacts of the development within the site and on surrounding properties.

6.3.1. Existing Environment

The site is located within a semi-rural setting within the suburb of Catherine Field. The surrounding context of the site includes large-lot rural residential subdivisions that may be impacted by the proposed development.

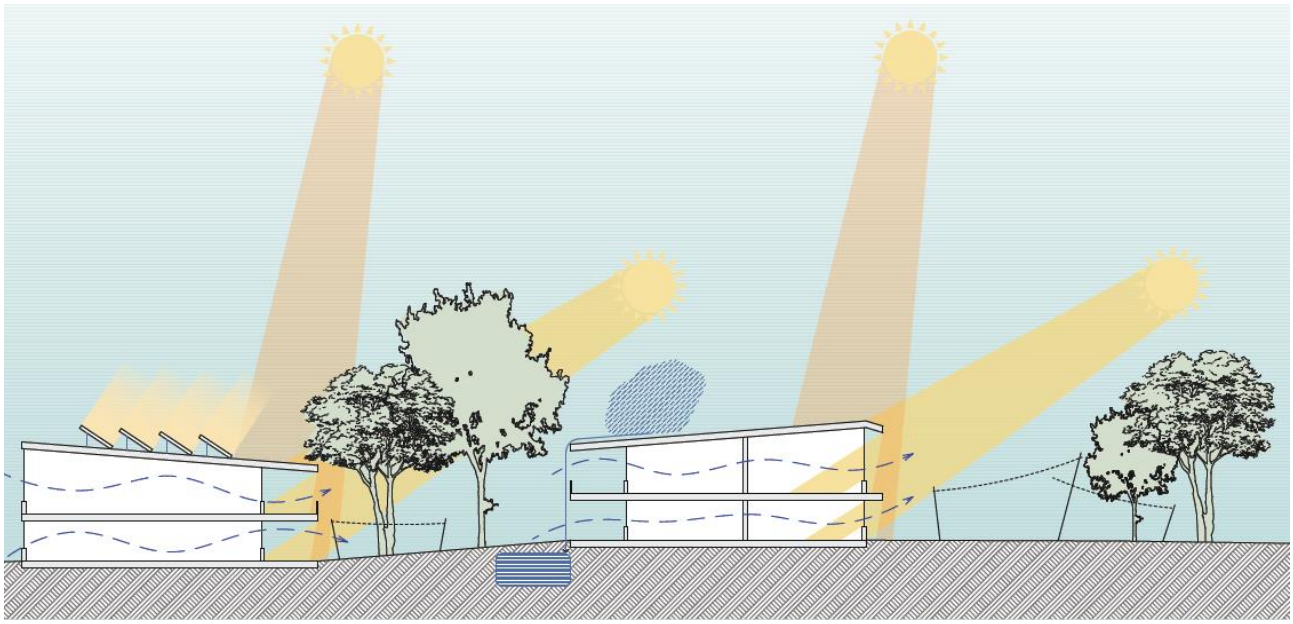
6.3.2. Assessment

6.3.2.1. Solar Access and Overshadowing

In line with the proposal's commitment to the principles of ESD, the design of the school has maximised access to natural daylight. This has been achieved through the ample positioning of rows of windows along the facades of the development.

The building design incudes large overhangs which help to reduce glare and shelter classrooms form direct sunlight, **Figure 16** below. The overhangs will shelter the northern aspect of the building from the summer sun whilst enabling winter sun to enter the building.

Figure 16 Solar Access Diagram



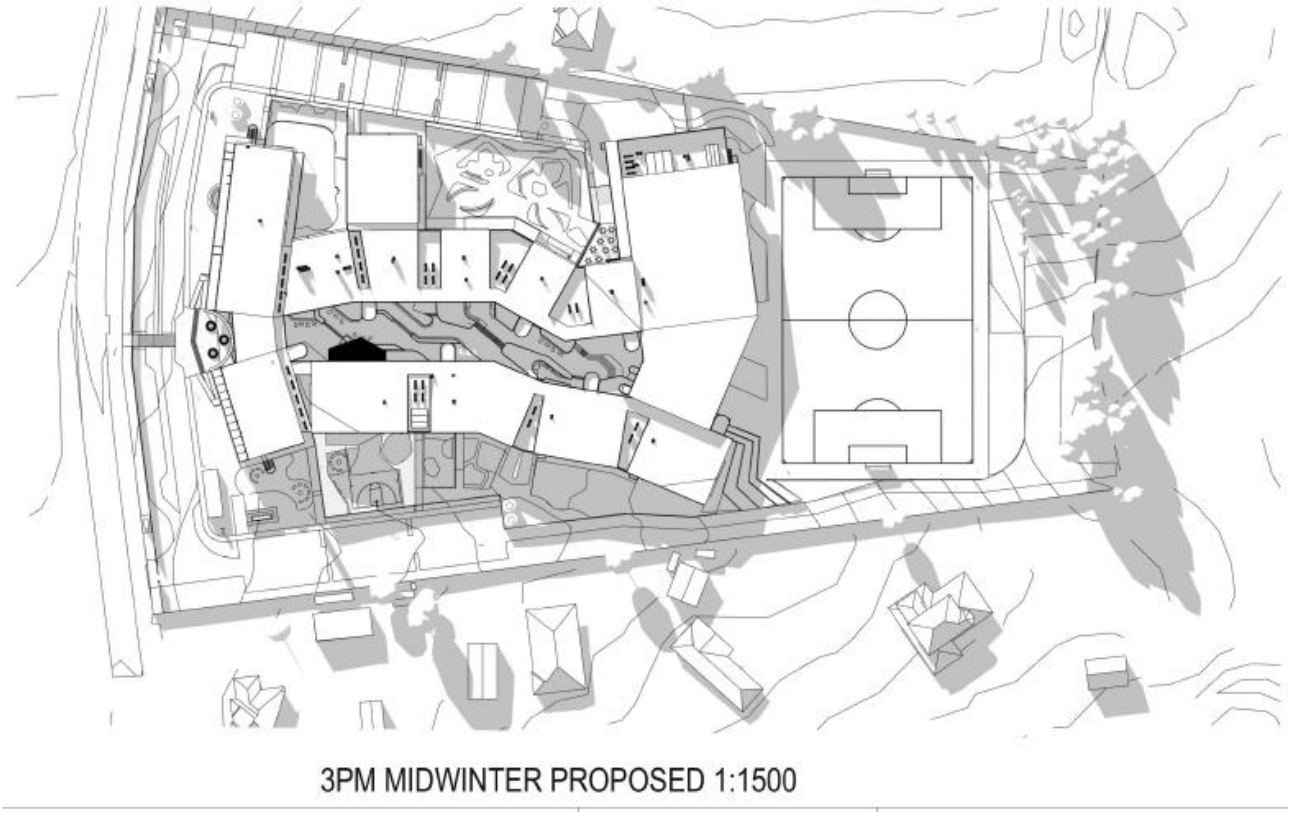
Source: Tonkin Zulaikha Greer

The solar access impact of the proposed development to neighbouring properties has been thoughtfully considered throughout the development of the design of the school. As the proposal will not exceed the maximum building height permissible for the site and has respected property boundaries, the impact of overshadowing to adjacent properties is expected to be minimal. The residential properties located to the south of the proposal are those that will be impacted.

Minor overshadowing is expected to occur at 3pm to a small portion of the site at 14 Heatherfield Close. However, this is to mainly impact upon the existing shed on the site and no overshadowing is to occur from the hours of 9am until 2pm.

The overshadowing in midwinter is expected to provide the worst condition for overshadowing (Figure 17), however no impact is to occur to residential components of the sites.

Figure 17 Overshadowing Plan



Picture 10 Mid-Winter 3pm

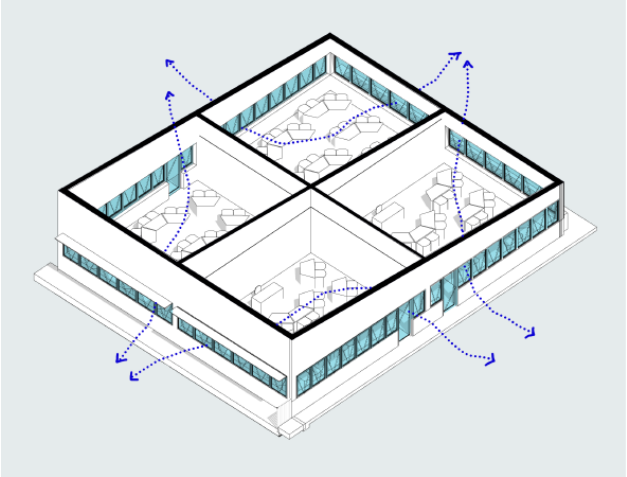
Source: Tonkin Zulaihka Greer

6.3.2.2. Cross Ventilation

Cross ventilation has been encouraged in all the learning spaces distributed throughout the school, refer to **Figure 18.**

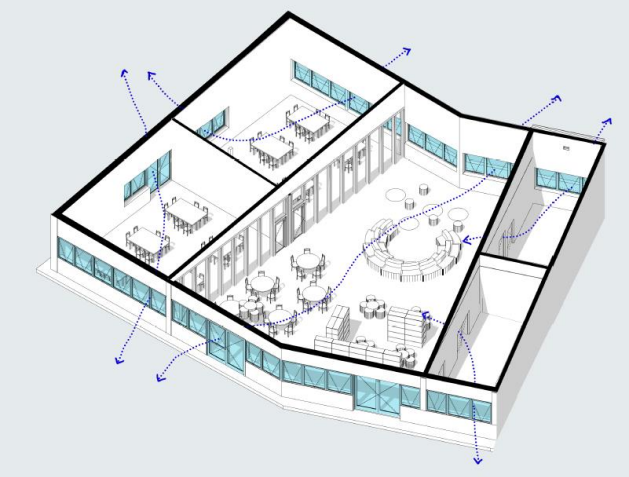
The ample provisioning of operable windows along the facades of the building enables this cross ventilation. Cross ventilation for each high school and primary school classroom has been achieved by having two adjacent walls with operable windows. Similarly cross ventilation has been achieved in the primary school flexible learning spaces with openings occurring on opposite walls.

Figure 18 Cross Ventilation



Picture 11 Typical High School Classroom Cross Ventilation

Source: Tonkin Zulaikha Greer



Picture 12 Typical Primary School class room module

Source: Tonkin Zulaikha Greer

6.3.2.3. Accessibility and Circulation

The proposal has thoughtfully considered how it can provide sufficient circulation and equitable access for pedestrians to improve their experience when moving through the school. As the proposed development includes a School for Specific Purpose it is essential that people of all abilities can move throughout the space. As shown in **Figure 19** the design of the development includes a main circulation corridor that acts as the primary path of circulation around the school and logically follows the “central spine” of the development. This primary path consists of 1:14 ramps that accommodates for the various level changes across the site, improving equitable access.

Branching off from the main circulation corridor are various additional accessible paths that are to link the corridor with external areas, car parks and internal courtyards, providing ease of access across the development. Ancillary to the main circulation corridor and the additional accessible paths is the provisioning of both stairwells and accessible lifts to encourage vertical circulation through the site.

Each stage has been designed to be compliant with accessibility and circulation requirements independently.

Figure 19 Circulation and Equitable Access

Picture 13 Equitable Access

Source: Tonkin Zulaikha Greer

6.3.3. Mitigation Measures

The proposal has been designed to minimise adverse impacts to surrounding neighbours through the consideration of solar access and overshadowing. It is determined that the proposed development will have a minimal adverse impact to the neighbouring properties along the southern boundary of the site. However, the overshadowing is concentrated to non-residential uses of the land and thus will not have a detrimental impact to the amenity of the residents. principal open space areas.

Following the second State Design Review Panel, it was recommended that additional clerestory windows be added into the final design of the proposal to increase natural daylight and cross ventilation. An assessment of this suggestion was undertaken by the ESD consultant E-LAB who discovered the existing window design already exceeded the standard requirements for natural lighting and cross ventilation. Thus, the original design as depicted in the final architectural plans exceeds the standards for cross ventilation.

The proposed development has also considered the importance of providing accessible and well-defined circulation areas to support the movement of pedestrians through the site. The circulation areas have been designed to be navigated by people of all abilities improving the inclusivity and functionality of the school. The circulation areas are supported by the adequate provisioning of stairwells and lifts to encourage vertical circulation.

Therefore, the proposed design has produced the best possible outcomes for the site in terms of environmental amenity and will contribute to positive experiences by those who use it.

6.4. VISUAL IMPACT

A view analysis has been prepared by TZG Architects and forms part of the Design Report at **Appendix I.** The analysis assesses the likely visual effects of the built form through a visual analysis of the development from key viewpoints within the public domain.

6.4.1. Existing Environment

The visual context is predominately characterised by rural and residential development, including dwelling houses, farm structures and dams. Directly to the east of the site is a pocket of bushland separating the subject site from rural residential properties.

Catherine Field sits between Oran Park and Leppington, both of which are undergoing significant transformation with numerous new residential subdivisions. The closest town centres are Gledswood Hills to the south and Oran Park to the west. Catherine Field is also located within the South West Growth Area (SWGA).

The visual catchment is predominately restricted to close views from the north, south and west including shorts section of approach views from Catherine Fields Road. Given the rural character, the proposal is visible from the north and south approach, which are captured in the adjacent view analysis.

6.4.2. Potential Impacts

Photomontages from eight viewpoints were prepared as part of this view analysis. These views represent a range of viewpoints from which the development may have a visual effects or impact.

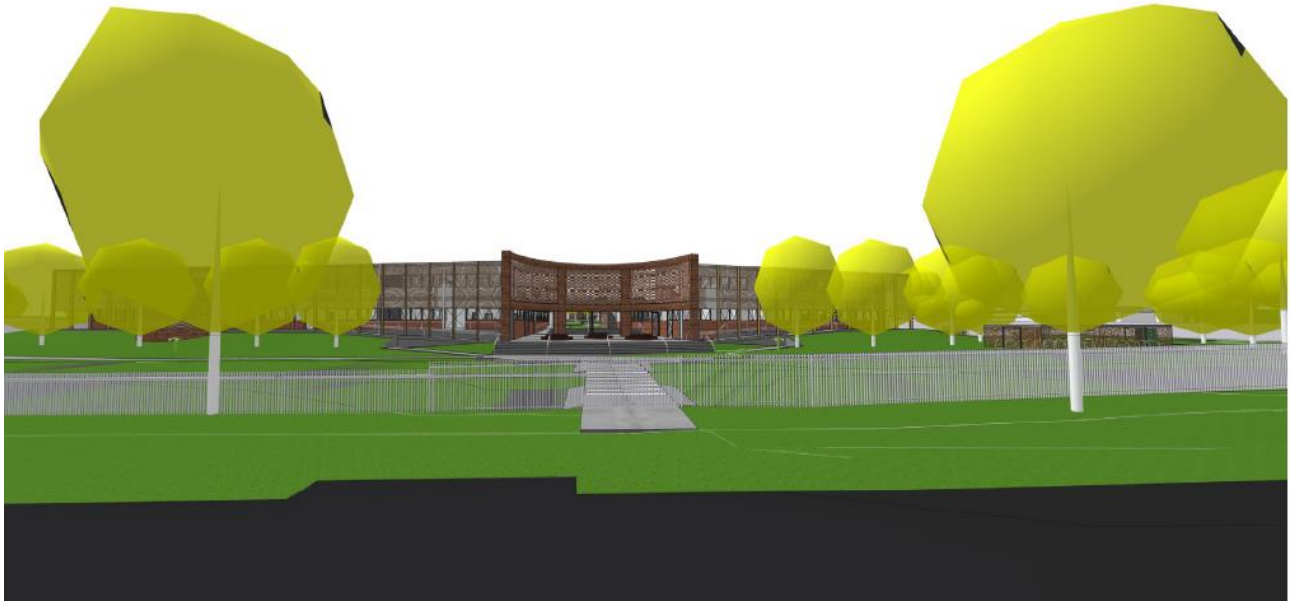
A summary of potential view impacts is explored below:

- **View from Catherine Fields Road (northern corner):** The existing view from the north is defined mainly by cluster of River Oak trees in the northern corner of the site that are proposed to be removed to make way for the driveway entrance and re-grading. The planting will be replaced by new tree. The substation and hydrant booster will become visible from this viewpoint, with the proposed front fence line being partially obscured by a 3m wide zone of planting in front of it (Picture 14).
- **View from Catherine Fields Road (directly front):** The front administration building of the proposal sits back at least 30 meters from Catherine Field Road. It is two storeys and will not be out of scale with the existing residential houses (Picture 15.
- **Views from Catherine Fields Road (southern corner):** Proposed new planting in the southern corner of the site and along the southern boundary will increase the canopy coverage obscuring views of the site from the south (Picture 16).
- **View from 286 Catherine Fields Road:** The proposal will present a new 1.8 metre colourbond fence along the entirety of the shared boundary. Several proposed trees are proposed along the boundary which will partially obscure any view lines to the proposed school buildings.
- **View from 260 Catherine Fields Road:** The school buildings will be setback approximately 70m from the dwelling, therefore the existing views will not be impacted significantly by the proposal.
- **View from 16 Heatherfield Close:** The proposed school buildings will be a significant distance from the existing dwelling (approximately 70 metres) and will not be impacted from a view loss or privacy perspective. Further, visual screening to the proposed sports field is also proposed which will again lessen the visual impacts and amenity concerns.
- **View from 12 Heatherfield Close:** 12 Heatherfield Close sits approximately 14 metres south of the shared boundary and currently enjoys largely unobstructed views. The proposal seeks approval for a new colour bond boundary fence and new tree planting along the southern boundary which will partially obscure views. The school buildings are proposed to be approximately 50 metres from the existing dwelling. Any potential overlooking and privacy concerns are mitigated by privacy screens along the bottom of the first-floor windows to a height of 1,600mm. The privacy screens and tree planting are sufficient to reduce obtrusive privacy impacts or view loss impacts.
- **View from 14 Heatherfield Close:** 14 Heatherfield Close sits approximately 28 metres south of the shared boundary and currently enjoys largely unobstructed views. The proposal seeks approval for a new colour bond boundary fence and new tree planting along the southern boundary which will partially obscure views. The school buildings are proposed to be approximately 42 metres from the existing dwelling. Any potential overlooking and privacy concerns are mitigated by privacy screens along the bottom of the first-floor windows to a height of 1,600mm. The privacy screens and tree planting are sufficient to reduce obtrusive privacy impacts or view loss impacts.

Figure 20 View Impact Analysis

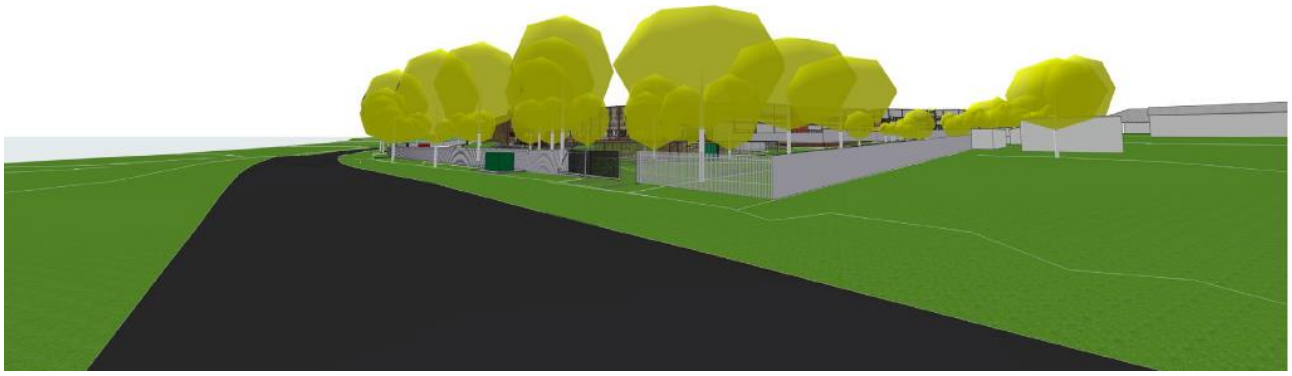
Picture 14 Proposed view from North corner of the site (Catherine Fields Road)

Source: Tonkin Zulaihka Greer – Design Report



Picture 15 Proposed view from the middle of the site (Catherine Fields Road)

Source: Tonkin Zulaihka Greer – Design Report



Picture 16 Proposed view form south corner of the site (Catherine Fields Road)

Source: Tonkin Zulaihka Greer – Design Report

6.4.3. Summary

Overall, the view analysis considers the proposed to be acceptable in visual impacts terms. No mitigation measures are recommended; however, it is acknowledged the proposed landscaping, privacy screens and tree planting along the setbacks will enhance the site appearance and the streetscape.

6.5. TREES AND LANDSCAPING

6.5.1. Overview and Methodology

Landscape Plans has been prepared by Taylor Brammer (**Appendix H**) and an Arboricultural Impact Assessment and Tree Protection Plan (AIATPP) has been prepared by Tree Survey Pty Ltd (**Appendix J**)

The purpose of the Landscape Plans is to:

- Assess the number, location, condition and significance of tree to be removed and retained and note any existing canopy coverage to be retained on site.
- Provide a detailed site wide plan, that:
  - Details the proposed site planting, including location, number and species of planting, heights of trees at maturity and proposed canopy coverage.
  - Provides evidence that opportunities to retain significant trees have been explored and/or informs the plan.
  - Demonstrates how the proposed development would:
    - Contribute to long term landscape setting in respect of the site and streetscape.
    - Mitigate the urban heat island effect and ensure appropriate comfort levels on site.
    - Contribute to the objective of increased urban canopy cover. Maximise opportunities for green infrastructure, consistent with Greener Places.

The purpose of the AIATPP is to assess the impact of the development on the existing trees on the site.

6.5.2. Methodology

The conclusions and recommendations made in the AIATPP are founded on the Australian Standard, *AS 4970-2009 Protection of Trees on Development Sites* as well as the Survey Plan prepared by CMS Surveyors, Architectural Plans prepared by Tonkin Zulaikha and Greer and the Landscape Plans prepared by Taylor Brammer, all of which are appended to the EIS.

335 trees were surveyed on the site and assessed based on their vulnerability to the proposed development. The trees were subject to a visual tree assessment which is consistent with the practices of modern arboriculture and a tree retention assessment was undertaken in accordance with the institute of Australian Consulting Arboriculturalists (IACA) Significance of a Tree, Assessment Rating System.

In terms of the landscaping approach, inspiration has been drawn from the Islamic cultural experience and Australian Indigenous cultural forms as an integrated design aesthetic.

6.5.3. Existing Environment

The site has approximately 335 trees on-site which are scattered typical of a rural residential context. No formal landscaping approach exists on-site. The site is also biodiversity certified, therefore all trees could be removed.

6.5.4. Assessment

Trees

A total of 335 trees were assessed and included in the AIATPP. The AIATPP concluded the following:

A total of 92 trees will be subject to no encroachment within the Tree Projection Zone (TPZ):

- Retain: A total of 92 trees are located outside of the proposed construction footprint. No impacts on these trees are foreseeable under the current proposal.
- Remove: No trees within the category of “nil encroachment” are proposed for removal.

A total of 9 trees will be subject to a minor encroachment of less than 10% within the TPZ:

- Retain: A total of 9 trees will be subject to a minor encroachment of less than 10% within the TPZ. The encroachment will not impact the SRZ and is highly unlikely to impact the overall health or condition of these trees. Under the current proposal, these trees can be successfully retained.
- Remove: No trees within the category of “minor encroachment” are proposed for removal.

A total of 234 trees will be subject to a major encroachment of greater than 10% within the TPZ:

- Retain: A total of 4 trees will be subject to a major encroachment of less than 20% within the TPZ. Encroachment of up to 20% on one side of the tree (linear excavation) can be achieved without significantly impacting the health or stability of the tree (Roberts, Jackson and Smith 2006, p.2951; Costello, Watson and Smiley 2017, p.212). Several site-specific mitigations for these encroachments have been outlined in the Tree Protection Plan. Under the current proposal, these trees can be successfully retained.
- Remove: A total of 230 trees will be subject to a major encroachment of greater than 20% within the TPZ. Encroachment of greater than 20% can begin to impact the structural root zone (SRZ) and is more likely to compromise tree stability” (Costello, Watson, and Smiley (2017, p.21). Impacts within the SRZ are not recommended as it may lead to the destabilisation and/or decline of the tree. These trees are located within, or directly adjacent to the proposed construction footprint and cannot be retained under the current proposal. The extensive vegetation and constraints onsite including bushfire risk made it difficult to retain more existing trees.

Landscaping

Given the proposed tree removal, extensive landscaping and replacement planting is proposed. As explored in the proposed development site, the landscape plan embraces the incorporation of Islamic cultural experience and Australian Indigenous cultural forms as an integrated design aesthetic.

The proposal includes:

- The central courtyard with mosaic star paving patterns with a series of steps and terraces to navigate the rising grade of the site. Raised planters will be located throughout to provide shade, comfort, and human scale. Fulfilling the multipurpose nature of this central pedestrian spine are seating opportunities that consist of a range of bench seats attached to the planter walls.
- Native trees and shrub planting will screen and filter views of the school from the surrounding properties. The northern and southern boundary areas will include additional planning to provide shade and incorporate the requirements of the Asset Protection Zone.
- The sports field to the east of the site is located within the APZ offset from the remnant vegetation at the east boundary of the site, forming the managed landscape that is required on the site.
- The eastern boundary will comprise of nature play, nature education and a small nursery to cultivate indigenous plants, reinforce the education and caring for Country amongst the students.
- Play spaces featuring a range of experiences through their design and involve textural, sensory play and gardens that encourage the students to explore both the physical and spiritual values of place.
- A native kitchen garden to educate students about environmental and sustainability learning in Indigenous Australia.

The proposal provides a significant about of landscaping and maximums play spaces for students, whilst also mitigating the privacy and amenity impacts to surrounding residential properties through landscape buffers.

6.5.5. Mitigation Measures

Encroachment within the TPZ should be compensated with a range of mitigation measures to ensure that impacts to the subject tree(s) are reduced or restricted wherever possible, these mitigation measures are listed below.

Minor encroachment (<10%):

- The area lost to this encroachment should be compensated for elsewhere, contiguous with the TPZ.
- Detailed root investigations should not be required.
- Tree protection must be installed.

Major encroachment (>10%):

- The project arborist must demonstrate the tree(s) would remain viable.
- Root investigation by non-destructive methods may be required for any trees proposed for retention.
- Consideration of relevant factors, including root location and distribution, tree species, condition, site constraints, and design factors.
- The area lost to this encroachment should be compensated for elsewhere, contiguous with the TPZ.
- The project arborist will be required to supervise any work within the TPZ.
- Tree protection must be installed.

The planting selection will include the provision of mature trees to assist compensate the loss of trees on-site.

6.6. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The Environmental Planning and Assessment Regulation Act 2021 (EP&A Act) adopts the definition of ecologically sustainable development (ESD) from section 6(2) of the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- The precautionary principle
- Intergenerational Equity
- Conservation of biological diversity and ecological integrity
- Improved valuation, pricing and incentive mechanisms

An Environmentally Sustainable Development (ESD) Report has been prepared by E-LAB Consulting (refer to **Appendix K**) for the proposed works, in response to SEARs. The report identifies design initiatives and features of the proposed development that holds the potential to reduce the overall environmental impact. The proposed development has included a variety of sustainability initiatives reflective of the project's commitment to sustainability.

6.6.1. Methodology

The Minarah College development is targeting the following sustainability outcomes:

- Aligning the overall vision of the project with the ESD principles outlined in the Environmental Planning and Assessment Regulation.
- Compliance with the Educational Facilities Standards and Guidelines (EFSG) created by the Department of Education.
- The proposal is to be designed in line with a 4 Star Green Star Design & As Built equivalency criteria.
- The inclusion of initiatives to minimise energy and water demand and minimising overall environmental impacts.

Minarah College has been designed to meet a 4 Star Green Star equivalent building rating that will meet the sustainability outcomes identified in the SEARS. Green Star is widely considered as the benchmark environmental assessment tool within the Australian Property Industry. Green Star is an independent accreditation framework which delivers sustainable built outcomes throughout the project lifestyle, it has a credits-based star rating system ranging from one through to six stars. Some areas that the Green Star framework for Minarah College will cover include:

- Passive design with good levels of external shading
- Installed photovoltaic solar cell on available rooftops
- Improved building fabric
- High efficiency HVAC (Heating, Ventilation and Air-conditioning) system
- Rainwater collection, storage and use in toilet flushing and irrigation
- High level of thermal comfort in the building
- Use of low volatile organic compound (VOC) and Formaldehyde products within the school
- Waste facilities with multiple waste streams
- Efficient lighting within the building

6.6.2. Mitigation Measures

The following design principles have been included to promote ecologically sustainable development and reduce the proposed developments impact on the environment.

Energy Efficiency

Energy consumption on the site will be minimised through excellent design and performance. Including:

- The building fabric has been carefully designed using a combination of solid elements and glazing. Shading devices, overhangs and screens all serve to control heat gains through the façade in summer whilst maintaining good daylight and views
- Circulation spaces have be designed to operate as naturally ventilated spaces. The buildings have been designed to allow air to flow between through the classrooms into the walkway areas. This reduces the overall energy consumption of the development.
- Air conditioning will be provided to accommodate heating and cooling at peak times of the year; however, each classroom and learning area will be provided with the options to open the windows. This will minimise air conditioning use when external conditions are suitable and serve to reduce the overall energy consumption.
- The project will incorporate a photovoltaic system on the roof. The size of the system will ensure that it meets the carbon neutral commitments for the development.
- High efficiency LED lighting systems are to be provided. This, along with lighting control measures such as occupancy sensors and daylight sensors will aid in reducing the overall lighting energy demand.
- An energy metering and monitoring system will be incorporated to measure and monitor the main energy uses within the development. This will allow faults to be detected in a timely manner and rectification to occur to minimise wasted energy use.

Water Efficiency

Several considerations have been made to use and discharge water responsibly to improve the development's impact on the water cycle:

- Water efficient fixtures will be installed throughout the development.
- Rainwater harvesting and use will be incorporated to maximise non-potable water usage on site
- Landscaping will be designed to be low water use.

- Water Sensitive Urban Design is a strong focus for the development reflected in the current landscape design.

Indoor Environmental Quality

The architectural design of Minarah College has considered the incorporation of elements to improve indoor environmental quality, including:

- Covered walkways are proposed for the development. These walkways will provide protection from the elements for students moving throughout the campus and will improve connectivity between indoor and outdoor spaces.
- Views have been considered for each of the buildings to optimise access to the outdoor environment while balancing that with thermal control.
- Daylight glare will be minimised through the use of overhangs on each façade.
- Artificial lighting has been designed appropriately to minimise glare reduction and providing adequate illuminance levels.
- Acoustic comfort will be optimised to ensure internal noise levels, reverberation levels and separation levels are achieved in line with best practice standards.
- Materials and finishes have been selected to minimise off-gassing and provide a better quality environment for staff and students.

Net Zero

Many organisations has committed to net zero carbon goals by ensuring that all new assets are designed to be net zero carbon emissions.

To enable the building to be net zero ready the following is recommended:

- All electric design
  - All HVAC and hot system systems to use electricity. No gas use on site
- Design an energy efficient building
- Install Solar PV to meet the generation of the site
- Minimise embodied carbon within the development
- Purchase offsets where required

The proposed development has clearly put sustainability at the forefront of its design, and with the implementation of the above design elements, the proposal will satisfy the requirements of item 6 of the SEARs.

6.7. TRAFFIC AND TRANSPORT

A Transport and Accessibility Impact Assessment (TA) and a Preliminary Construction Traffic Management Plan for the development has been prepared by Ason Group and are provided in **Appendix L.** As Minarah College will be a new school, there is not an existing student or staff cohort. Where required comparison has been drawn to the Minarah College - Green Valley Campus. The reports identify that the overall traffic impacts of the proposal are considered acceptable.

6.7.1. Existing Environment

Access to the site is currently available at two locations from Catherine Fields Road. These vehicular crossovers are to rural residential standards, and do not have restrictions on turning into and out of the site.

The surrounding road networks includes a mix of state, regional and local roads, Catherine Fields Road is a local road serviced by Camden Council. Given the rural context, the site is not connected to pedestrian or cyclist pathways and pedestrian movements in this area is not typical.

The proposed school location is not situated within walking distance of a train station. A single bus stop location exists south of the site along Catherine Fields Road and provides serviceability to two routes to and from, Narellan, Liverpool and Minto.

6.7.2. Potential Impacts

Site Access

The proposal involves modification of the existing access arrangement of Catherine Fields Road to provide two access driveways, which replace the existing driveway crossovers for the existing residential dwellings. The northern access will be entry only, whilst the southern access will be exit only.

All parking and access arrangements are for the completed of Stage 5 of the school. Site access for the different site users will be as follows at Stage 5:

- Staff car parking is located on the northern and southern side of the school. Access to the staff parking areas will occur via the northern crossover on Catherine Fields Road. Staff accessing the southern car park will proceed through the kiss and ride area.
- Student and ELC parking is proposed in the northern car park. Access to the student and ELC parking areas will occur via the northern crossover on Catherine Fields Road, and to exit the site students and ELC users will proceed through the kiss and ride area to the southern access point.
- A total of 30 spaces are provided for Kiss & Ride access, divided between two lanes. These spaces are accessed via the northern crossover and exit via the southern crossover.
- It is proposed to provide indented bus bays on the eastern side of Catherine Fields Road at the western frontage to the school. The bus bays will be sign-posted as a bus zone and will be utilised for public buses during the school's AM and PM peak operating periods. After these hours, the bays will have no restrictions and can be utilised as regular on-street parking.
- The school has proposed to arrange for the services of five private chartered buses for exclusive school use with the buses parked on school grounds when not in use. The buses will utilize the eastern lane in the school kiss and ride area to drop off / pick up students then proceed to the back of the school to be parked. Chartered bus drop off/ pick up time will be staggered outside of main kiss and ride times to minimise impact.
- All major deliveries and waste collection will occur in the designated loading area north of the hall through the northern carpark.

The internal roads and hardstand area will be designed to accommodate access movements and circulate for medium ridge vehicle. Safety of students and staff has underpinned the internal access design.

Construction Traffic

A Preliminary Construction Traffic Management and Pedestrian Management Plan has been prepared, outlining principles to be adopted as part of the pre-commencement Construction Management Plan. The overall principals of traffic management during construction activities include:

- Minimising the impact on pedestrian and cyclist safety and movements
- Maintaining appropriate public transport and school bus access
- Minimising the impact on existing traffic on adjacent roads and intersections
- Minimising the loss of on-street parking
- Maintaining access to/from adjacent properties
- Restricting construction vehicle movements to designated routes to/from the site
- Managing and controlling construction vehicle activity near the site
- Ensuring construction activity is carried out in accordance with the Council's approved hours of work.

The construction work will vary depending on the phase of construction and associated activities. Works will generally be undertaken during standard construction hours and are likely to be as follows:

- Monday to Saturday: 7.00 am to 5:00 pm.
- Sunday and Public holidays: No planned work, unless permitted otherwise

Public and Active Transport

There are opportunities to capitalise on public transport use to reduce the dependency of private vehicle travel. There is an opportunity for ancillary serviceability (via shuttle or a similar chartered service) from Leppington Station, which is located 5km north-east or to Minto Station, approximately 8km to the south-east to Minarah College. This option would reduce dependency on private vehicle travel and decrease traffic congestion. Having regard for the above, it is demonstrated that part of Catherine Fields Road is adequately dimensioned to provide bus serviceability. As part of the school development, potential school bus routes will be explored to further service the future student population.

Currently there are no provisions or anticipated future provisions for footpaths or cycling paths along the Catherine Fields Road frontage in either direction. This has been determined in consultation with both TfNSW and Camden Council and outlined above. However, as the Catherine Field North Precinct expands to accommodate new residential development, it is expected that the current footpath network will grow to provide adequate connectivity through the locality.

Operational Traffic

The TA has assessed the traffic impacts of the development having regard to the guided trip generation surveys prepared by GTA Consultants on behalf of TfNSW. As set out in the TA, traffic generation for the proposal is as follows:

Table 15 Traffic generation

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**
AM School Peak Movement	157	320	482	632	783
PM School Peak Movements	157	320	484	632	783

SIDRA modelling has been undertaken as part of the TA to assess potential operational traffic impact. An analysis of the impact of the proposal on the signalised intersection at Camden Valley Way and Catherine Fields Road has been undertaken as a part of the TA. The network modelling demonstrates that the surrounding key intersections will continue to operate at Los D or better for the 2025 future year assessment, demonstrating that these intersections have sufficient capacity for the increase to Stage 1 development traffic of the locale.

It is apparent that the projected growth in traffic would exceed the capacity of the signalised intersection of Camden Valley Way and Catherine Fields Road, with or without the proposal.

To mitigate this impact, Ason Group propose that an investigation into the restriction of right-turn out movement from the school in conjunction with a channelised right-turn bay from Catherine Fields Road into the school occurs.

With left-out only from the school's egress driveway, this and all other intersections will have ample spare capacity to accommodate the additional future traffic generated by the proposed School without adversely impacting the surrounding road network and will continue to operate satisfactorily in the Future Year scenarios.

Green Travel

A preliminary School Travel Plan (PSTP) document accompanies the Transport and Accessibility Impact Assessment Report. This document outlines the various measure that have been implemented to promote sustainable travel choices for all employees, students, and visitors.

The PSTP includes a package of measures which can be adopted and designed to address the specific travel needs of the development. In this regard, the primary objectives of the PSTP will be to:

- Reduce the environmental footprint of the school
- Promote the use of 'active transport' modes such as walking and cycling, particularly for short-medium distance journeys
- Promote the use of 'public transport' modes including a bus network with full coverage of the catchment area
- Reduce reliance on the use of private vehicles for travel to/from the school
- Encourage a healthier, happier, and more active social culture

The STP includes an audit of the existing transport facilities and existing travel patterns (based upon the current trends of Minarah College – Green Valley), setting travel mode targets for the future development. The STP sets out measures and action strategies that can be implemented by the future development to seek to achieve the mode targets.

Carparking

The school proposes a total of 138 on-site car parking spaces which accommodates 86 spaces for staff members, 15 spaces for ELC, and 37 spaces for students complying with the DCP requirement for car parking provision for child care centres and educational establishments.

The following table outlines the minimum parking requirement for the school throughout all five stages and demonstrates compliance.

Table 16 Parking Requirements – All Stages

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**
ELC (pre-school)	5	11	15	15	15
Staff	15	33	51	66	86
All Students (K-12)	3	6	10	12	15
Year 12	0	0	2	12	22
Total	23 spaces	50 spaces	78 spaces	105 spaces	138 spaces

Source: Ason Group

Camden Council's DCP requires accessible parking to be provided in accordance with the Building Code of Australia. As such, schools are categorised as building classification 9b, thereby requiring 1 accessible space per 100 parking spaces. Application of this rate to the requirement of 37 spaces for K-12 students, 15 spaces for early learning and 86 spaces for staff results in a requirement of 3 spaces. The school proposes a total of 5 accessible spaces more than Council's DCP requirements,

Service Vehicle Loading

All major deliveries and waste collection will occur in the designated loading area north of the hall through the northern carpark. The loading area has been designed in accordance with AS 2890.2:2018 and can accommodate up to one 12.5m heavy rigid vehicle (HRV). The truck will enter and exit the school in a forward direction via a 3-point turn. Delivery times will be strictly managed by the school administration.

Bicycle Parking

Following consultation with TfNSW and Council it has been determined that there is no plan to construct a cycleway however, Council has requested a provision of some bicycle parking to be provided as part of this masterplan and 48 bicycle spaces in the form of 24 double racks have been proposed.

Kiss and Ride

To promote the efficient and safe movement of students to and from the school a kiss and ride is proposed. The school can accommodate future demand of the kiss-and-ride area within the 30 dedicated bay provided that additional bays are utilised for entering/exiting vehicles and that the service time steadily improves over time. It is expected that the service time will improve as the students, staff, and parents become more familiar with the operation of the kiss-and-ride area. Similarly, the number of managed bays will increase as staff become more familiar with the responsibilities necessary to manage the kiss-and-ride bays.

The inclusion of the dedicated bays will accommodate the majority of students travelling to school via private vehicle. The kiss and ride functionality will be supported through the provision of car parking and ancillary bus services.

6.7.3. Mitigation Measures

The Preliminary Traffic Management Plan and Preliminary Construction Traffic Management Plan recommend the following measures should be undertaken to minimise the impacts of the construction activities of the development:

- A construction fence and suitably classed Hoarding shall be provided along site boundaries/works area boundaries to provide safe pedestrian access. The fencing/hoardings should be maintained for the duration of the construction program associated with the stage of works being undertaken.
- Traffic control would be required to manage and regulate traffic movements into and out of the site during construction, with pedestrian priority provided during peak hour periods and to maintain access to public transport facilities.
- Disruption to road users should be kept to a minimum by scheduling intensive delivery activities outside of road network peak hours.
- Supervised traffic control will be required where two-way flow is restricted over any length of the roadway, depending on the number of truck movements required and would be managed outside of peak hour vehicle and pedestrian activity.
- In addition, to reduce the stress on the signalised intersection during operation of the school at Camden Valley Way and Catherine Fields Road, it is proposed that right turns out of the school will be banned and a channelised right-turn bay from Catherine Fields Road into the school will be introduced.

6.8. BIODIVERSITY

A Biocertification Letter has been prepared by Narla Environmental and included at **Appendix M.** This Biocertification Letter identifies that the subject site is biocertified land and that the proposed development is consistent with the relevant biodiversity measures conferred by the biodiversity certification.

The subject site is mapped within the Growth Centres SEPP the “Southwest Growth Centre” as ‘Certified Area’ which references biodiversity certification under the former Threatened Species Conservation Act.

Under Section 35 of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*: Biodiversity certification that was conferred on land under Part 7A of the Threatened Species Conservation Act 1995 and that was in force on the repeal of that Act is taken to be biodiversity certification conferred on the land under Part 8 of the new Act (BC Act).

Therefore, in accordance with section 8.4 of the *Biodiversity Conservation Act 2016* under Part 4 of the EP & A Act, an assessment of the likely impact to biodiversity on biodiversity certified land is not required.

Overall, Narla is satisfied that the proposed development has been appropriately located within areas of lower ecological impact and where possible the development has been positioned to minimise impacts on biodiversity values.

6.9. NOISE AND VIBRATION

An Environmental Noise Impact Assessment has been prepared by Day Design Pty Ltd and is attached in Appendix N of this report. The findings are summarised below.

6.9.1. Methodology

The scope of work entailed the:

- Inspection of the site and environs.
- Measurement of background noise levels at critical locations and times.
- Establishment of acceptable noise level criterion.
- Quantification of noise emissions from the demolition, excavation and construction works.
- Calculation of the level of noise emission, taking into account distance attenuation.
- Preparation of a site plan identifying the development and nearby noise sensitive locations.
- Provision of recommendations for noise control, and,
- Preparation of a Construction Noise and Vibration Management Plan.

An environmental noise logger is used to continuously monitor ambient noise levels to provide information on the statistical distribution of noise over an extended period of time. The main sources of noise on the site have been deemed to occur during the three phases of demolition. The three phases are as shown below:

- Phase 1 – Demolition of the existing buildings:
  - Expected timeframe of 2 weeks
  - Activities include use of excavator and dump trucks
- Phase 2 – Excavation and earth moving
  - Expected timeframe of 4 weeks
  - Activities include use of excavator and dump trucks, a pile bore and a rick breaker as required.
- Phase 3 – Construction (stages 1 to 5)
  - Expected timeframe:
    - Stage 1: 52 weeks
    - Stage 2: 40 weeks
    - Stage 3: 40 weeks
    - Stage 4: 52 weeks; and
    - Stage 5: 40 weeks
  - Activities include the use of cement trucks, cranes, gensets, and hand tools.

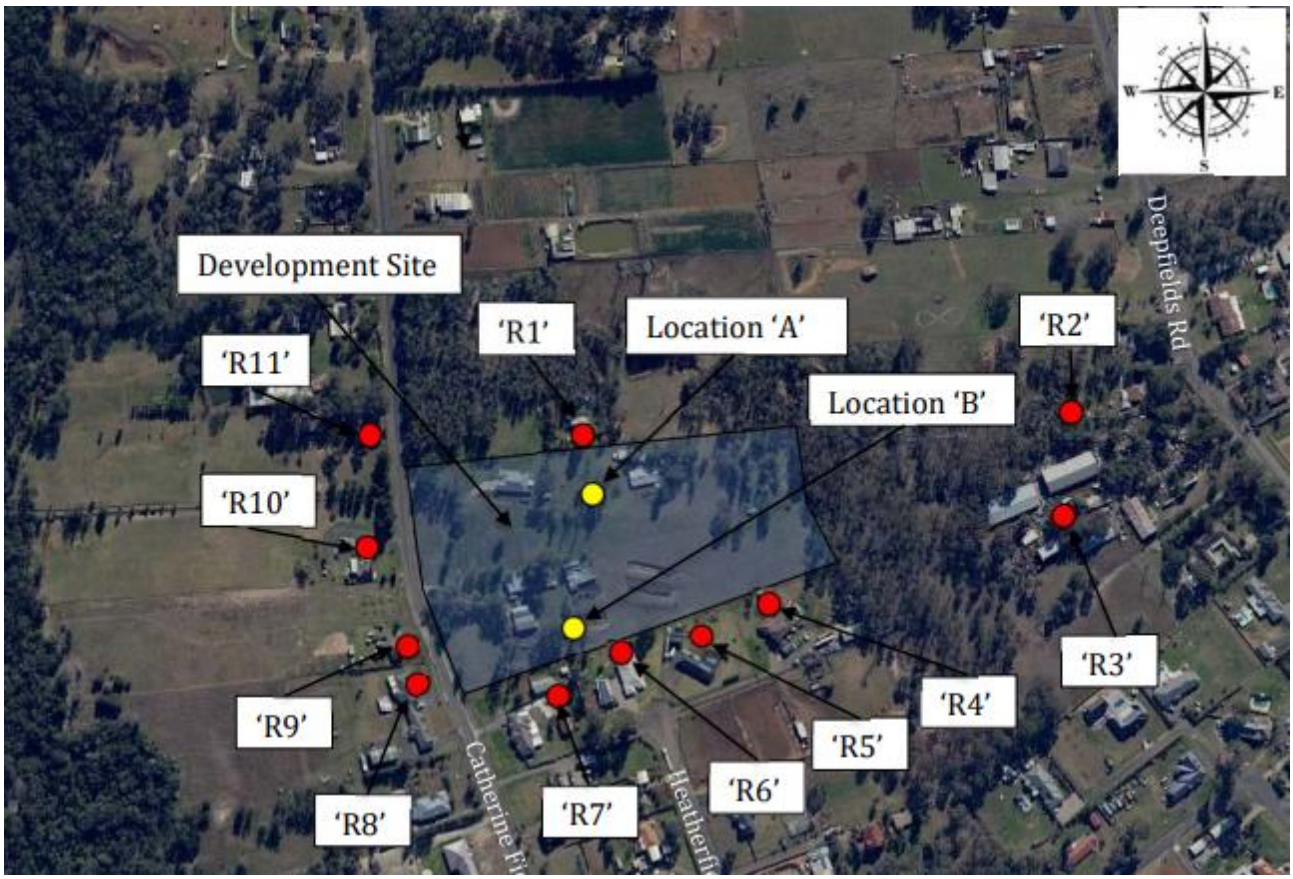
The proposed and allowable hours of construction works, including delivery of materials to and from the site, are as follows:

- Monday to Friday: 7am to 6pm
- Saturdays: 8am to 1pm; and
- Sundays and public holidays: no work

6.9.2. Assessment

Ambient noise levels were measured at the subject site at locations ‘A’ and ‘B’ respectively, as shown in **Figure 21** below.

Figure 21 Ambient Noise Levels Location Plan



Source: CNVMP – Day Design Pty Ltd

The noise logger measured the ambient noise levels at Location A on Friday 15 October to Friday 22 October 2020. The ambient noise levels at location B were measured on Wednesday 25 August to Wednesday 1 September 2021; Thursday 2 September to Friday 10 September 2021; and Friday 15 October to Friday 22 October 2021.

6.9.2.1. Construction Noise

It is expected that the predicted levels of noise from construction activities will at times be in excess of the noise management levels of 46 dBA at residential receptor locations. There is also the potential for the highly noise affected level of 75 dBA to be exceeded in three residential receiver locations during the construction phase.

The main sources of noise for the site during the three phases of demolition, excavation and construction will be from heavy machinery such as excavators, dump trucks, cranes, cement mixers, rock breakers, etc. Mitigation measures have been recommended by Day Design and are included in Section 6.9.3 below.

6.9.2.2. Vibration Impact

Whilst it is difficult to accurately predict levels of ground borne vibration at remote locations, previous measurements from rock hammering show that vibration levels can vary significantly at different distances and receptor locations. Given the distances from neighbouring developments to any potential rock hammering on site, it is recommended that compliance monitoring of ground borne vibration is carried out at the critical receptor, wherever the activities are required.

6.9.2.3. Operational Noise

The main sources of noise during the operation of the College, will be as follows:

- Students engaging in active play in outdoor play areas
- Students inside the GLAs (including ELC rooms)
- Public address system and school bell

- Mechanical plant
- Use of the Primary School Hall and Multi-purpose Hall
- Use of the Sports Field
- Use of the Car Parks and Driveways.

6.9.3. Mitigation Measures

Day Design make the following recommendation to minimise the noise and vibration impact of the proposed works. Noise can be effectively managed through engineering and practical control measures such as:

- Increasing distance between mechanical plant and sensitive receivers.
- The construction of acoustical enclosers around items of mobile plant that may be used for extended periods of time, such as generators.
- Choosing low noise options where practical and possible and reducing cumulative noise impacts through the simultaneous use of mechanical plant.
- Noise levels may also be reduced through the implementation of Noise Management Controls such as including periods of respite, appropriate work practices, fostering positive community relations and the appropriate management of noise complaints.
- Day Design also recommend that noise monitoring and vibration be undertaken throughout the construction period with the outcomes submitted to the relevant authority for review.

In summary, if the recommendations outlined in the Environmental Noise Impact Assessment prepared by Day Design Pty Ltd, are implemented throughout the course of development, the level of noise and vibration from construction works will be minimised as far as reasonably practical.

6.10. GROUND AND WATER CONDITIONS

6.10.1. Overview and Methodology

A Geotechnical Assessment has been prepared by Martens Consulting Engineers and is attached at **Appendix O.** Field investigations conducted on 25 November 2021 included:

- A general site walkover inspection.
- Review of DBYD plans and underground service location.
- Drilling of fourteen boreholes (BH101 to BH114) up to a maximum depth of approximately 2.0 mbgl.
- Fourteen Dynamic Cone Penetrometer (DCP) tests (DCP101 to DCP114) up to a maximum depth of 1.85 mbgl.
- Collection of bulk soil samples for California Bearing Ratio (CBR) testing at five locations (CBR1 to CBR 5).
- Collection of soil samples for laboratory testing and future reference.

Laboratory testing carried out by National Association of Testing Authorities (NATA) accredited laboratories included:

- Soil aggressivity on five soil samples by Envirolab Services.
- Atterberg limits and linear shrinkage testing on four soil samples, shrink-swell testing on four soil samples and CBR testing on five bulk soil samples by Resource Laboratories.

6.10.2. Assessment

Martens Consulting Engineers conclude that the proposed development is inferred to be impacted by the following geotechnical constraints:

- High shrink /swell potential due to soil moisture changes.

- Localised contaminated material comprising potential asbestos in the central portion of the southern lot (Lot 11 in DP833983), near the existing garage shed.
- Waterlogged soils within the vicinity of the previous dam.

6.10.3. Mitigation Measures

The above geotechnical constraints can be mitigated by adopting the following recommendations during each phase of development:

- All earthworks shall be carried out in accordance with AS3798 (2007), the Council earthworks specification and will correspond with the site-specific recommendations for site preparation.
- Soils and weathered rock should be readily excavated to a maximum depth of 2.0 m using conventional earthmoving equipment. Low strength rock may require a 'toothed' bucket or ripping tyne (or similar).
- All excavation work should be completed with reference to the most recent version of Code of Practice 'Excavation Work' by Safe Work Australia.
- Batter slopes of 1V:2H should be adopted for temporary slopes (unsupported for less than 1 month) and 1V:3H for longer term unsupported slopes, subject to inspection and approval by a qualified and experienced geotechnical engineer on site. Excavation in soil / weathered rock, exceeding 1.0 m depth must be temporarily and permanently battered back / supported / retained to maintain slope stability
- Retaining structures should consider additional surcharge loading from live loads, new structures, construction equipment, compacted backfill compaction and static water pressures unless drainage such as subsoil drains, weepholes or horizontal drains is provided behind retaining walls.
- The re-use of site soils is not considered suitable for fill replacement unless the material is mixed with lime / gypsum and tested by an experienced geotechnical engineer.
- In order to minimise shrink-swell movement due to soil moisture changes, Martens Engineering Consultants recommend undertaking lime / gypsum stabilisation of the top 0.5 m of residual soil within the footprint of buildings and structures.
- Appropriate surface and sub-surface drainage should be provided to divert overland flows and limit ponding of water near footings and foundations.
- Appropriate soil erosion control methods in accordance with Landcom (2004) will be implemented
- All footings should be founded on at least the stiff to very stiff residual clay or engineered fill or bedrock.
- Footings should be founded on consistent material to limit the potential of long term differential settlement.
- Pile foundations such as bored cast in situ piles may be adopted where greater structural loads are required to be supported.
- The design parameters assume the base of excavation of exposed shallow footing and base of bored piles / piers are free of loose / soft soils or debris and reasonably dry prior to placement of concrete and approved following inspection by an experienced and qualified geotechnical engineer

6.10.4. Recommendations

Martens Consulting Engineers recommends that additional geotechnical works are carried out prior to construction, including:

- Review of the detailed design by a senior geotechnical engineer to confirm adequate consideration of the geotechnical risks and adoption of the recommendations provided in this report.
- If higher end bearing pressures are required, we recommend to carry out rock coring and point load testing of collected rock samples to assess rock strength.
- Further investigations comprising test pits is required to determine the actual extent and depth of contaminated / unsuitable materials close to the existing shed (BH107). The services of an environmental scientist should be sought to determine the protocols of removal of the contaminated material.

6.11. WASTEWATER

6.11.1. Overview

A Wastewater Assessment has been prepared by Martens and Associates and is attached at **Appendix U.**

The report aims to characterise the sites effluent land capability and assess the suitability and design loading of the onsite effluents management. The assessment also provides estimates on the wastewater generation rates based on the proposed site usage numbers and will provide recommendations for the most appropriate wastewater management system.

6.11.2. Methodology

Martens undertook a geotechnical and wastewater field investigation on the 25 November 2022 that consisted of:

- A general site walkover inspection of the site and nearby areas to review topography, geology and drainage.
- Drilling of fourteen boreholes.
- Collection of soil samples for laboratory geotechnical testing and future reference

6.11.3. Existing Environment

Details of the existing servicing provisions are provided in the Services Infrastructure Report prepared by JHA. This revealed the following elements of the existing wastewater system:

- There is currently no Sydney Water sewer infrastructure available for the site.

JHA have therefore engaged a Water Servicing Coordinator (WSC) to apply for a feasibility study with Sydney Water. This feasibility study is to determine if a new authority sewer network is expected within the area to service the site as the subject site is identified within a “strategic planning” zone on the Sydney Water Waste-water growth servicing plan 2020-2025.

6.11.4. Assessment

The wastewater generation rates have been based upon studies conducted for comparably sized schools, various guidelines, and Martens own experience to equate to an expected wastewater generation of 20L/ person/ day. The Design of the wastewater system assumes:

- Site use is limited to students and teachers on weekdays.
- The school would not be used on weekends during Stage 1 to Stage 3.
- The weekend use of the school would only occur from Stage 4 onwards once the multi-purpose hall and sports fields are constructed and to align with infrastructure upgrades including road upgrades to Catherine Fields Road and sewer upgrades.

Martens have explored three wastewater management options for the proposed school development as discussed below.

Option 1: Pump to Sydney Water Reticulation Sewer

This option involves the collection of all site wastewater to a single pumpstation and transfer of wastewater to the nearest Sydney Water reticulated sewer. A feasibility study of the potential for this scheme was undertaken by Qalchek. The feasibility study has determined that at this stage Sydney Water is unable to accommodate the proposed development, as there is not currently spare capacity in the existing local reticulated sewer system to allow for additional connections from new developments not already allowed for within the next 5 years. It was recommended by Sydney Water that a pump out arrangement be explored.

- Option 2: Pump out

This option involves the collection and storage of generated wastewater in a dedicated storage tank which is pumped out by a licenced contractor for offsite disposal. An assessment of the site topography and proposed

layout shows that it is possible to drain all waste generating fixtures to a central storage tank located in the north western corner of the site and adjacent to the proposed car parking area.

The key advantages of such a system are that the wastewater generated on the site would be managed (i.e. treated and reused or disposed) offsite and system capital costs are generally lower than for an onsite wastewater treatment and reuse system. The key disadvantages for this type of system are that long term pump out costs can be significantly higher than for an onsite wastewater treatment and the benefit of reusing effluent for irrigation would be lost.

- Option 3: Onsite treatment and irrigation

This option involves the collection of all site wastewater to an onsite sewage treatment plant (STP) with treated effluent reused onsite through surface or subsurface irrigation. An assessment of the site has determined that it is possible to drain all waste generating fixtures to collection well in the north western corner of the site and adjacent to the proposed car parking area which is then pumped to a STP located in the south western corner of the site and adjacent to the bus parking area.

Should site irrigation be adopted it should be shallow subsurface irrigation of secondary treated effluent to minimise the risk of contact between site users and irrigated effluent and to mitigate the impact should this occur.

The key advantages to this scheme would be the ongoing benefit of reduced potable water use for irrigation and lower system operational cost. The key disadvantages of this scheme would be the higher capital costs to construct and the necessity for periodic maintenance of the wastewater management system.

6.11.5. Mitigation Measures

Prior to the construction of a site sewage management system, an approval under section 68A of the Local Government Act (1993) will be required where final design specifications for the effluent treatment and reuse systems shall be submitted for approval to Council. Prior to occupation of the school a section 68 approval to operate the system must be obtained.

6.11.6. Recommendations

Martens have suggested that onsite wastewater management systems are a viable solution until the completion of Stage 2 of the development. After Stage 2 it is anticipated that the site shall be connected to Sydney Water's reticulated sewer system and the pump station shall not be required.

6.12. FLOODING RISK

6.12.1. Overview and Methodology

An Overland Flow Assessment has been undertaken by Martens & Associates Pty Ltd for the proposed development and included at **Appendix P.**

The scope of works included the:

- A site inspection, conducted on the 22 September and 22 and 30 November 2021, and included:
- General Walkover to identify local land forms and site characteristics to understand drainage behaviour.
- Identification and observation of existing site stormwater infrastructure and natural drainage lines.
- Preparation of a TUFLOW hydraulic model for the site under the existing and proposed conditions.
- Preparation of relevant overland flow maps including 1% AEP water extents, depths, levels, velocities, hazards and impacts.
- Providing comment on overland flow characteristics and model outcomes in existing and proposed conditions.

6.12.2. Existing Environment

The site is located within the Upper South Creek catchment. WMA Water conducted a flood assessment for this catchment on behalf of Camden Council and summarised the assessment and modelling details in the report Upper South Creek Flood Study (2013), hereafter referred to as the WMA Water flood study.

Further to the above, Camden Council provides flood extent maps and flood risk precinct maps as a part of the Upper South Creek Floodplain Risk Management Study and Plan (2019). In this study, land is categorised as high, medium, low or 1% AEP overland flow risk or nothing. The site is outside of any mainstream flood risk precinct. The south of Lot 11 is categorised as 1% AEP overland flow risk precinct, indicating that there is a risk of overland flow flooding occurring within the existing depression running along the southern boundary of the site.

6.12.3. Assessment

The testing has provided the following results in relation to the proposed development:

- The proposed upstream overland flow diversion system along the southern boundary of the site effectively collects and redirects the upstream overland flows away from the proposed main building areas, and discharges the flows into the proposed drainage system on Catherine Fields Road.
- The proposed upgraded Catherine Fields Road and associated drainage works provide more capacity to convey the 1% AEP flows comparing to the existing condition and reduce overland flows overtopping from the road to the downstream properties.
- The flood hazard on Catherine Fields Road has been lowered from H2 to H1 which is safe for pedestrian and vehicle access.
- The site achieves floor level compliance.
- Off site flood impacts were also assessed by Martens, with the following results:
- There are minor offsite impacts in the 1% AEP flood event as a result of the proposed development.
- Flood impacts affecting the Catherine Fields Road would be considered acceptable, the proposed road upgrade work has lowered the flood hazard category from H2 to H1, which has a beneficial effect on the existing trafficability of the road.
- The proposed development provides a net benefit to flood affectation of the residential properties downstream of Catherine Fields Road due to the proposed road upgrade works. The minor localised impacts of above 20 mm on these properties are considered acceptable and insignificant in the context of flooding in this locality
- There is a small area of offsite impact above 20 mm near the south western corner of the site on the neighbouring property. This impact is likely to be associated with accuracy of the modelling result and is expected to be resolved by running a higher resolution model (ie. finer grid cell size) and incorporating with a more detailed grading design at CC stage.
- These changes to the offsite flood conditions are of immaterial significance and are considered acceptable.

6.12.4. Summary and Recommendations

A detailed TUFLOW hydraulic model has been developed for the site using detailed site survey and proposed design elements to assess local overland flow characteristics.

The model was used to determine the existing and proposed overland flows conditions in the 1% AEP flood events. Assessment concluded that:

- The proposed upstream overland flow diversion system effectively renders the site development area flood free in the 1% AEP flood event.
- The proposed development area of the site is flood free in the 1% AEP flood event.
- The proposed development would have acceptable offsite flood impacts.
- Compliance with Council flood planning level requirements for building levels are achieved.

Martens recommends:

- Structures below the site flood planning level are to be constructed using flood compatible materials in accordance with Council requirements.

- An updated TUFLOW hydraulic model with detailed earthworks and should be simulated at detailed design stage.

6.13. HAZARDS AND RISKS

6.13.1. Methodology

A Hazardous Material Survey was undertaken by EI Australia and is attached in **Appendix T**. The purpose of this Hazardous Materials Survey is to present the findings of a qualitative risk assessment of the hazardous building materials located on site. Specifically the scope of works aimed to:

- Ascertain whether the buildings on site contained hazardous material(s), including;
  - Asbestos-containing materials (ACM);
  - Synthetic mineral fibre (SMF) materials;
  - Lead-based paint systems (LBP); and
  - Polychlorinated biphenyls (PCB) containing materials;
- Undertake a qualitative risk assessment of the hazardous materials contained within the buildings;
- Develop control strategies for the ongoing management of hazardous materials contained within the buildings;
- Identify and provide recommendations where remedial works are needed; and
- Prepare a report with the findings of the inspection, including the hazardous materials register and recommendations for the ongoing management or remedial works.

The site inspection was undertaken on the 24 March 2022. The inspection involved the examination of the existing buildings on site for the presence of potential hazardous materials and subsequent laboratory analysis of the relevant hazardous substances.

6.13.2. Existing Environment

A summary of the hazardous materials found on site is specified in **Table 17** below.

Table 17 Summary Hazardous Materials

Building	Location	Material Description
Main Dwelling	External: eastern and western gables	Asbestos Cement Sheeting (assumed)
	External: northern side	Asbestos Electrical Distribution Board (assumed)
	External: southern side, hot water heater	SMF lined insulation (assumed)
	Internal: garage	PCB containing single fluorescent light fitting (assumed)
Detached large shed	No Hazardous building materials identified within accessible areas	
Detached Cabin	External: walls and gables	Asbestos Cement Sheeting
	External: walls and edge caping	Asbestos Cement Sheeting
	External: northern side, hot water heater	SMF Lined Insulation (assumed)

Building	Location	Material Description
	Internal: walls and ceiling	SMF Insulation
	Internal: floor	Beige Vinyl Floor Sheeting
	Internal: throughout	PCB containing single tube fluorescent light fittings (assumed)
Main Dwelling	External: eaves	Asbestos Cement Sheeting (assumed)
	External: southern side	Asbestos Electrical Distribution Board (assumed)
	External: eastern side, southern section, wall	Asbestos Cement Sheeting
	Internal: north-eastern bedroom walls and ceiling	Asbestos Cement Sheeting
	Internal: eastern laundry/ bathroom, walls and ceiling	Asbestos Cement Sheeting
	External: northern side, hot water heater	SMF lined insulation (assumed)
	Internal: Kitchen, floor, upper layer	Blue Vinyl Floor Sheeting
	External: eastern awning	PCB containing single tube fluorescent light fitting (assumed)
Southern Detached Shed	External: southern side, hot water heater	SMF lined insulation (assumed)
	External: northern entry door	White lead based paint
	External: trimming throughout	Yellow lead based paint
	Internal: throughout	PCB containing single tube fluorescent light fitting (assumed)
Eastern Detached Shed	External: western and southern upper walls	Asbestos Cement Sheeting
	External: western and southern upper walls, edge capping	Asbestos Cement Sheeting
	Internal: western, central and eastern rooms, sheeted walls	Asbestos Cement Sheeting (assumed)
	Internal: eastern room, ground surface, debris	Asbestos Cement Sheeting Fragments
	Internal: throughout	PCB containing single and dual tube fluorescent light fitting (assumed)

Source: HMS prepared by EI Australia

6.13.3. Assessment

All of the identified hazardous building materials were ranked priority 3 or priority 4 in the survey. Priority 3 equates to a low risk level whilst priority 4 equates to a negligible risk level. Therefore, no immediate remedial action is deemed necessary.

6.13.4. Mitigation Measures and recommendations

EI Australia makes the following recommendations to mitigate the risk posed by dealing with hazardous materials:

Asbestos:

Asbestos materials should be removed prior to the commencement of any demolition works that may cause their disturbance. The removal of these materials is to be done in accordance with the *NSW Work Health and Safety Act* and *Regulations 2017* and the following SafeWork NSW approved codes of practice:

- SafeWork NSW (2019) *How to Manage and Control Asbestos in the Workplace; and*
- SafeWork NSW (2019) *How to safely Remove Asbestos*

Where asbestos is to be removed, the licensed asbestos removal contractor should prepare and asbestos removal control plan prior to undertaking any removal works which should include the minimum requirements for asbestos removal presented in the HMS.

Lead Paint:

Site structures containing lead paint should be managed in accordance with the procedures detailed in:

- Australian Standard AS 4361.2-2017 *Guide to Lead Paint Management, Part 2: Lead Paint in Residential, Public and Commercial Buildings;*
- NOHSC (1994a) *National Standard for the Control of Inorganic Lead at Work;* and
- NOHSC (1994b) *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work.*

The HMS also makes important recommendations that should be implemented as a minimum when working with lead paint. A notification of lead work form must be submitted to SafeWork NSW at least seven days before lead work begins.

Synthetic Mineral Fibres

The following guidance documents should be consulted for guidance regarding the removal and disposal of SMF:

- *National Standard for the Safe Use of Synthetic Mineral Fibres*
- *National Code of Practice for the Safe Use of Synthetic Mineral Fibres; and*
- *Code of Practice for the Safe Use of Synthetic Mineral Fibres*
- **Polychlorinated Biphenyl Capacitators**

All metal-cased capacitors should be assumed as contained PCBs. EI Australia has made important recommendations that must be implemented when removing/handling PCB containing capacitors, this is detailed in the HMS.

If the recommendations made by EI Australia are implemented throughout the operation of the project, there is minimal risk of an adverse impact occurring. The hazardous materials identified in the survey are of a low or negligible risk level and when paired with the recommendations and mitigation strategies presented by EI Australia, can be sufficiently and safely managed.

6.14. CONTAMINATION AND REMEDIATION

6.14.1. Methodology

A combined Preliminary and Detailed Site Investigation Report has been prepared by Geotechnique Pty Ltd and is attached in **Appendix V** and a Remedial Action Plan has been prepared by Martens at **Appendix W.**

Investigations comprised of a review of the historical and geological information, site reconnaissance, sampling and testing and the preparation of an assessment report in accordance with the NSW Environment Protection Authority (EPA), “Consultants Reporting on Contaminated Land: Contaminated Land Guidelines” (NSW EPA 2020).

6.14.2. Existing Environment

Site inspections occurred on 8, 19 and 20 April 2021. The subject site consists of two rural residential lots with dwellings towards the western portion of the land. There were no visual olfactory indicators of potential contamination. There were no obvious features associated with underground storage tanks, or petroleum hydrocarbon staining observed on the ground surface of the property that would indicate the potential for contamination. There were also no emissions observed to be emanating from the property.

6.14.3. Assessment

The findings of the Preliminary and Detailed Site Investigation undertake by Geotechnique Pty Ltd are summarised as follows:

Based on the test results for this investigation all laboratory test results satisfied the criteria for stating that the analytes selected are either not present or are present in the sampled soil at concentrations that do not pose a risk of harm to human health or the environment under the proposed development. There is one exception whereby elevated concentrations of zinc are present.

The location of the small portion of the site which requires remediation is shown in Figure 22 below.

Figure 22 Remediation Area

Source: Martens

6.14.4. Mitigation Measures

Based on the Preliminary Site Investigation and the Detailed Site Investigation the site is considered environmentally suitable for the proposed site subject to the following:

- The assessment of soils in the footprints of existing site features should be undertaken after complete demolition and/ or removal by a licensed contractor.

- The small stockpile of ash located on site must be removed.
- Sampling and testing will be required to determine the contamination status of soils in the footprints of site features and in the vicinity.
- In the event of contamination the site can be made suitable by detailed assessment followed by remediation and validation.
- A hazardous material survey should be carried out for the presence of asbestos and possibly lead paints, prior to the demolition of existing building features on the site.
- Additional sampling should be undertaken at the location of the elevated zinc levels to determine the extent of Zinc contamination. This should be carried out in conjunction with the assessment of the footprints of the existing features after their complete demolition and removal.
- A remedial action plan for the remediation of asbestos Zn impacted soils, plus any other contamination identified through the detailed, additional sampling and testing should be prepared.
- The dam water should be assessed prior to de-watering to determine the contamination status of the water and recommend the de-watering method. On completion of de-watering a contamination assessment should be carried out.

With the implementation of these mitigation measures, and the Remedial Action Plan, the proposed development is not likely to be impacted by contamination.

6.15. WASTE MANGEMENT

6.15.1. Overview and Methodology

A Waste Management Plan (WMP) has been prepared by Waste Audit & Consultancy Service and is attached at **Appendix X.** The WMP provides guidance on the sustainable management of general waste and recyclable materials that will be generated during the development's construction and operational phases. Minarah College is committed to ensuring its waste is managed in an environmentally responsible manner and in accordance with legislative requirements, increased resource recovery and minimising environmental impact. All waste generated from Minarah College will be managed in accordance with Camden Council's Waste Management Standards.

6.15.2. Demolition and Construction

The WMP details the objectives and initiatives to ensure waste minimisation during the demolition and construction phase. The project's waste management objectives and targets will include:

- Meeting all waste management standards while ensuring the health and safety of all workers on the project during demolition and construction
- Maximising the quantities of materials diverted from landfill by reusing materials onsite and offsite, and recycling/reprocessing materials off-site
- The diversion from landfill of 80% of construction waste by weight, to meet the criteria of the NSW State Government's waste legislation, policy settings and regulatory regime
- Disposal of no more than 20% of residual waste materials to a licensed landfill in accordance with both regulatory and legal requirements
- Management practices will be implemented over the design, procurement, demolition and construction stages of the project that will all contribute to the reduction of waste, including:
- Design
  - Use of modular components in design
  - Use of prefabricated components in design
  - Design for materials to standard sizes
  - Design for operational waste minimisation

- Procurement
  - Select recycled and reprocessed materials
  - Select components that are reusable after deconstruction
- Pre-Demolition
  - Review WMP and amend as required to address any changes in project scope
  - Undertake hazardous materials survey and waste classification before commencing any demolition works
  - If any suspect materials are found, implement Unexpected Finds Management Protocol
- Demolition
  - Implement waste avoidance, resuse and recycling practices as detailed in WMP
- Construction
  - Implement waste avoidance, reuse, and recycling practices as detailed in the WMP
  - Minimise recurring packaging materials
  - Return packaging to the supplier
  - Re-use of materials on site
  - Separation of materials on-site for recycling
  - Monitor and audit correct usage of bins
  - Monitor and audit waste contractors

The appointed contractor shall remove rubbish from site resulting from the works. Rubbish shall be handled in a manner to cover the material and to minimise dust emissions and disposed of in accordance with management plans. The Contractors will engage a waste removal consultant to manage and recycle all waste that leaves the project. To encourage recycling, bins will be located close to areas of work and in a position where access for removal by trucks is possible

6.15.3. Operational Waste

The probable waste generation rates have been calculated by Waste Audit & Consultancy Services and are located within the attached WMP.

Temporary storage sheds are to be provided for stages 1-4 whilst a permanent, 42m^2 bin room will be constructed for stages 5 as shown in **Figure 23** and **Figure 24.**

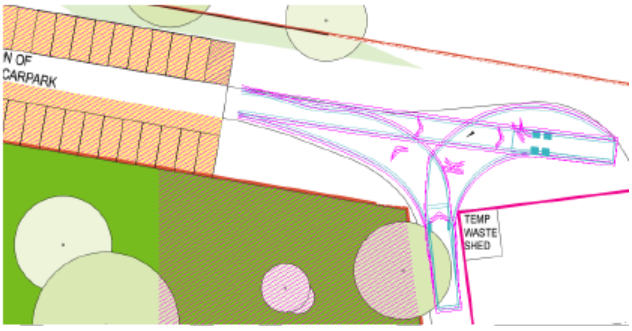
The location of these storage areas will provide easy access for waste contractors and staff who will be responsible for the loading of bin contents into collection vehicles. The waste contractor will ensure that no litter is created during the emptying process and will clean up any spills that occur. Cleaners will bring general waste and recyclables to the storage area every night. The storage area as currently designed is adequately sized to accommodate bins for all waste and recycling generated on the site between collections.

All waste and recycling containers will be clearly differentiated through appropriate signage and colour coding to reflect the materials contained, with each different stream located in a designated area to assist in easy identification by cleaners and other users. It is recommended that the school's administration areas are provided with 3 stream bins for paper and cardboard recycling, commingled recycling, general waste.

Figure 23 Temporary Bin Storage Areas

Picture 17 Stage 1 Bin Storage Area

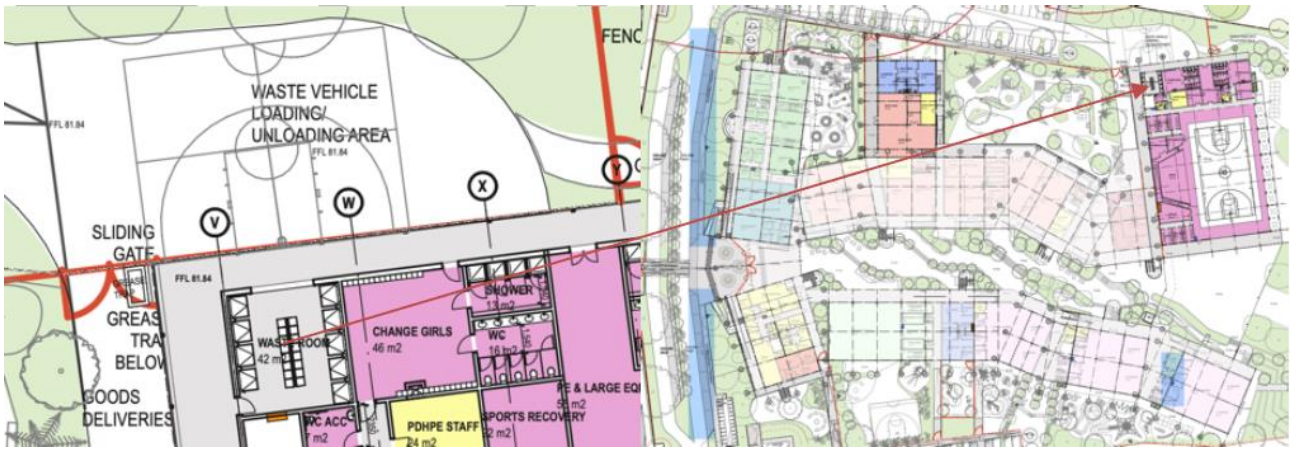
Source: WMP



Picture 18 Stage 2-4 Bin Storage Area

Source: WMP

Figure 24 Permanent Bin Storage Areas



Picture 19 Stage 5 Bin Storage Area

Source: WMP

6.15.4. Mitigation Measures

The school will implement systems for monitoring, measurement and reporting of operational waste management performance. Annual performance and contract reviews will be conducted with facilities management, waste contractor and cleaning manager to assess progress towards annual waste diversion targets and other KPIs, identify operational issues, and address any shortcomings. Waste audits will also be conducted annually to benchmark performance.

The school's facilities management team will have responsibility for reviewing the WMP annually, ensuring that its objectives are met, and making adjustments where required to ensure continued accuracy and relevance to operational conditions.

If the above systems are implemented throughout the construction and operational phases, waste will be minimised as far as reasonably possible.

6.16. ABORIGINAL AND HISTORICAL HERITAGE

6.16.1. Methodology

An Aboriginal and Historical Heritage Assessment Report has been prepared by Tocomwall Pty Ltd to accompany this EIS in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (2010) and is attached at **Appendix Y.**

This report provides an assessment of the Aboriginal archaeological potential of the study area and measures the impact of the proposed development on any soil profiles with the potential to contain Aboriginal archaeological deposits and objects. This assessment will assess the impact of the proposal on any identified items or places of Aboriginal cultural heritage value.

A site inspection and archaeological survey was carried out on Wednesday the 22nd of September 2021. No Aboriginal objects were identified on the surface during the survey. The background research and visual assessment of the landscape has determined that there are locations within the subject area that have the potential to retain Aboriginal objects in undisturbed soil profiles. As a result the proposed development has the potential to impact Aboriginal objects. It was recommended that a test excavation program be undertaken to determine if Aboriginal objects are present, to characterise the site, and determine if there is a need to apply for an Aboriginal Heritage Impact Permit.

To satisfy the requirements of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW NSW 2010) the scope of the assessment included undertaking the following tasks:

- A desktop review of previous studies and reports from relevant sites around the study area;
- Register searches - Aboriginal Heritage Information Management System (AHIMS) and State Heritage Register (SHR);
- Consideration of the archaeological and landscape contexts of the study area and it's land use history;
- Visual inspection of the study area to look for any evidence of Aboriginal occupation of Potential Archaeological Deposits (PAD);
- Assessment of any identified Aboriginal objects, sites PAD and Places; and
- Recommendations on the management of any identified Aboriginal objects, sites PAD and Places if identified within the boundary of proposed works.

6.16.2. Existing Environment

The study area is located at Catherine Field and is part of the Cumberland Plain. The landscape of the study and surrounding area can be characterised as flat to gently undulating topography, with landform elements including drainage depressions, creek systems, flats, residual rises, simple slopes and crests. A search of the AHIMS database records for the area within approximately 2 km radius of the study area identified 88 recorded sites.

6.16.3. Assessment

6.16.3.1. Predictive Model Assessment

The assessment of the archaeological potential of the site is based upon the assessment of the landscape features and the environmental aspects of the site including potential resource areas, the degree of the disturbance of the landscape, the stream order model and the effect of proximity to water, and the review of the AHIMS site data and previous studies undertaken within the locality.

Stream Order Model

Concentrations of artefacts often correlates with higher order streams. The subject site is located to the east of South Creek. The proximity of the western side of the study area to the South Creek floodplain and associated drainage, places it in the category of a landscape feature likely to indicate the presence of Aboriginal objects as per the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010). When taking into consideration the artefact densities of some nearby registered AHIMS sites that are of comparable distance from 2nd and higher order streams, the study area has the potential to include Aboriginal objects.

Economic Zones

The most likely ecotone or economic zones near to the subject site include the aquatic resources and the resources associated with the change of vegetation to alluvial woodland associated with South Creek.

Scarred Trees

Due to the scale of past vegetation removal at the site it is deemed to have a low potential presence of scarred trees.

Burials

There is potential for burial sites to be found within the Cumberland Plain. There is no clear pattern of distribution of burial sites within the Cumberland Plain that can be drawn upon as a predictor for the location of these site types.

Summary

Based upon the landscape topography, proximity to water, geology, environment, site disturbance, previous studies from the broader Cumberland Plain, and studies within locality, the prediction for the site is that it is likely to have a disperse subsurface artefact distribution. The study area is now considered to have a moderate potential to retain Aboriginal objects in extant soil profiles.

6.16.3.2. Archaeological Site Survey Inspection

An archaeological survey was carried out on the Wednesday the 22nd of September 2021 by William Moon a Senior Archaeologist at Tocomwall. The fieldwork involved undertaking an inspection of the site of the proposed new school. The inspection identified any Aboriginal objects and assessed the site to determine the potential for subsurface Aboriginal objects at the site.

A visual pedestrian survey of the subject site was undertaken on the 22nd of September 2021. No artefacts were observed on the ground surface due to high grass and no visibility, however there is potential for subsurface artefacts within this area.

6.16.3.3. Due Diligence Assessment

A Due Diligence assessment was undertaken and is located in Section 5 of the Aboriginal and Cultural Heritage Report, the following key takeaways are to be noted:

- There are no sites records on AHIMS for the study area or the development footprint.
- There are landscape features likely to indicate the presence of Aboriginal objects
- The proposed development is considered likely to disturb the landscape features on Lot 11 DP833983 and Lot 12 DP833784 and there is the potential to harm Aboriginal objects that may be present in a subsurface context.
- The visual inspection did not identify any Aboriginal objects within the study area. The desktop assessment has determined that there is likely to be potential archaeological deposits within the subject area.

The Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) requires that ‘archaeological test excavation will be necessary when it can be demonstrated that sub-surface Aboriginal objects with potential conservation value have a high probability of being present in an area’, therefore further archaeological testing was undertaken for the site. Archaeological Test Excavation

A test pit excavation program was undertaken on the 24th, 25th and 28th of January 2022 in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2010) and the project archaeological investigation methodology. Two silcrete artefacts were identified during the test excavation program. The results of the test excavation sampling of the subject landforms indicates that artefacts are present in the landscape as disperse low density isolated occurrences. There was no evidence that broader archaeological deposits exist within the study area, apart from the isolated disperse presence of artefacts. The location of the test pits where the two artefacts were found is shown in Figure 25 below.

Figure 25 Location of Aboriginal Objects (red) relative to the development

Source: Tocomwall

6.16.4. Mitigation Measures

Tocomwall suggest the following recommendations to mitigate the potential impacts the proposal will have to the subject site.

- Further investigation should be undertaken in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010, Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW 2011, and the Aboriginal cultural heritage consultation requirements for proponents 2010.
- In regard to the two artefacts discovered during the archaeological test excavations it has been recommended that the objects be reburied in an agreed safe location on the site, or managed under an agreed care and control procedure.
- If any unanticipated Aboriginal archaeological objects, sites or PAD are identified during the construction program within impact footprints, works should cease immediately, and notify Heritage NSW
- If any human remains are identified during the earthworks within the impact footprints works should cease immediately and the Police and NSW Heritage should be contacted.

Implementation of these recommendations will significantly decrease the likelihood of significant impact to the Aboriginal and cultural heritage of the site.

6.16.5. Summary

In conclusion, the implementation of the above mitigation measures will decrease the risk of adverse impacts to items of Aboriginal cultural significance. Consent must be obtained from Heritage NSW to move the two artefacts found in the test excavation and bury them in a safe location on the site. in agreement with the

Registered Aboriginal Parties, or consent must be obtained to manage the object under an agreed care and control agreement.

6.17. SOCIAL IMPACT

6.17.1. Overview and Methodology

A Social Impact Assessment has been prepared by Sarah George Consulting and attached at **Appendix AA.** The development has been assessed against the following criteria: Way of Life, Community, Accessibility, Culture, Health and Wellbeing, Surroundings, Decision-making systems, Issues raised during consultation and public interest benefits.

Furthermore, community consultation was undertaken by Australian Public Affairs, the results of which can be found in **Appendix G** and **Section** Error! Reference source not found. of this EIS.

6.17.2. Assessment

The assessment of the development against the 9 criteria areas has determined that the proposed school is deemed unlikely to generate any long term or significantly negative social impacts that require mitigation. Whilst the proposal will see a significant change of use and intensification of use of the site, this is considered necessary given the planned future character of the area which will see the construction of a new residential precinct.

6.17.3. Mitigation Measures

Any impacts generated by the intensification of use of the sites are likely to be associated with noise and traffic, which have been separately addressed in the EIS in sections 6.7 and 6.9.

Negative short-term impacts that may be generated are likely to arise with the construction and fit out of the school buildings over the staged construction of the College, should the application be approved. Any potentially negative impacts associated with construction can be mitigated through conditions of development consent.

School contact details are to be made available on the Minarah College website to provide a platform for neighbours or members of the wider community to raise any issues or concerns about the operation of the school with the College Executive.

The potential positive social impacts generated by the proposed school will only be realised if the development is approved.

6.17.4. Summary

In summary the proposed development is unlikely to generate any long term negative social impacts. Rather the development has the potential to provide vast social benefits to the school and wider community.

Temporary negative impacts to amenity are likely to occur during the construction and fit-out of the school. The Traffic and Parking and Acoustic reports accompanying the application outline design and operational recommendations to ensure the proposed campus can operate with minimal disturbance to surrounding residential properties. Any further impacts can be controlled through conditions of consent.

6.18. INFRASTRUCTURE REQUIREMENTS AND UTILITIES

6.18.1. Overview and Methodology

A Services Infrastructure Report has been prepared by JHA and is attached in **Appendix BB.** The following infrastructure will be provided to the development.

6.18.2. Hydraulic Services

Sewer Drainage

Currently there is no Sydney Water sewer infrastructure available for this site. JHA have engaged a Water Servicing Coordinator (WSC) to apply for a feasibility study with Sydney water. This feasibility study is

expected to contact the Sydney Water Urban Growth programme, to determine if a new authority sewer network is expected with the area.

A Section 73 and Notice of Requirements will be a requirement of the SSFA checklist.

Potable Water

As part of Stage 1 works a new authority water meter and potable cold-water pump-set able to accommodate design flows for future stages will be provided.

JHA have carried out a pressure and flow enquiry on the 200mm water main reticulating Catherine Fields Road. The Sydney water model suggests there is adequate pressure and flow for the firefighting/ potable water usage requirements of the school.

Gas Services

Currently there is no natural gas infrastructure available for the site. JHA have proposed on-site LPG gas storage. LPG (Liquid Petroleum Gas) is stored in vessels in liquid form. Utilising Educational Facilities Standards & Guidelines (ESFG) requirements as a guide only, the on-site storage tank shall be no less than 7.5kL and not be accessible by students.

6.18.3. Electrical and Telecommunication Infrastructure

Electrical Demand Loadings

A maximum electrical demand has been completed for the new proposed works on the site. The total expected maximum demand is 2360 A/phase.

Substations

To facilitate the proposed staging of the College, two substations; each being a rating of 1000kVA are to be installed during:

- Stage 1 early works to the south
- Future Stage works to the north.

Both substations are proposed to be located within the development site abutting the lot boundary facing Catherine Fields Road. JHA has already submitted an application to Endeavour Energy for the Stage 1 early works substation and have attached the received Endeavour Energy Supply Offer for reference. JHA has Accredited Level 3 ASP designers that will be carrying out the design works in co-ordination with Endeavour Energy for this project.

High Voltage Feeder Connections and Reticulation

To provide suitable electrical supply connections to the new development, it is proposed the existing Endeavour Energy high voltage overhead network located along the western side of Catherine Fields Road will be utilised to connect the new Endeavour Energy padmount substations proposed along the Catherine Fields Road frontage. This arrangement is subject to suitable spare capacity in the existing High Voltage feeders and Endeavour Energy design acceptance.

The High Voltage connection arrangements to each substation will include the following:

- High Voltage Underground-to-Overhead connections on two (2) existing poles across Catherine Field Road
- New High Voltage cables will be extended from these poles, underground and across Catherine Fields Road to the proposed development site and padmount substation.

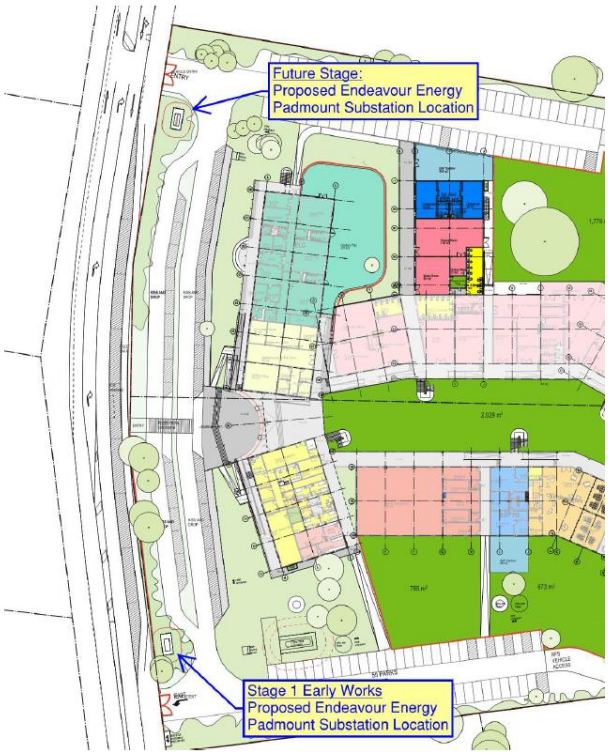
Telecommunications and Incoming Services

A DBYD (Dial Before You Dig) application shows existing NBN infrastructure along Catherine Fields Road.

An application to NBN is being made to install a lead-in cable to provide telecommunications services to the campus. A separate application for a Telstra fibre connection to the site is being made to allow contingency with two carriers to reduce the chance both connections are lost at one given time.

In addition to the proposed site lead in communication arrangements, the existing overhead Telstra fibres reticulating along the Catherine Fields Road site frontage are proposed to be relocated underground to facilitate suitable access to the site and for aesthetic arrangements, see Figure 26 below. The school will consist of four communications rooms to support the site. Each room will house the communications racks, NBN and security. The location of the room has been coordinated with the architect and the school to ensure a maximum fibre cable run of 90m.

Figure 26 Electrical and Telecommunication Infrastructure Locations



Picture 20 Proposed Endeavour Energy Padmount Substation Locations

Source: JHA Services Infrastructure Report

Picture 21 Proposed extent to underground Existing Overhead Telstra Assets

Source: JHA Services Infrastructure Report

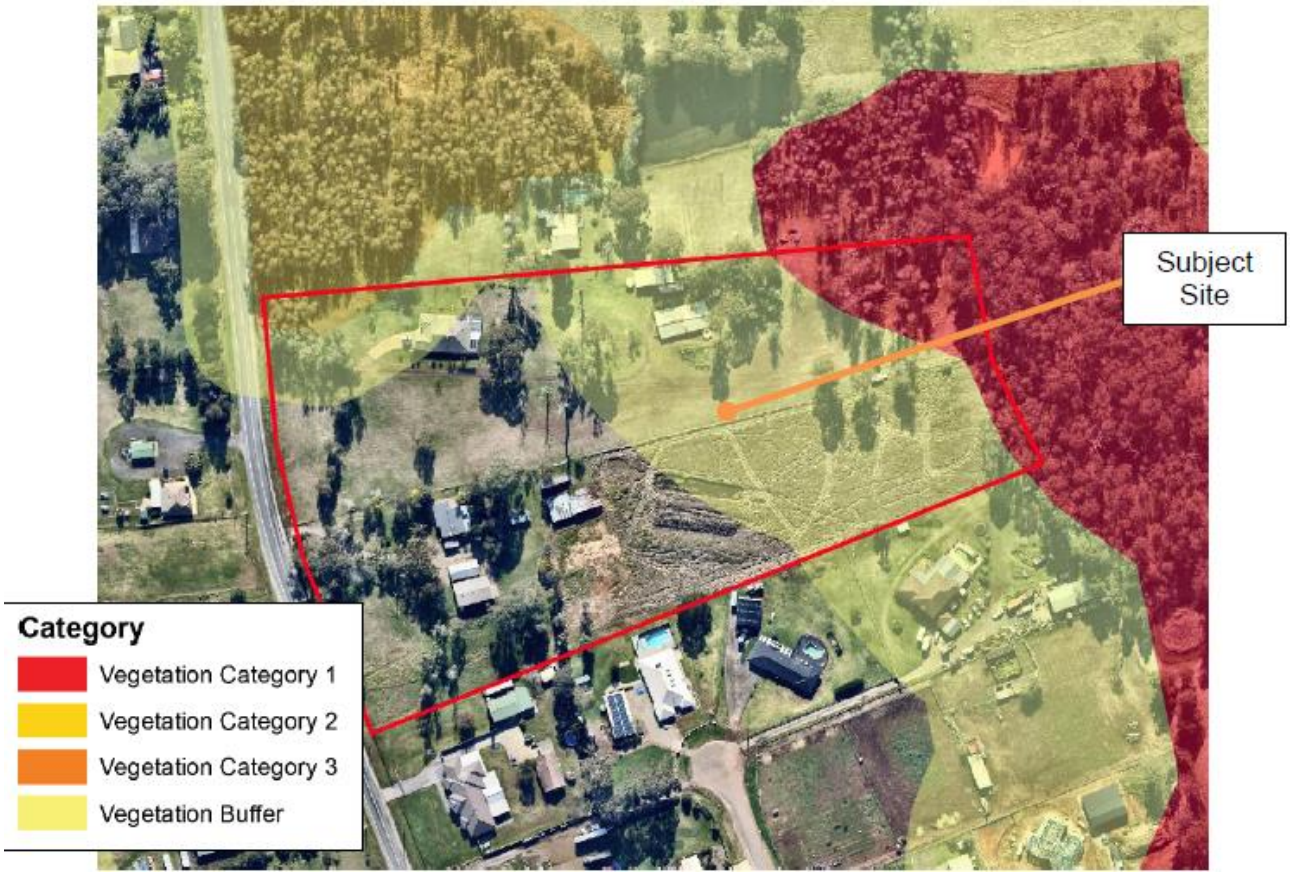
6.19. BUSHFIRE RISK

6.19.1. Overview

Schools are a listed Special Fire Protection Purpose (SFPP) development under Section 100b (6(a)) of the Rural Fires Act 1997. In this instance the site is depicted on Camden Council's Bushfire Prone Land Map (BPLM) as containing designated Category 1 and 2 Vegetation and their associated buffer zones, as depicted in Figure 27 below. The site is therefore considered 'bushfire prone'.

The Bushfire Assessment outlines the proposed bushfire protection measures and demonstrates compliance with *Planning for Bush Fire Protection* (PBP). A Bushfire Assessment Report has therefore been prepared by Building Code & Bushfire Hazard Solutions Pty Ltd (**Appendix CC**).

Figure 27 Extract from Camden Council's Bushfire Prone Land Map



Source: Building Code and Bushfire Hazard Solution Pty Limited

6.19.2. Methodology

The proposal has been assessed against the aim and objectives detailed in Chapter 1 'Introduction' and the specific objectives and bushfire protection measures detailed in Chapter 6 'Special Fire Protection Purpose Developments' of PBP.

6.19.3. Assessment

The proposed development has been assessed by a suitable qualified bushfire consultant, who has identified the main areas of concern for the proposal. These areas are explored below:

Construction

The proposed building is required to be constructed to the relevant Bushfire Attack Level under Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018.

The proposed Staff and Admin, Primary Hall, Kindergarten, Year 1 and Year 2 buildings were found to be entirely within a BAL Low area and therefore hazard no construction requirements.

Asset Protection Zones and Landscaping

The vegetation identified a posing a bushfire hazard was found to be located to the north and east of the subject site, within adjoining allotments.

The minimum required APZs were determined from the Table A1.12.1 of PBP to be 42 metres to the north, northeast and east. The proposed school buildings were found to be located >42 metres from the bushfire hazard to the north and northeast and >100 metres from the bushfire hazard to the west, meeting and in most instances exceeding the minimum required APZs.

The existing APZ consists of maintained grounds within the subject site and managed land within the northern neighbouring allotment (including dwelling, immediate curtilage and power lines. All grounds APZs within the subject site will be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of PBP and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

Access

As a requirement of the SSDA process, engagement with the Rural Fire Service was undertaken to inform the proposal. Pre-DA advice was given regarding access to the site. It was of the opinion of RFS that whilst through roads are the preferred design option this cannot be achieved in this instance and in consideration of the nature and isolation of the hazards is not warranted.

The proposed access arrangements include a 4 metre wide access road (all weather surface, with capacity to carry a fully loaded fire-fighting vehicle) and passing bay, which will facilitate fire services access to the rear of the site for hazard reduction or fire suppression activities. This access road will exclusively be used for maintenance, buses (for sporting events) and emergency services – with no regular day-to-day use. The turning point at the end of this access road provides a logical firefighting platform for multiple appliances, with a water supply available (hydrant point), attending fire services have the ability to deploy lines to the north eastern portion of the site (<70m distance). In addition fires services will have comprehensive access available around the proposed buildings utilising the proposed internal roads, which will have hydrant points available at regular intervals.

Services – water, electricity & gas

The site has been assessed by Building Code & Bushfire Hazard Solutions Pty Ltd who have confirmed that the site will be connected to the reticulated town's main water main. There are also existing in-ground hydrants located along Catherine Fields Road and ancillary streets that can be utilised by fire services.

This network of hydrants will be expanded into the site to service the new school and the elements of these hydrants will comply with AS2419.1-2005. The proposed water supply for the site is considered adequate for the replenishment of attending fire services.

6.19.4. Mitigation Measures and Recommendations

Bushfire Emergency Management Plan

A Bushfire Emergency Management Plan is intended to provide suitable emergency and evacuation arrangements for occupants of SFPP developments. It is recommended that a Bushfire Emergency/ Evacuation Management Plan is to be prepared and updated in accordance with the NSW Rural Fire Service Guidelines for the *Preparation of Emergency/ Evacuation Plan.*

Asset Protection Zones

It is recommended that all grounds not built upon within the subject site are maintained as Inner Protection Area's, as detailed in the NSW Rural Fire Service's document 'standards for Asset Protection Zones' and Appendix 4 of Planning for Bush Fire Protection 2019.

Construction

That all proposed buildings, excluding the Staff & Admin, Primary Hall, Kindergarten, Year 1 and Year 2 buildings, shall comply with section 5 (BAL 12.5) Australian Standard AS3959-2018 "Construction of buildings in bush fire-prone areas" and section 7.5 of "Planning for Bush Fire Protection" 2019.

Services

All new internal hydrants, electricity services and gas services are to comply with the requirements of Planning for Bushfire Protection 2019.

Access

The access roads are to be constructed in accordance with the Pre-DA advice given by RFS. The proposed service trail to the rear of the subject site is to comply with the relevant requirements for a Category 1 Fire Trail as described in the NSW RFS publication 'NSW RFS Fire Trail Standards' and 'NSW Rural Fire Service Fire Trail Design Construction and Maintenance Manual' and the proposed internal roads shall comply with the Access requirements as detailed in Table 6.8b of PBP,

6.19.5. Summary

With the implementation of the bushfire safety measures contained within the Bushfire Assessment Report and with consideration of the site specific bushfire risk assessment, the proposed development is considered to be reasonable and have a satisfactory level of bushfire protection.

6.20. DEVELOPMENT CONTRIBUTIONS

Developments in the locality are subject to developer contributions payable to Council in accordance with the Camden Contribution Plan 2011 (Contributions Plan) as well as Special Infrastructure Contributions payable to the State Government.

6.20.1. Local Contributions

It is understood that the Camden Contribution Plan 2011 is the applicable contributions plan. Under Section 2.8 of the contributions plan 'educational establishments' and non-residential developments outside of the Camden and Narellan town centres are not identified as being required to pay contributions. Therefore, the proposed development is exempt from paying contributions.

6.20.2. State Infrastructure Contributions

The Western Sydney Growth Centres Area Special Infrastructure Contribution (SIC) is applicable to the site.

The SIC is applicable to the following types of development:

1. Development on residential land that is within a Western Sydney growth centre precinct subject to a precinct plan (as referred to in clause 5 (1) (a) of the Determination)
2. Development on residential land within Balmoral Road Area, Elderslie Area or Spring Farm Area (as referred to in clause 5 (1) (b) of the Determination)
3. Development on industrial land that is within a Western Sydney growth centre precinct subject to a precinct plan (as referred to in clause 5 (1) (c) of the Determination)
4. Development on any land that is within a Western Sydney growth centre precinct not subject to a precinct plan (as referred to in clause 5 (1) (d) of the Determination)

Number 4 listed above confirms the SIC is applicable, as the site is within the growth centre precinct but is not subject to a precinct plan.

The contribution rate is $221,686 per hectare of net developable area as at 1 July 2020. The SIC rate is indexed annually on 1 July as outlined in the Environmental Planning and Assessment (Special Infrastructure Contribution – Western Sydney Growth Areas) Determination.

However, in accordance with a Ministerial Direction dated 14 February 2011, schools are exempt from payment of Special Infrastructure Contributions. Therefore, the proposed development is exempt from paying contributions.

7. JUSTIFICATION OF THE PROJECT

This section of the report provides a comprehensive evaluation of the project having regard to its economic, environmental and social impacts, including the principles of ecologically sustainable development.

It assesses the potential benefits and impacts of the proposed development, considering the interaction between the findings in the detailed assessments and the compliance of the proposal within the relevant controls and policies.

7.1. PROJECT DESIGN

The design of the proposal has been carefully considered to minimise its potential impacts. The proposal seeks to meet the objectives of the project through delivering an inclusive educational establishment in a rapidly growing part of Sydney, delivering 1,580 student spaces and significant employment opportunities. The proposal will deliver a built-for-purpose school on currently underutilised land in the South West Growth Area.

The layout and design of the proposal has been developed to minimise impacts on local residents to the south and maximise the relationship of the building to the streetscape, providing enhancements to the local context and respecting the rural context.

The proposal includes significant uplift to the site in relation to landscaping and planting. Where mitigation measures are proposed, these will enable the proposal to be constructed and operated without any unacceptable economic, social or environmental impacts.

7.2. STRATEGIC CONTEXT

The proposal is consistent with State and local strategic planning policies. The site is highly suitable for the proposed development being in the South West Growth Area, which is experiencing unpredicted growth and demand for educational establishments.

New schools are urgently needed, with the NSW Government estimate that 77,798 student places are needed by 2036. The new school will be constructed in stages, growing in line with growth in the local population.

Better access to educational opportunities is a key theme throughout the State planning policies, with schools being considered ‘essential local infrastructure’ to support local and regional growth. Minarah College will meet a fraction of the demand. Families of Western Sydney deserve the highest standards of education, and the proposed new school would offer the latest technology, STEAM and VET opportunities, to prepare students for a diverse range of university and vocational careers.

Further, Camden is currently the fastest growing council area in Australia. Camden’s population is expected to grow to 233,950*, with the need for up to 49,552 additional dwellings, by 2036. This further outlines the need for an educational establishment in this particular location.

7.3. STATUTORY CONTEXT

The relevant State and local environmental planning instruments are listed in **Section 4** and assessed in **Appendix C.** The assessment concludes that the proposal complies with the relevant provisions within the relevant instruments as summarised below:

- The proposed development has been assessed and designed in respect to the relevant objects of the EP&A Act as defined in Section 1.3 the Act and addressed in **Appendix C**.
- This EIS has been prepared in accordance with the SEARs as required by Schedule 2 of the EP&A Regulations.
- Consideration is given to the relevant matters for consideration as required under the BC Act. The site is biodiversity certified and therefore a BDAR is not required.
- This SSDA pathway has been undertaken in accordance with the SEPP (Planning Systems) 2021 as the proposed development is classified as SSD.
- Concurrence from TfNSW will be required as per the SEPP (Transport and Infrastructure) 2021 for ‘traffic generating development’.

- Concurrence from RFS will be required as per section 100B of the Rural Fires Act 1997.
- The proposal complies with all of the relevant provisions under the Camden LEP 2010 as detailed in **Appendix C**. The proposed development is defined as 'Educational establishments' in accordance with the LEP. Educational establishments are not expressively prohibited in the zone and are therefore permitted with development consent.
- The proposed development has been assessed in accordance with SEPP (Resilience and Hazards) 2021. The proposed development complies with the relevant clauses of this SEPP.
- The proposal generally accords with the relevant provisions of the Camden DCP 2019 as outlined in **Appendix C**.

7.4. COMMUNITY VIEWS

As set out in **Section 5**, feedback received during the stakeholder engagement has informed the development of the design of the proposal as well as the preparation of the EIS.

Consultation feedback received during the finalisation and assessment of the application will continue to be considered.

7.5. LIKELY IMPACTS OF THE PROPOSAL

The proposed development has been assessed considering the potential environmental, economic and social impacts as outlined below:

- **Natural Environment**: the proposal addresses the principles of ecologically sustainable development (ESD) in accordance with the requirements of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and as outlined below:
  - Precautionary principle: the precautionary principle relates to uncertainty around potential environmental impacts and where a threat of serious or irreversible environmental damage exists, lack of scientific certainty should not be a reason for preventing measures to prevent environmental degradation. The design principles within the Green Star tool are being applied to this site which will ensure that the risk of environmental damage is considered to be very low. An Environmental Management Plan is to be developed by the Head Contractor for the project to implement measures during construction to minimise impacts on the environment.
  - Intergenerational equity: the needs of future generations are considered in decision making and that environmental values are maintained or improved for the benefit of future generations. The development has been designed to be carbon neutral.
  - Conservation of biological diversity and ecological integrity: The development will be designed to ensure biological diversity and ecological value is improved for the site via careful landscape design. Special emphasis will be placed on the introduction of a diverse range of landscaping.
  - Improved valuation, pricing and incentive mechanisms: this requires the holistic consideration of environmental resources that may be affected as a result of the development including air, water and the biological realm. It places a high importance on the economic cost to environmental impacts and places a value on waste generation and environmental degradation. The project will include a number of measures to internalise pollution and consider the life cycle cost of systems.

  Overall, the proposal will not have any unacceptable impacts on the natural environment. The ESD Report **(Appendix K)** identifies a number of different ecological sustainability initiatives including energy savings, energy efficiency and waste minimisation.
- **Built Environment**: the proposal has been assessed in relation to the following built environmental impacts:
  - Visual Impacts: As set out in **Section 6** and the Design Report, the proposed development is does not generate any significant visual impacts and the proposal is considered acceptable in visual impact terms.
  - Traffic Impacts: As set out in **Section 6** and the TA, the proposal is considered suitable from a traffic generation perspective. Surrounding intersections will continue to operate at an acceptable level in the immediate future up to Stage 5.

  - Trees and Landscaping: As set out in **Section 6**, the AIA and Landscape Plans, the proposal includes a high level of indigenous species planting and large canopy landscaping across the site. The removal of trees proposed is mitigated by the proposed landscaping and replacement planting.
  - Noise and Vibration: As set out in **Section 6** and the NIA, the operation of the proposal is anticipated to comply with the required noise levels at surrounding receivers including nearby residential receivers. The proposal is found to have acceptable impacts in relation to noise and vibration, including during operations outside of general school operating hours.

- **Social**: The proposed development is unlikely to generate any long term negative social impacts. While it is acknowledged that the proposed development represents a significant change of use and intensification of use of the site, that intensification of use is not unexpected given planned future character of the area for higher density residential development, and the need for infrastructure such as schools to support the future population. In addition, the proposed development will provide a diverse and inclusive school catering for all.
- **Economic**: The proposed development will provide a new school facility that is necessary to support the growth of the south west region. The proposal is located in a strategic and currently underutilised area that will catalyse future growth in the Camden local government area. The proposed development represents a significant investment in Catherine Field, that will provide significant construction jobs, approximately 150 jobs, until 2041 and on-going education and education support jobs once operational (approximately 140 operational jobs, directly and indirectly).

The potential impacts can be mitigated, minimised or managed through the measures discussed in detail within **Section 6** and as summarised in **Appendix D** to this EIS.

7.6. SUITABILITY OF THE SITE

The site is considered highly suitable for the proposed development for the following reasons:

- The proposed development is defined as 'Educational establishments' in accordance with the Camden LEP. Educational establishments are permitted with development consent in the RU4 Primary Production Small Lots Zone.
- The development satisfactorily addresses the relevant provisions in CLEP 2012 and CDCP 2019, including acoustic amenity, built form and setbacks, car parking and landscaping.
- The proposed design of the development has taken a considerate and holistic approach that has resulted in the sensitive treatment of the sites natural level changes. The proposal will deliver a diversity of landscape spaces and a masterplan that responds to both the current and future needs of the school in response to expected population growth.
- Generous front side and rear setbacks allow for tree planting to preserve the amenity of the adjoining residences. A simple grid structure ensures economical construction and future adaptability, enlivened by the articulated building forms and generous external shading. A clearly defined entry sequence strengthens the relationship to the wider community and gives the new school a defined and appropriate presence.

7.7. PUBLIC INTEREST

The proposed development is considered in the public interest for the following reasons:

- The proposal is consistent with relevant State and local strategic plans and satisfactorily addressed the relevant State and local planning controls.
- No adverse environmental, social or economic impacts will result from the proposal.
- The proposal is in the public's best interest as site sits within Macarthur region of Sydney's South West Growth Centre which is undergoing significant transformation with numerous residential subdivisions and development. The selected site for the proposed new school aims to cater for the projected growth of the area over next 20 year period and beyond.
- The design also caters to the specific cultural and communal requirements of the students and local users through sensitive, engaging and considered design.

- A large school hall and community playing field will be integrated in this staged construction which will become accessible and utilised by the wider community and as such will become an extension of the public realm. It will be a space of equal access and a shared domain for social engagements, events and interaction and recreation. This can become a significant public asset and promote further urban growth.
- Construction works will be managed to ensure that these impacts are as minor as reasonably possible. Subject to the various mitigation measures recommended by the specialist consultants, the proposal does not have any unreasonable impacts on adjoining properties or the public domain in terms of views, traffic, acoustic impacts during construction and ongoing operation
- The issues identified during the stakeholder engagement have been addressed through the development of the design of the proposal and the assessment of the impacts of the project.

Having considered all relevant matters, we conclude that the proposed development is appropriate for the site and approval is recommended, subject to appropriate conditions of consent.

DISCLAIMER

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

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