Clarke Hopkins Clarke

Blessed Carlo Catholic College

20210026 | MOAMA, NSW

SSDA ARCHITECTURAL REPORT

State Significant Development Application - Supporting Material

REV A | SEPTEMBER 2022

The following document presents a SSDA report for the future Blessed Carlo College in Moama, NSW.
The design presented begins to reflect the ambitions of Wilcannia-Forbes Diocese and explore opportunities for the new facilities. Engagement with the diocese, staff, council and the State Design Review Panel has been fundamental to the design process for the new learning campus.

ISSUE	TITLE OF DOCUMENT	REVISION	SIZE	CREATED BY	ISSUED	APPROVED BY
29.06.21	SEARs / Masterplan Report - Draft // Internal Review	A	A3 Master (Scaleable)	CHC	MC / AL	-
01.07.21	SEARs / Masterplan Report - Formal Issue	B	A3 Master (Scaleable)	CHC	MC / AL	CHC
04.02.22	SSDA Report	C	A3 Master (Scaleable)	CHC	JL / OM	CHC

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Blessed Carlo Catholic College

Project Overview

ORGANISATIONAL SNAPSHOT

The Diocese of Wilcannia was established in 1887, incorporating areas that previously formed part of Bathurst Diocese. In 1917, the area of the diocese was enlarged and its name changed to the Diocese of Wilcannia–Forbes to take account of the added parishes.

The current diocese covers more than 52% of NSW and incorporate 20 Parishes, from Bourke in the north, Moama in the south, Forbes in the east and Broken Hill in the west. Moama township is part of the Murray River Council LGA and is located less than 5km from the larger town of Echuca, Victoria.

PROJECT OVERVIEW

Whilst Catholic education is well established in Echuca there has never been prior Catholic schooling in Moama. Recent demographic data study and market analyses have indicated a strong demand for Catholic education in the region and especially in Moama.

We understand that creating a new Catholic school in an established area will have certain challenges, and there will be a significant need to create a school which is open and connected within the Moama community and becomes a part of the fabric of the town. For this to be successful we must gain an in-depth understanding of the history and context of the Moama region, and ensure that this is considered within the planning and design, delivering a new College that exemplifies strong Catholic values that will be embraced by the local community.

THE BRIEF

We understand that the Catholic Parish of St Aloysius is looking to establish a new K-12 educational facility named Blessed Carlo Acutis College on a 4.787ha greenfield site in Moama NSW, which is to include a new Primary School and Secondary School accommodating a total of approximately 390 students.

Key factors in the design for the overall campus will be the interrelationship between learning, research, social, administrative, gathering spaces and the outdoor social and recreational spaces. These spaces will connect the school in both physical and symbolic ways in order to encourage community, belonging and the notion of sub-schools or family hubs.

The school desire is to create a strong bond with the local community, share their religious identity and creating an active acknowledgement and engagement with the local Aboriginal culture. A small new Chapel will be included in the masterplan design and it should be located in a central prominent place with direct access to a religious education teaching area.

"Our schools are communities of faith, learning, and transformation founded upon the person of Jesus Christ, the Way, the Truth and the Life, where the gospel is proclaimed and lived within the communion and rich Tradition of the Catholic Church."

-Wilcannia-Forbes Diocese

"The life of Blessed Carlo provides a witness for young people that true happiness is found when one puts God first."

- Pope Francis

SEARs LODGEMENT

The following document presents a SEARs and SSDA report for the future Blessed Carlo College in Moama, NSW.

This document marks a point in time in early engagement of the masterplan. The summary of proposals enables a wider audience assessment, with a focus on enabling the future State Significant Development Application anticipated for March, 2022.

The concepts presented begin to reflect the ambitions of Wilcannia-Forbes Diocese and explore opportunities for the new facilities. Future engagement with the diocese, staff, council and the State Design Review Panel is fundamental to the design process for the new learning campus.

A number of key dates have been noted for future reference;

SEARS Issue to Planner	By 25.06.21
SSDA Application (14 weeks):	September 2022
Anticipated SEARS response	October 22
Anticipated SSDA response	October 22
CBGA Lodgement	March 2022
Anticipated Date of P.C.	January 2024

DESIGN RESPONSE

The architecture of the school buildings will reflect and incorporate the catholic religious identity of the school with emphasis on the centrality of the Eucharist and Mary. A new primary and secondary learning buildings will be a key design features strengthening the social and spiritual centres of the campus. These will be a spaces where walls, ceilings, and facades are systematically designed to meet principles of modularity but maintain the flexibility required for the multi-purpose use of spaces that the schools pedagogy demands.

The buildings are intended to be realised at a scale suiting the local context; at a maximum of two stories where appropriate across the site. These human-scale elements will be achieved as ''buildings within a landscape'' - designed to enable the surrounding natural amenity to shine and reinforce the learning experience on campus.

Considering local construction methods and materials will be a key component not only to improve the quality of school and reduce the construction cost but equally to lower CO2 emissions, materials, and water use.

The learning spaces will be of high quality architecture design with natural light and ventilation. They will be capable of adapting to evolving ideas of pedagogy and will be designed to provide zones that could be used in connected or independent ways.

They will be technically responsive and outdoor learning and gathering spaces will be designed to promote and enhance both learning and community engagement. The outdoor spaces will incorporate the natural environment with opportunities for passive/ active areas, sport facilities and social and recreational open spaces.

The shared facilities can be easily accessed by the community without the whole school having to be open. Existing sport facilities are located in proximity of the school site and will be available for use by the school, which will need to be considered within the design process.

Blessed Carlo Catholic College

Key Metrics - The New College

390

STUDENTS

ENROLMENTS COMMENCING AT BLESSED CARLO COLLEGE FROM 2024

210/ 180

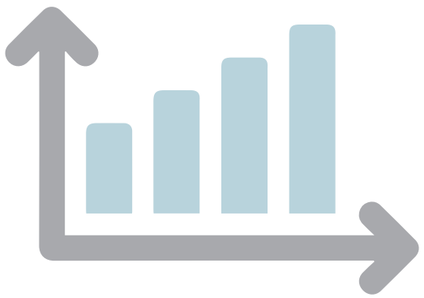
SINGLE STREAM
PRIMARY & SECONDARY

BENCHMARKING 30 STUDENTS PER YEAR GROUP FROM KINDERGARTEN TO YEAR 12

50

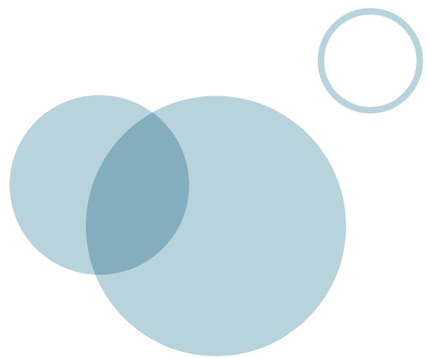
DEDICATED STAFF

BENCHMARKING 50 STUDENTS PER YEAR GROUP FROM YEAR 7 TO YEAR 12



ENABLING FUTURE FLEXIBILITY & GROWTH

3 - 4% ANNUALISED GROWTH IN MOAMA
AN OPPORTUNITY FOR GREAT IMPACT
ANTICIPATED STAGED DEVELOPMENT



COMMUNITY CONNECTION THROUGH SHARED FACILITIES

GROWING THE CATHOLIC COMMUNITY
THROUGH SHARING
CONNECTING TO NEIGHBOURING DEVELOPMENT

NURTURING CONNECTION AND BELONGING FOR ALL

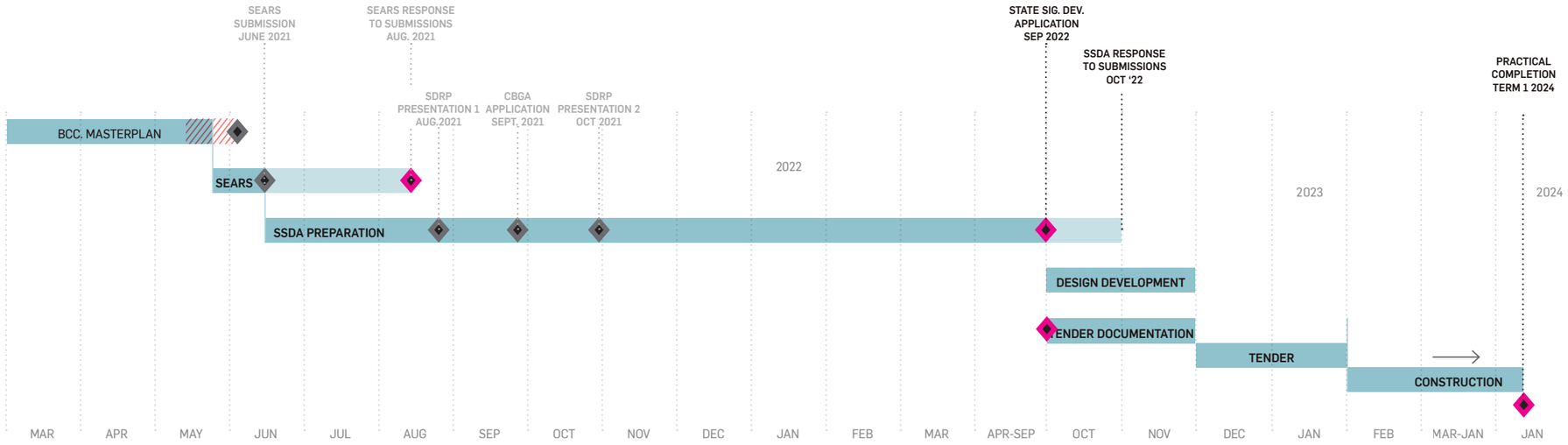
COMMITMENT TO STUDENTS & THE LOCAL COMMUNITY AT MOAMA WITH FIRST-CLASS FACILITIES

Blessed Carlo Catholic College

Team Composition and Overall Milestone Programme

The New Campus Committee of Blessed Carlo Catholic College consists of the following key members:

Anthony Gordon	WF - AG Wilcannia- Forbes Diocese
Malcolm Goodwin	WF - MG Wilcannia- Forbes Diocese
Gerard Oshea	WF - GO Wilcannia- Forbes Diocese
Tracy Reid	WF- TR Wilcannia- Forbes Diocese
Mick Spry	WF - MS Wilcannia- Forbes Diocese
Vicki Bourne Fallon	WF- VBF Wilcannia- Forbes Diocese
Maryellen Dempsey	WF - MD Wilcannia- Forbes Diocese
Peter Clarke	CE - PC Catholic Education Office
Garry Salvestro	SP - GS Salvestro Planning - Director
Jordan Curran	CHC - JC ClarkeHopkinsClarke - Partner
Simon LeNepveu	CHC - SLN ClarkeHopkinsClarke - Partner
Aram Lello	CHC - AL ClarkeHopkinsClarke - Studio Leader
Oswaldo Marcelo	CHC - OM ClarkeHopkinsClarke - Architect



Key Milestones

Masterplanning Approval:	Approved
SEARS Issue to Planner	Issued
Anticipated SEARS response to submissions	August (Received)
CBGA Grant Approval Lodgement	Late September (Lodged)
State Significant Development Application:	**September 2022 Lodgment**
Anticipated SSDA response to submissions	Oct '22
Design Development	Oct-Dec '22
Tender Documentation	Dec '22
Tendering	Dec - Jan '23
Construction (11 Month)	Feb '23 - Jan '24
Phase 01 Anticipated Date of Prac.Completion	Jan 2024

Blessed Carlo Catholic College

Vision and Values

As part of the first workshop with the Wilcannia-Forbes Diocese, ClarkeHopkinsClarke established three pillars to capture the vision and values for the new college in Moama. The guiding pillars for the new Blessed Carlo College are Faith, Community and Country.

FAITH

Caring Spirit, Friendship, Connection and a Place for Reflection.

"The more Eucharist we receive, the more we will become like Jesus, so that on this earth we will have a foretaste of Heaven"

The school design should enhance the spirit of mutual support and fostering long lasting relationship among the students. In the school their will be areas where students will be able to engage with eachother, talk and share. Blessed Carlo - the patron of the school - would be an inspiration for the new generation of students.

The way he embraced tecnology was always as a tool to connect with people and proclaim the Gospel. Central to the Blessed Carlo Acutis College will be the celebration of the Eucharist. The school facilities will celebrate this spirit of communion and encounter.

COMMUNITY

History and Diversity, Inclusive Values, Personal Growth and Transformation.

"One of the marvelous things about community is that it enables us to welcome and help people in a way we couldn't as individuals."

We look to celebrate the history of the Wilcannia-Forbes Diocese, its following within Australia and the diversity of it's people. We will consider a design and usage that reflects the multicultural diversity of the Wilcannie-Forbes Diocese. Schools are communities for learning, faith and transformation both from within and externally.

This school will be a tool for transformation of students, teachers and the wider community.

COUNTRY

Understanding of Place, Appreciation, Community and a Shared Vision.

"Look forward to the future, and feel grateful for the past."

Understanding the local context provides a curated view into a way of life which is specific to a location, a time and a society. It is also a way of passing on knowledge and appreciation to new generations. By sharing local stories we are strengthening the connections between the community and the school.

Building on the three pillars for the new campus, the Diocese of Wilcannia-Forbes, with ClarkeHopkinsClarke, established six points of difference for the new campus.

These points of difference help drive and define overarching design-principles for the new architecture and experience of the campus, and will encourage a unique sense of place across the precinct, specific to the college.

Faith

"The more Eucharist we receive, the more we will become like Jesus, so that on this earth we will have a foretaste of Heaven"

Community

"One of the marvelous things about community is that it enables us to welcome and help people in a way we couldn't as individuals."

Country

"Look forward to the future, and feel grateful for the past."

Blessed Carlo Catholic College

Points of Difference

FAITH

1. Connecting to Community Through a Welcoming Spirit
2. Faith as a Design Pillar

COMMUNITY

3. Connected Learning Villages
4. Strategic and Staged Programme

COUNTRY

5. Connected Gathering & Meeting Spaces
6. Preserving and Protecting Green Amenity

Moama is a community with strong, nurturing and collaborative relationships that empower change. Shared facilities will be considered to invite the community in through events, sports and education.

Pedagogy in a Catholic school seeks to develop deep learning and to create animated learners, inspired by the Gospel and led by the Holy Spirit to act for justice and strive for the common good. A key element of pedagogy in a Catholic school is encounter.

Every Christian is called to go out to meet others, to dialogue with those who do not think as we do, with those who have another faith or who have no faith. Encounter is relational. It is through relationship that we know ourselves, are valued and understood.

Connecting to Community Through a Welcoming Spirit

Faith as a Design Pillar

Grouping Connected 'Learning Villages'

Preserving and Protecting Green Amenity

Connected Gathering & Meeting Spaces

Strategic and Staged Programme

Blessed Carlo Catholic College

Pedagogical Vision

*Blessed Carlo Catholic College will be a supportive and fostering environment, with **faith and students** at the centre of the school mission.*

*With a deep connection to country, an understanding of the Catholic faith and an inclusive community, it will be a place that is **resilient, flexible, accessible** and **supportive of its students**.*

Through the built environment and the lessons learned and shared, BCC will reflect the past while preparing the younger generations for the future.

PEDAGOGICAL VISION

The Pedgagogical vision for the new college seeks a framework that enables an interface with all facets of the new learning centre for maximum impact. These opportunities to connect have been outlined in further detail below, and are loosely captured under Community, Identity, Design and Learning groupings.

> **COMMUNITY:**

A community spirit that fosters connections and belonging for all. A strong school / parish link will be evident, as will an active acknowledgment and engagement of Aboriginal culture and life.

> **IDENTITY:**

The school will naturally identify with young people in the community. The catholic religious identity of the school should be incorporated into the architectural design of the school with an ***emphasis on the centrality of the Eucharist and Mary.***

> **DESIGN:**

Spaces should be capable of adapting to evolving ideas of pedagogy.

They should be ***designed to provide zones*** that can be used in connected or independent ways.

The space will engage the observer upon entering through a combination of technology, informal settings and a stimulus rich environment.

The school will boast a ***large gathering space for the whole community***, quiet reflective spaces including a Chapel and social learning spaces.

*Learning will be characterised by contemporary, inquiry based approaches that will include **collaborative learning,** individual, research-based activity investigation and creativity.*

The College learning spaces are to be dynamic and offer innovative possibilities;

*Providing **integrated, purposeful, flexible and agile areas to support learning in multiple modes** whether in the classrooms, corridors or commons.*

*These spaces can be imaginatively used and organised to **embrace a wide repertoire of pedagogical approaches** and different types of learning.*

> **LEARNING:**

Accommodate family group / sub-school learning and gathering; individual and school group learning; traditional explicit teaching and learning as well as collaborative and team presentation spaces.

The ***learning environment will reflect contemporary approaches to sustainable building design*** and take into consideration the school's carbon footprint.

The inter-relationship between learning, research, social, administrative, gathering spaces and outdoor social and recreational spaces will be paramount. These spaces will connect the school in both physical and symbolic ways in order to ***promote community, belonging and the notion of sub-schools or family hubs.***

1. Vision Workshop 02 BCC Vision Statement

2. Catholic Education Melbourne Foundation Statement: Pedagogy in a Catholic School

BLESSED CARLO CATHOLIC COLLEGE

SITE ANALYSIS, BUILT FORM & URBAN DESIGN

Blessed Carlo Catholic College

Site Locality and Existing Context Analysis

CONSIDERING THE WIDER URBAN DESIGN RESPONSE

Establishing a new campus in a growing area provides many exciting placemaking and urban design opportunities and the Blessed Carlo Acutis College is no exception.

The site occupies a prominent and embedded position within the Moama township as part of a large local civic, educational and recreational precinct.

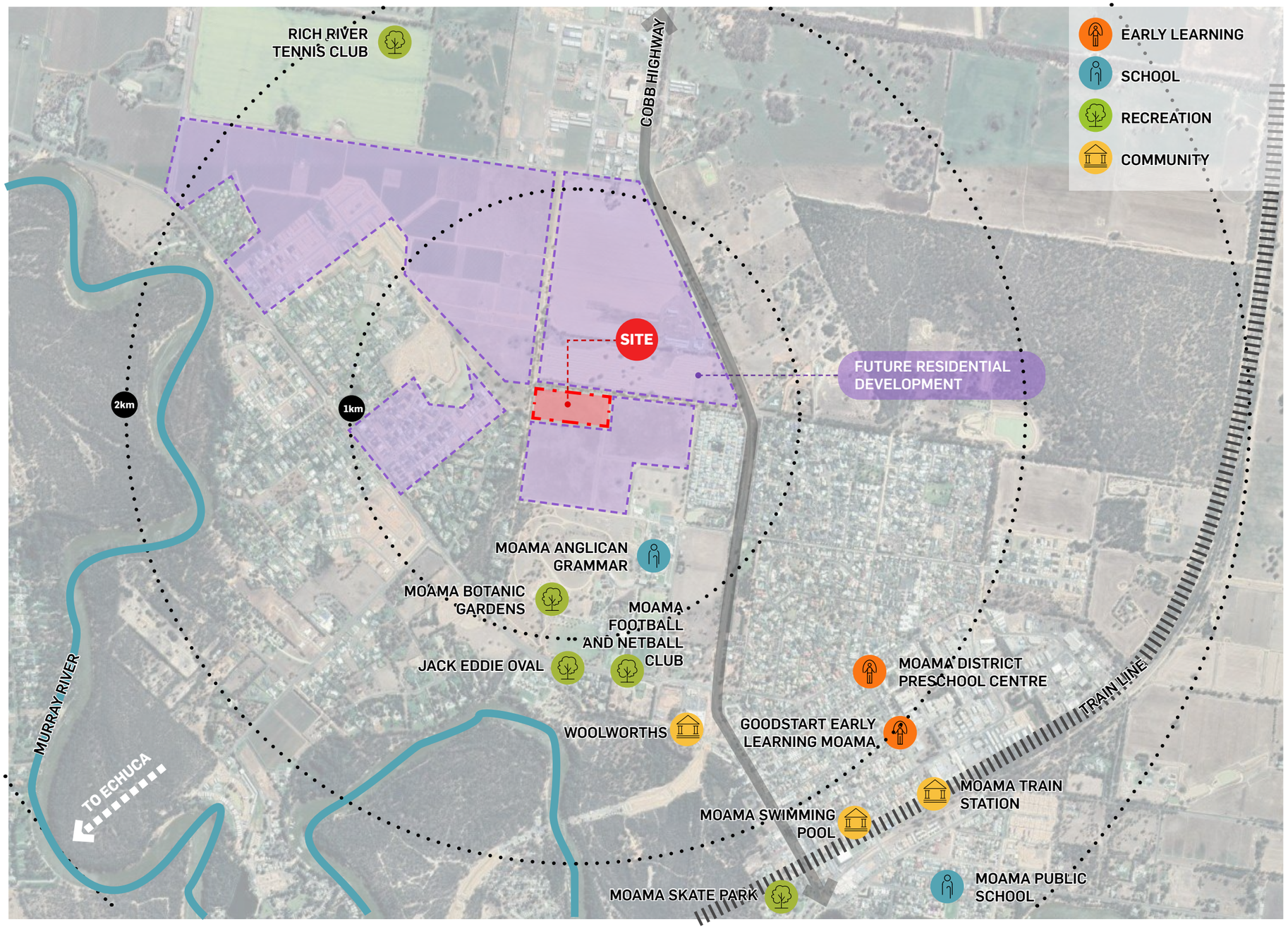
+ The site is located north of the Moama Botanic Gardens, Moama velodrome, Murray River Sport Club, Adventure Playground and Moama Anglican Grammar School. These facilities form an important civic and education precinct used by multiple community sporting, community and education groups and draws visitors to Moama.

+ This civic and education precinct is strategically located in between the east and west side of Moama, providing a community-focused heart of the town;

+ The site has good access to the Cobb Hwy and multiple connections to existing and future residential areas of Moama;

+ The proposed campus will have high visibility along Lignum road and Kiely road, and will create a strong street presence and opportunity for a local landmark, to assist in establishing the college identity in the Moama community.

The proximity of the campus to the Murry River presents some exciting opportunities for the school to not only connect to a unique ecosystem but also to engage with the history of the area and the Traditional Owners. The design will encourage connection to the town and it's past - building an awareness of traditional owners and a history of the local context.



Blessed Carlo Catholic College

Existing Site Conditions

SITE ANALYSIS

Site is relatively level and has been cleared except for remnants of native species of gums on the western and northern boundaries.

Active acknowledgement and engagement with Aboriginal culture and life.

Campus design to allow for regular interaction between the local community & school.

Facilities will be utilised by the community for a variety of purposes.

Outdoor learning and gathering spaces will be deliberately designed to promote and enhance both learning and community engagement.

Schools carbon footprint to be taken into consideration.

The inter-relationship between learning, research, social, administrative, gathering spaces, outdoor social and recreational spaces will be paramount.

Stimulating recreational spaces that incorporate the natural environment; with opportunities for passive/ active, sporting, social and adaptive use of facilities.

Facilities should be easily accessed by the community without the whole school needing to be open.

Key sporting facilities owned by council situated close to site will be used by the school so don't need to be duplicated on the site.

Northern Site Boundary Looking South

NorthEast Site Corner - Junction of Lignum and Kiely Road

Infrastructure Works Around Site

Blessed Carlo Catholic College

Land Use Zoning

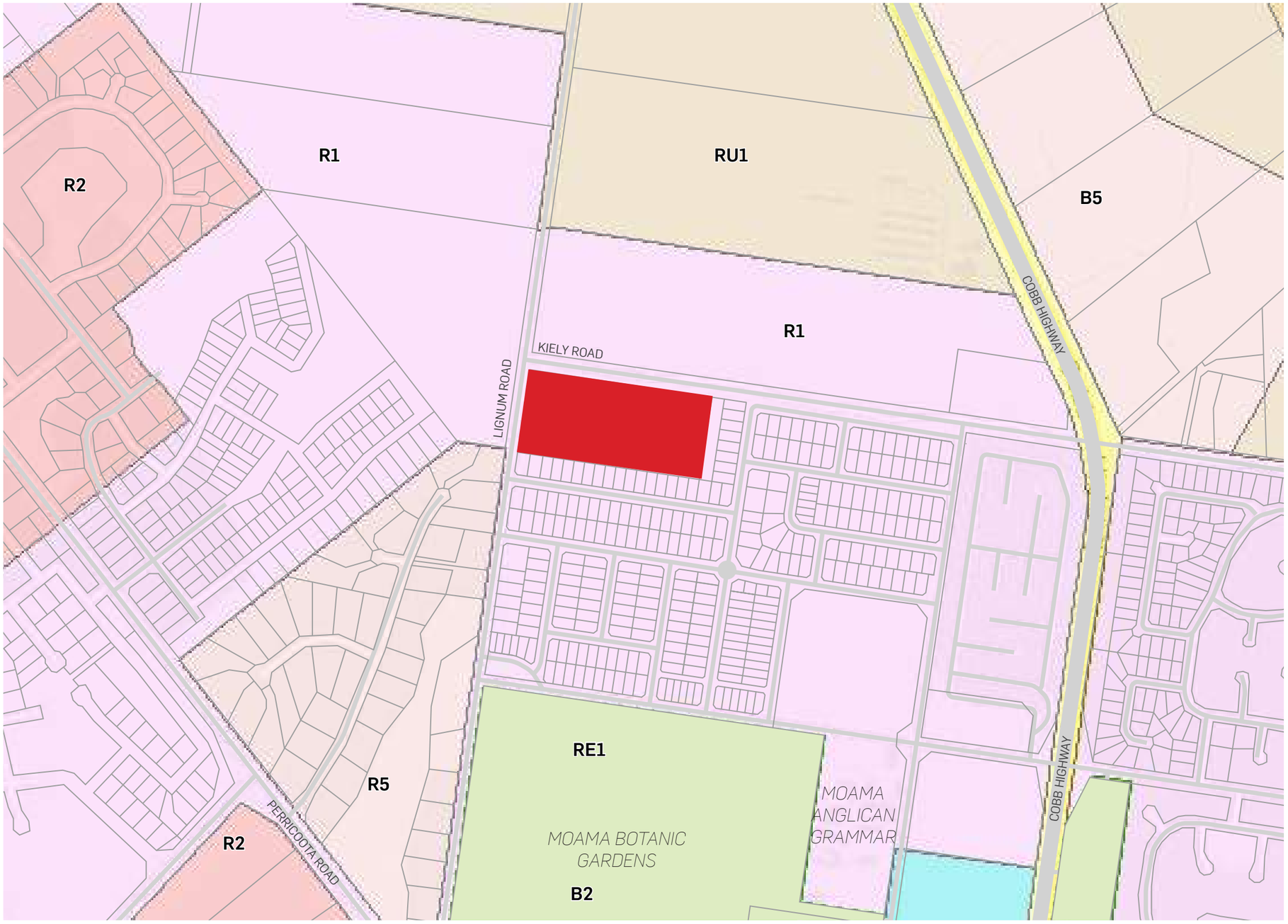
UNDERSTANDING LAND USE

The site for the new college is captured within an R1 General Residential Zone. Typically R1 General Residential outlines 1-2 storey homes under council consent authority.

The full address of the property -

Lot 76/-DP751159

Lignum Road Moama 2731
Murray River Council



R1	General Residential
R2	Low Density Residential
R5	Large Lot Residential
RE1	Public Recreation
B2	Local Centre
B5	Business Development
RU1	Primary Production

200 400m

1:500 @ A1

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Blessed Carlo Catholic College

Connectivity

OPPORTUNITIES & CONSTRAINTS - CONNECTIVITY

The site for the new college is positioned strategically to the north of the Moama community centre, abutting a residential development site and a green amenity and walkway link road (Kiely Road)

The site in itself is end-loaded - with the core public frontage or 'front face' directly off Lignum Road. This presents both constraints and opportunities for the new college.

The reconfiguration of the masterplan ultimately seeks to benefit the greater neighbourhood –

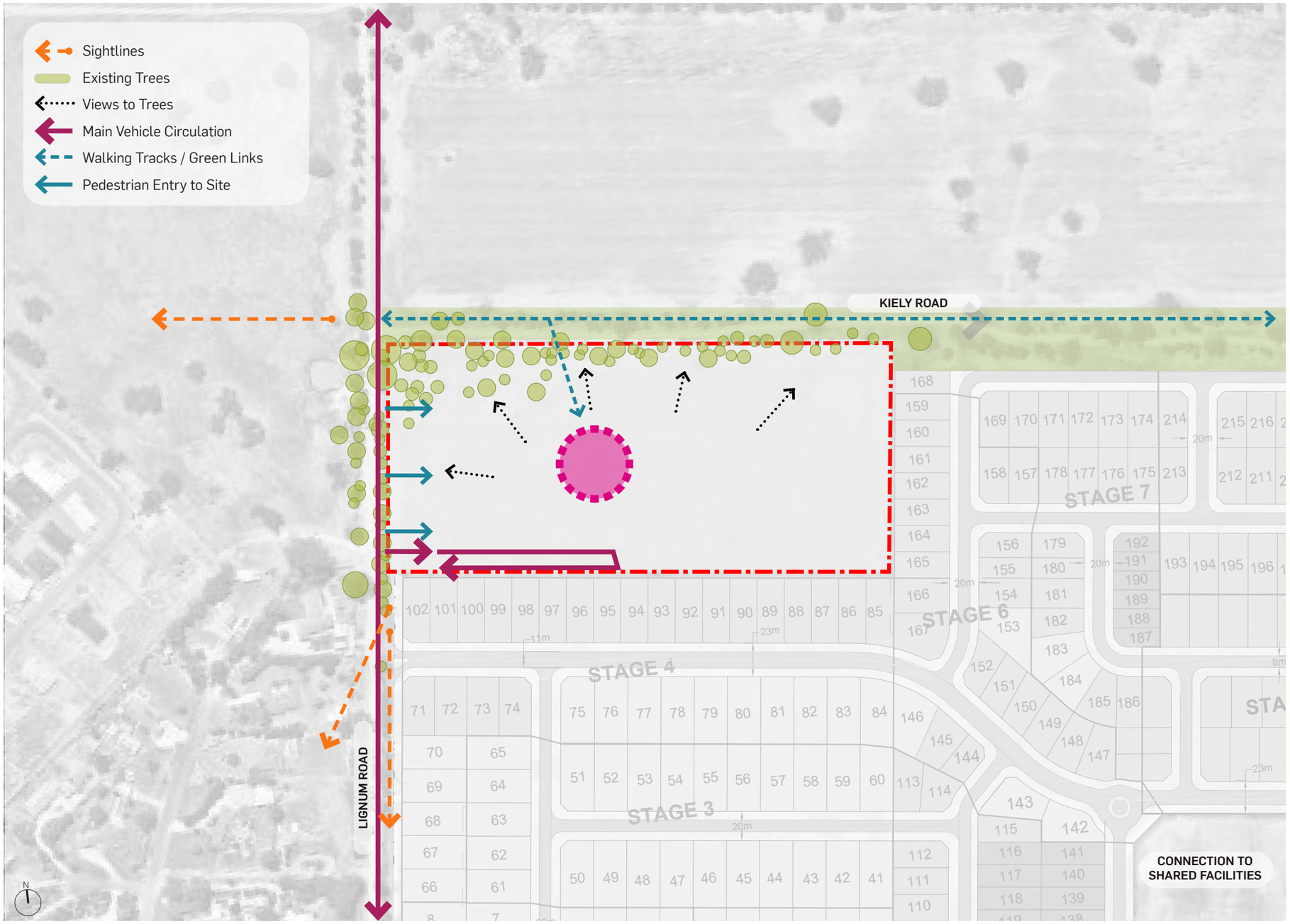
- Relocation of the parents drop-off zone could act to prevent bank-up on to Lignum road (compared to the previous design)

- Landscaping could be prioritised in lieu of asphalt along Lignum road, increasing streetscape and a sense of place

- Increased connection to community gathering spaces, sports and events on the school grounds by neighbours to the south

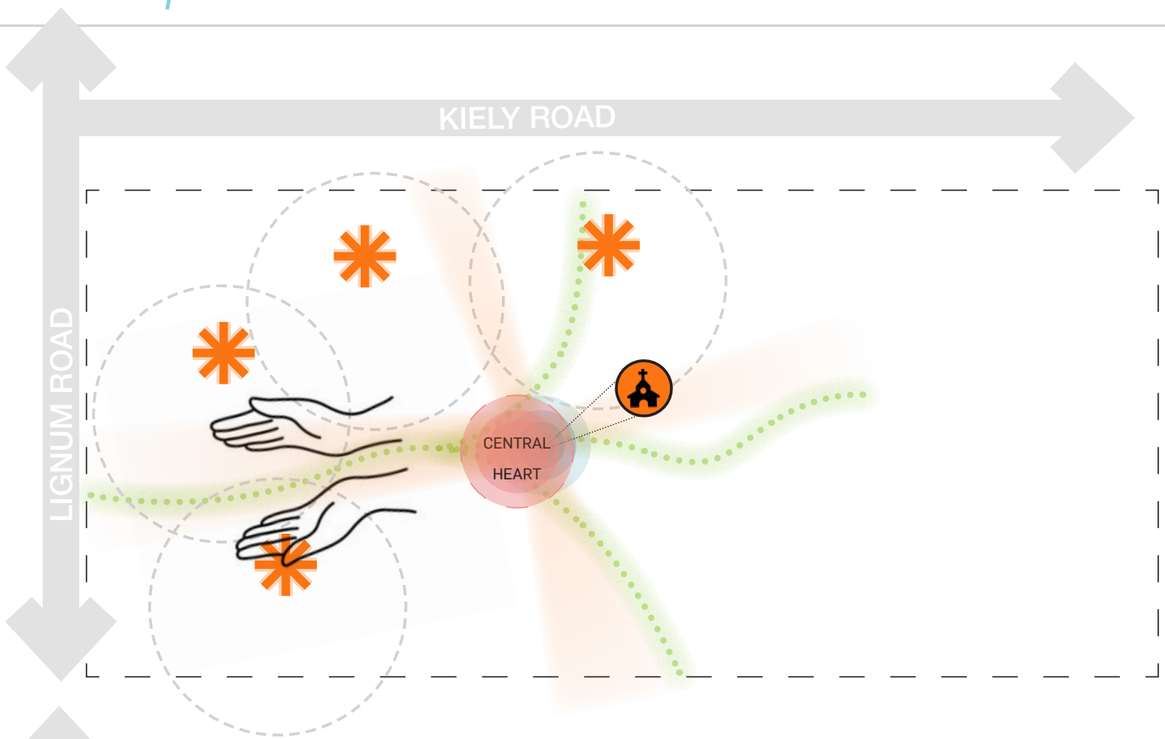
- A landscape buffer along this new road (shown in green) could act to mitigate the property boundaries and the school site, with properties not allowed direct access on to the school (no rear-gate entry)

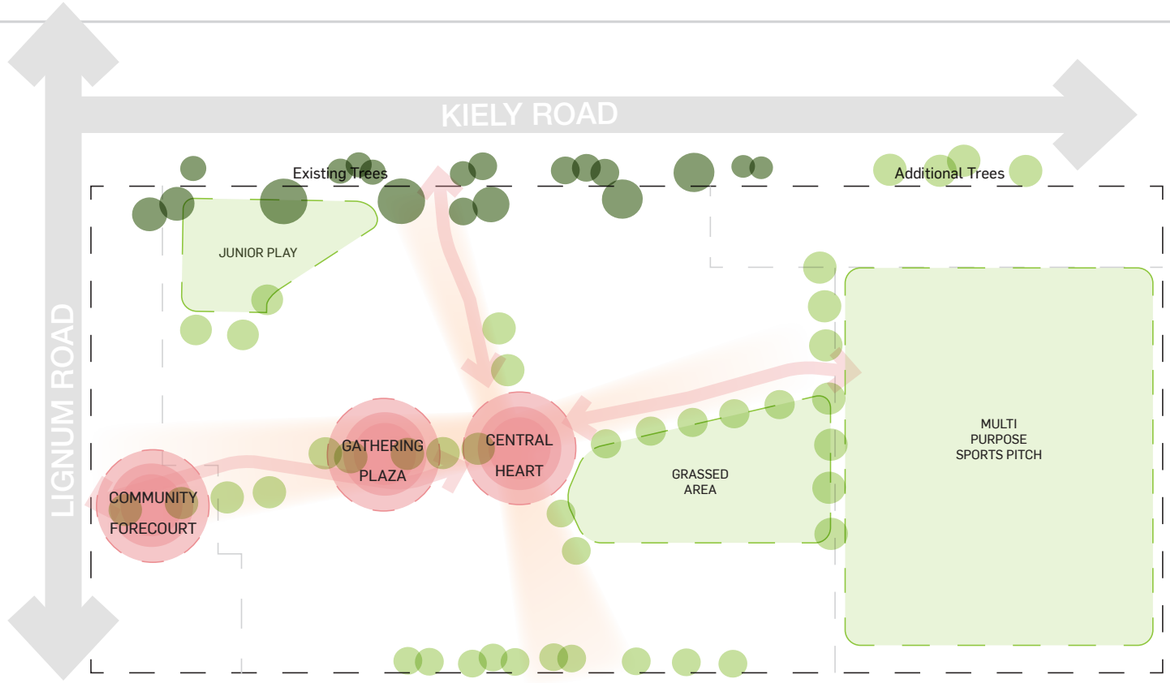
These over-arching connectivity principles enable the site to encourage community interaction, seeking to preserve the greater school masterplan as a highly walkable long-stay learning and community gathering centre.

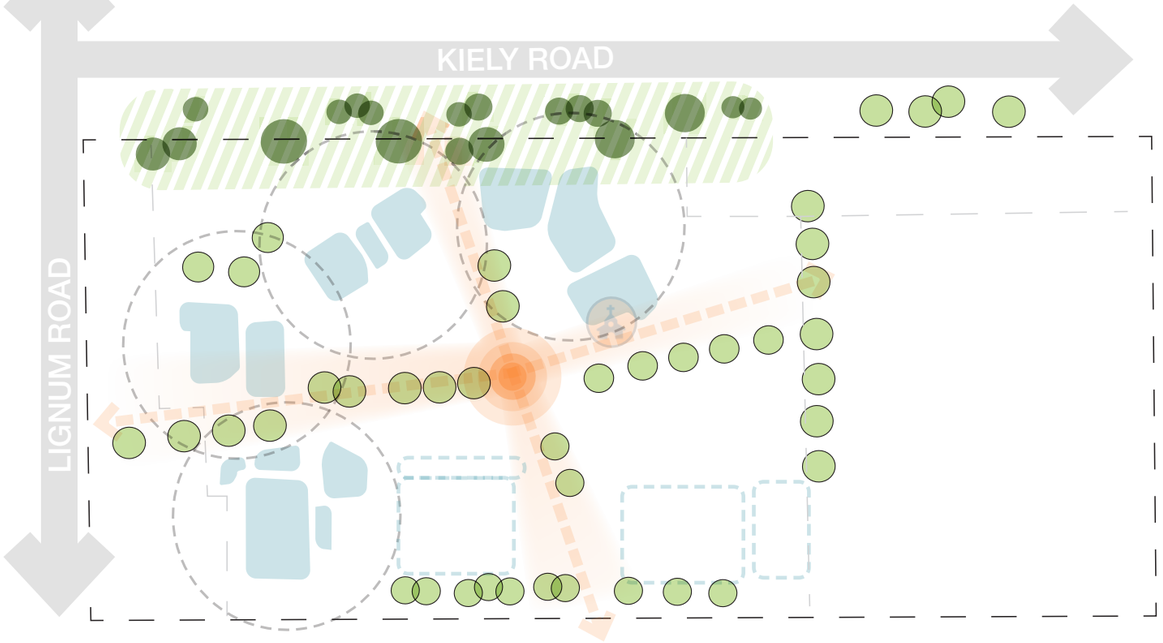


Blessed Carlo Catholic College

Site Response







NUANCED RESPONSES TO SITE -THREE GUIDING PILLARS

The response to site is also reflected by the three guiding pillars for the project - Faith, Community and Country.

While 'faith' as a design pillar will be implemented throughout the master plan, a physical representation of faith through the new campus includes the main pedestrian movement network and central location of the chapel, with all built form views terminated at the chapel. Guiding hands represent the architectural gateway and processional pathway from the front face of the college through to the heart, adjacent to the chapel.

Grouping of uses to create 'villages' representing the strength of collaboration and the clustering of different school services creating a sense of community within the new campus. The central heart of the campus is presented as a collective gathering space for both school and community congregation.

The design is preserving as much of the existing vegetation along the northern boundary as possible while complimenting the landscaping with additional trees, open spaces and landscaping elements within the BCCC campus.

Blessed Carlo Catholic College

Functional Overlay

CAMPUS COMPOSITION

The position of the functional programme on campus further reflects the guiding pillars for the project, the site response and intended commmunity connectivity.

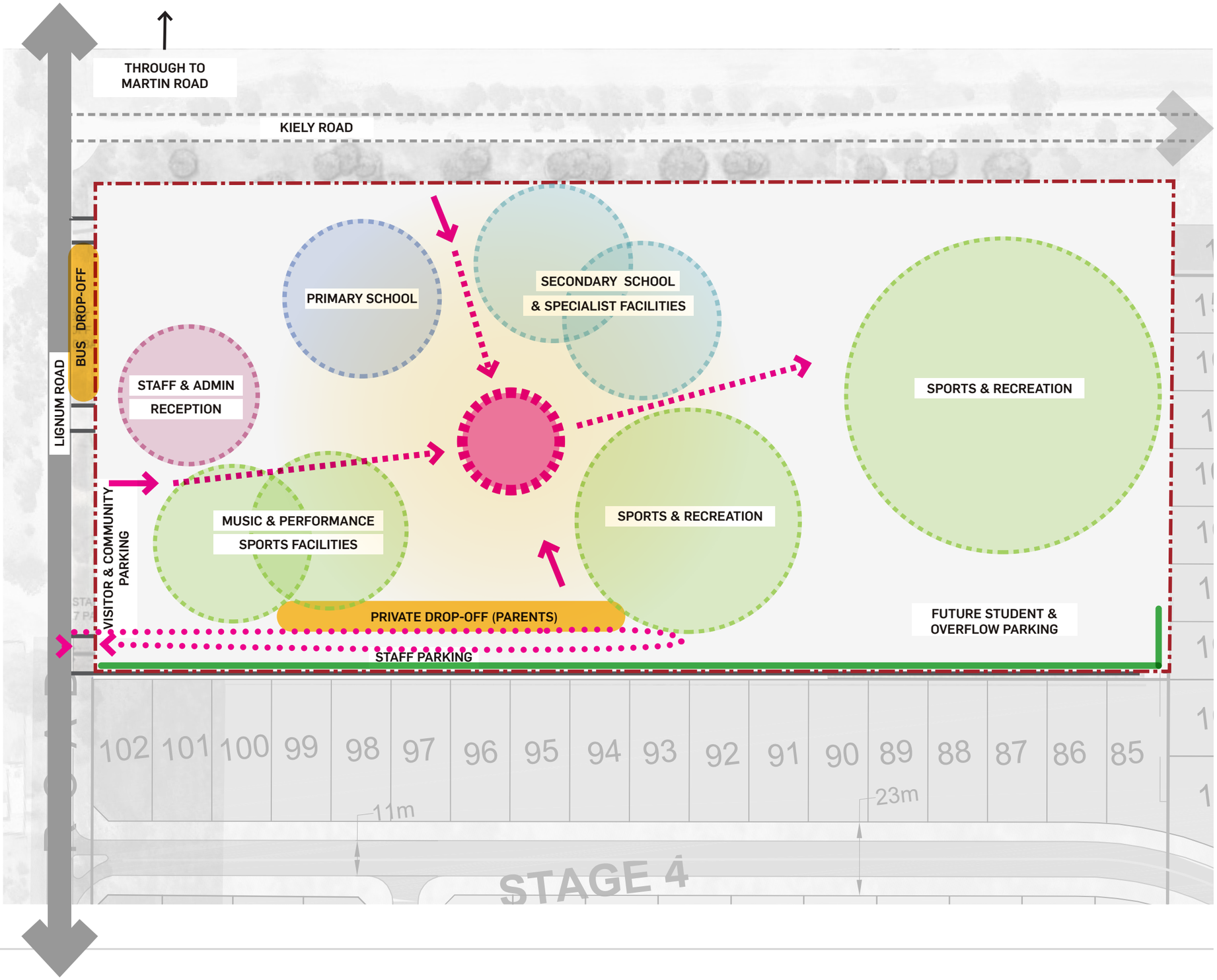
Staff and administrative functions operate as the key gateway component for the new site.

Reception is positioned at the main axis entrance to the campus, opposite community sports, music and performance facilities.

The primary school is deliberately captured in a singular building to enable collaborative practices and a sense of community between year groups. The secondary school is captured as a two storey building with workshops below, general learning above.

Sports and recreation have been strategically positioned towards the back of the campus, encouraging future flexibility and potential expansion by the College.

A chapel is situated in the heart of the campus, adjacent the outside congregation area.

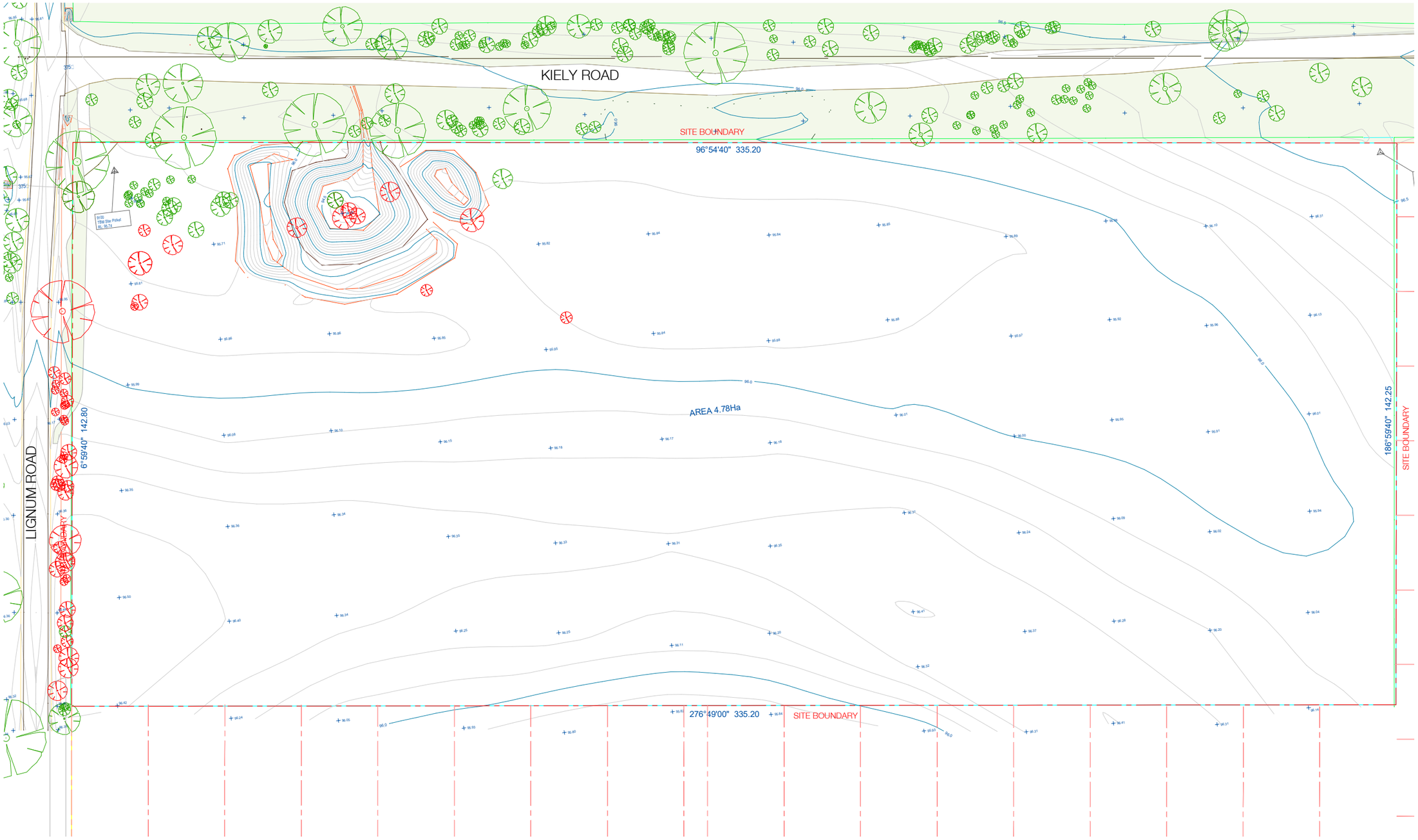


BLESSED CARLO CATHOLIC COLLEGE

MASTERPLAN DESIGN

Blessed Carlo Catholic College

Existing and Demolition Plan



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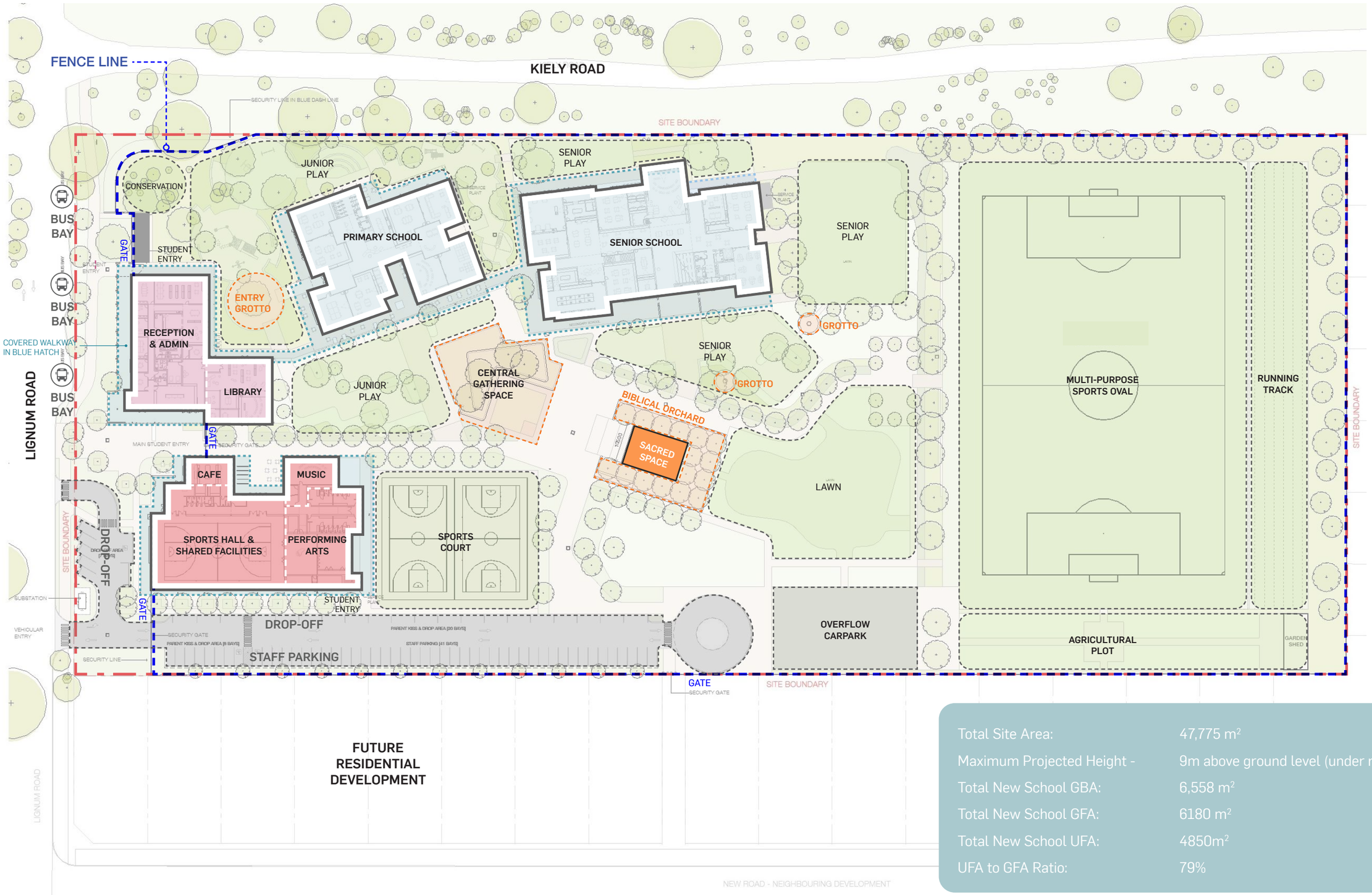
Blessed Carlo Catholic College

Proposed Masterplan - New Learning Campus



Total Site Area:	47,775 m²
Maximum Projected Height -	9m above ground level (under review)
Total New School GBA:	6,558 m²
Total New School GFA:	6180 m²
Total New School UFA:	4850m²
UFA to GFA Ratio:	79%

Blessed Carlo Catholic College

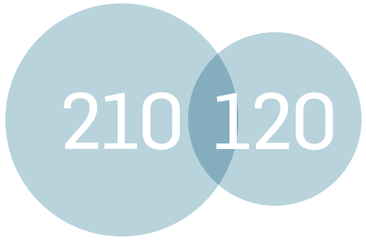
Project Phasing

PHASE 01

90 STUDENTS

KINDERGARTEN TO YEAR 2 (90 STUDENTS)

30 students per classroom in Primary, (1 class per year group) Achieving a full Primary School Curriculum



PHASE 02

330 STUDENTS

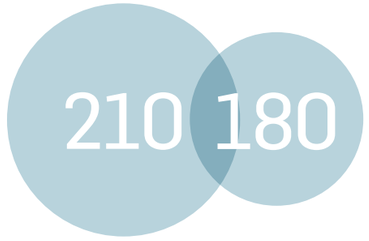
SINGLE STREAM PRIMARY K-6 (210 STUDENTS) & YEARS 7-10 (120 STUDENTS)

30 students per classroom in Primary, (1 class per year group) Achieving a full Primary School Curriculum

30 students per classroom in Secondary (1 class per years 7 - 10)
Semi-Diverse curriculum in Secondary School, supporting;

- General Science
- Art
- Food Tech and Hospitality
- Woodtech and 'Clean Technology'
- Small Classoom Spaces, Dedicated Homerooms and Collaboration Areas*

Some subjects supported by demountable workshops and classrooms.



PHASE 03

390 STUDENTS

SINGLE STREAM PRIMARY K-6 (210 STUDENTS) & SINGLE STREAM SECONDARY YEARS 7-12 (180 STUDENTS)

30 students per classroom in Primary, (1 class per year group) Achieving a full Primary School Curriculum

30 students per classroom in Secondary (1 class per years 7 - 12)
Diverse curriculum in Secondary School, supporting;

- General Science and Senior Science
- Art and Textiles
- Food Tech and Hospitality
- 'Clean Technology', 'Dirty Technology'and Fabrication Labs
- Small Classoom Spaces, Dedicated Homerooms and Collaboration Areas*

*Note: Library, Performance, Fitness, Sports and Music Facilities attached to shared facilities area and seperate to project phasing study.

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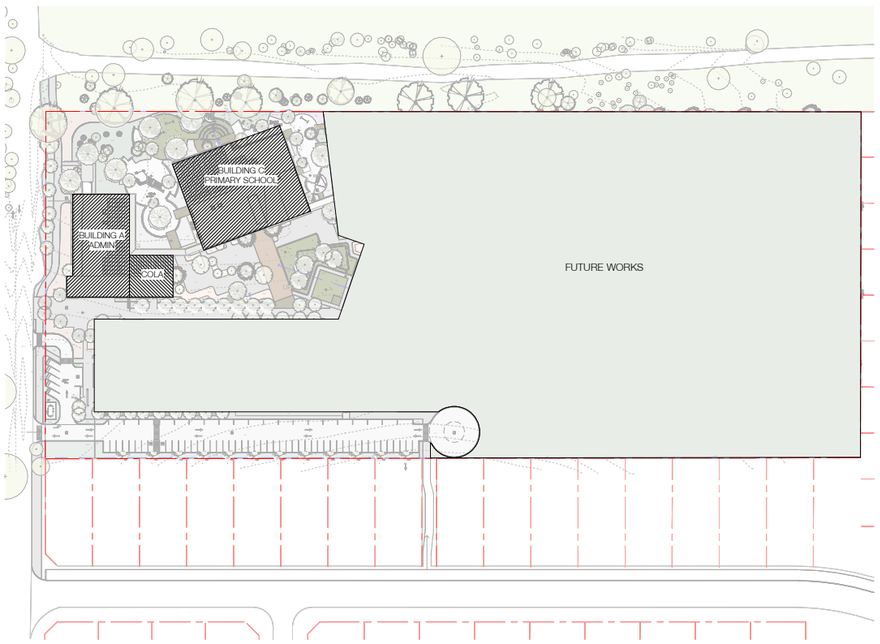
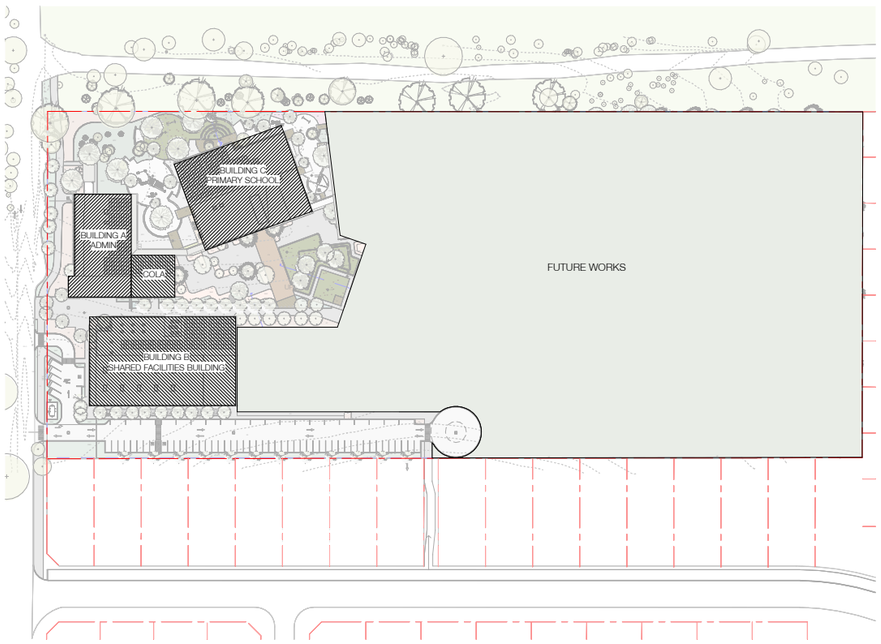
Phasing Diagram

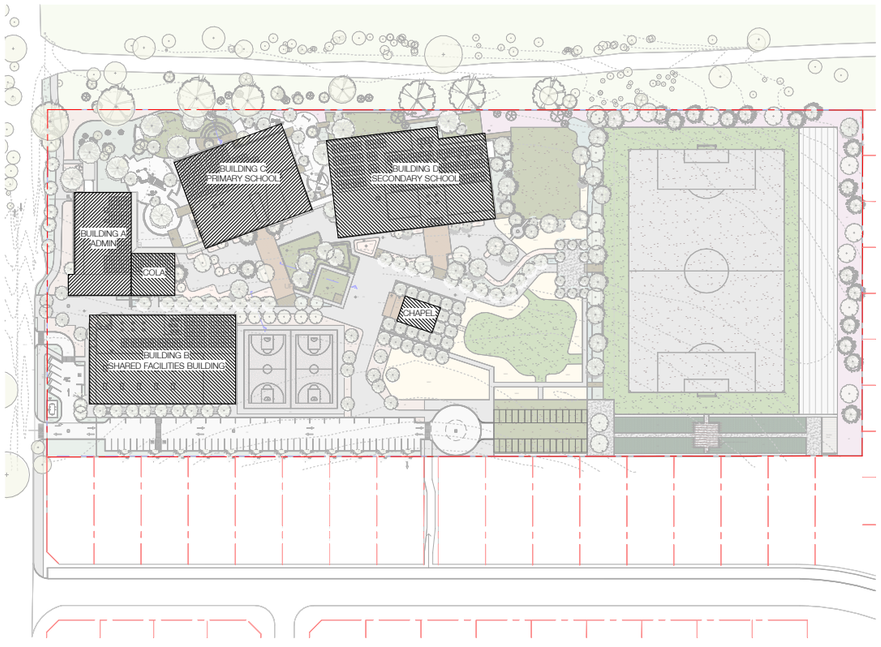


1 / 2 SSDA_STAGE 1 WORKS
Scale 1 : 1000



2 / 2 SSDA_STAGE 2 WORKS
Scale 1 : 1000

3 / 2 SSDA_STAGE 3 WORKS
Scale 1 : 1000



4 / 2 SSDA_STAGE 4 WORKS
Scale 1 : 1000

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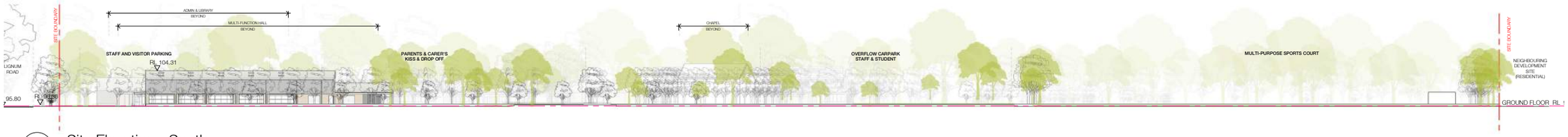
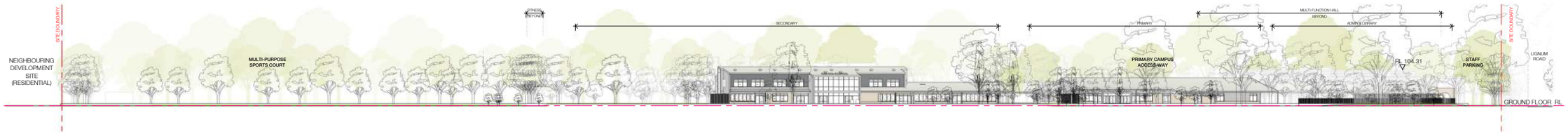
Site Elevations



1 / 1 Site Elevation - South
Scale 1 : 500



3 / 1 Site Elevation - North
Scale 1 : 500

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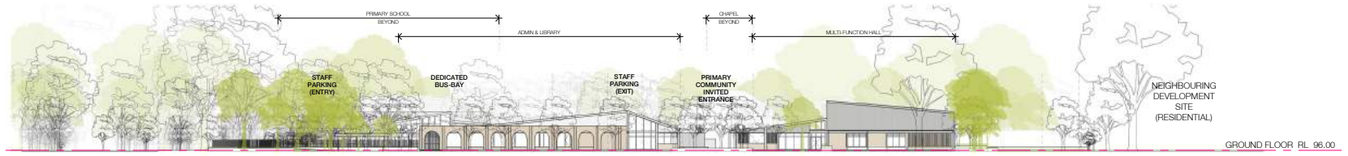
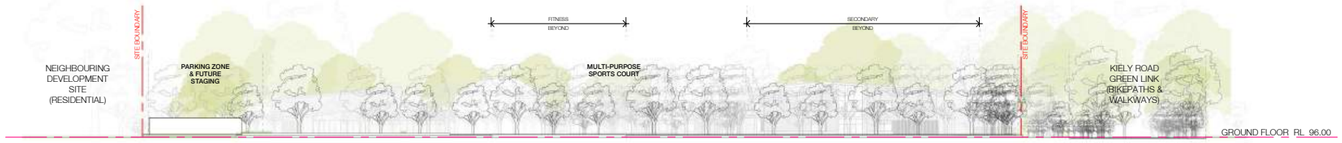
Site Elevations



2/1 Site Elevation - West
Scale 1 : 500



4/1 Site Elevation- East
Scale 1 : 500

BLESSED CARLO CATHOLIC COLLEGE

ARCHITECTURAL RESPONSE

River Provides Life

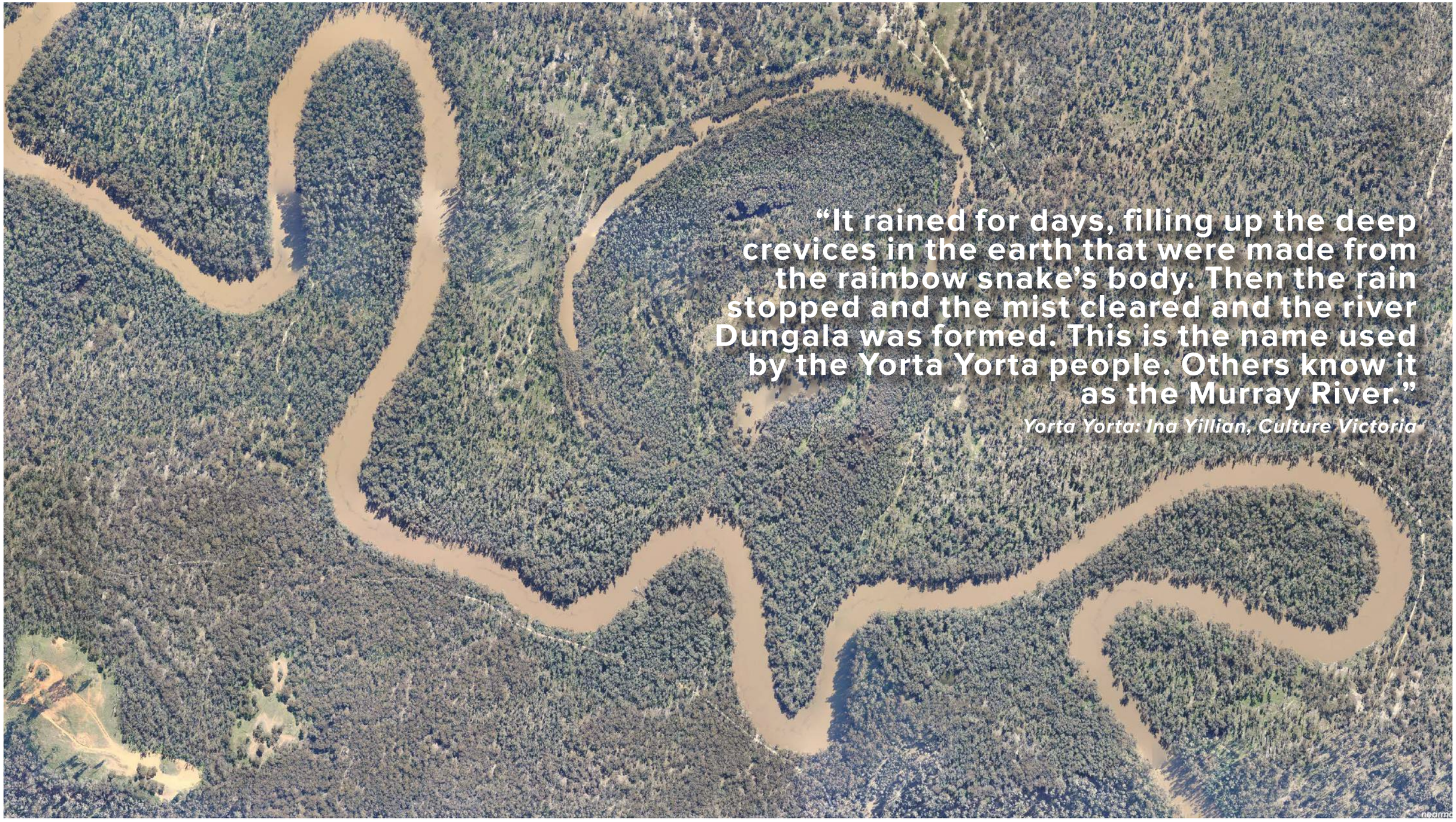
The Murray River floodplain was manipulated by Aboriginal people with dykes and irrigation trenches. Irrigation has been one of the skills of the Yorta

Celebration of Native Flora and Food

Use of irrigation skills to supply water to agricultural crops such as yam daisy and kangaroo grass

A Place to Share Stories

A place where people connect, gather and share stories.



"It rained for days, filling up the deep crevices in the earth that were made from the rainbow snake's body. Then the rain stopped and the mist cleared and the river Dungala was formed. This is the name used by the Yorta Yorta people. Others know it as the Murray River."

Yorta Yorta: Ina Yillian, Culture Victoria

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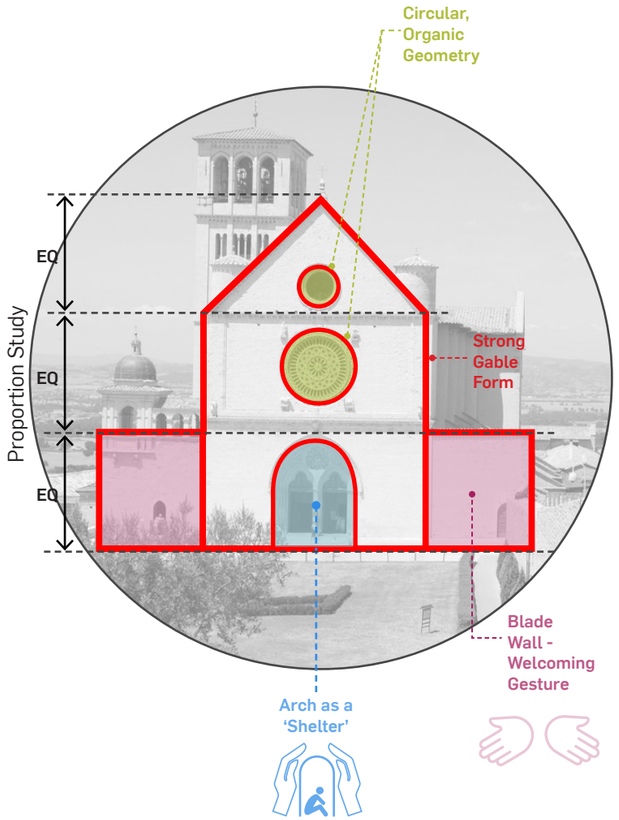
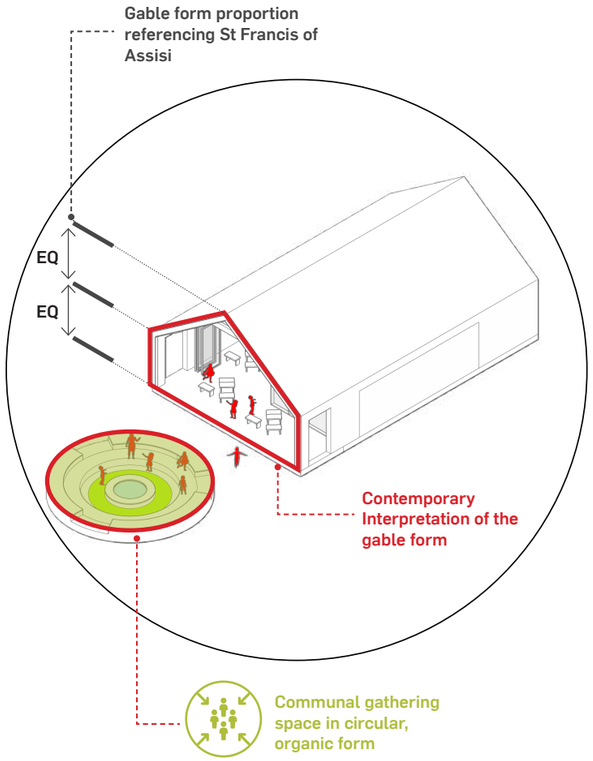
Design Principle Diagrams

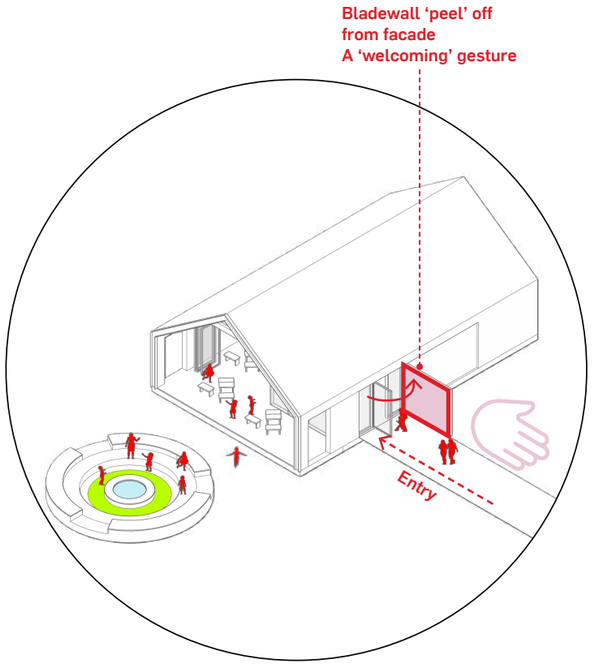


Precedent Study:

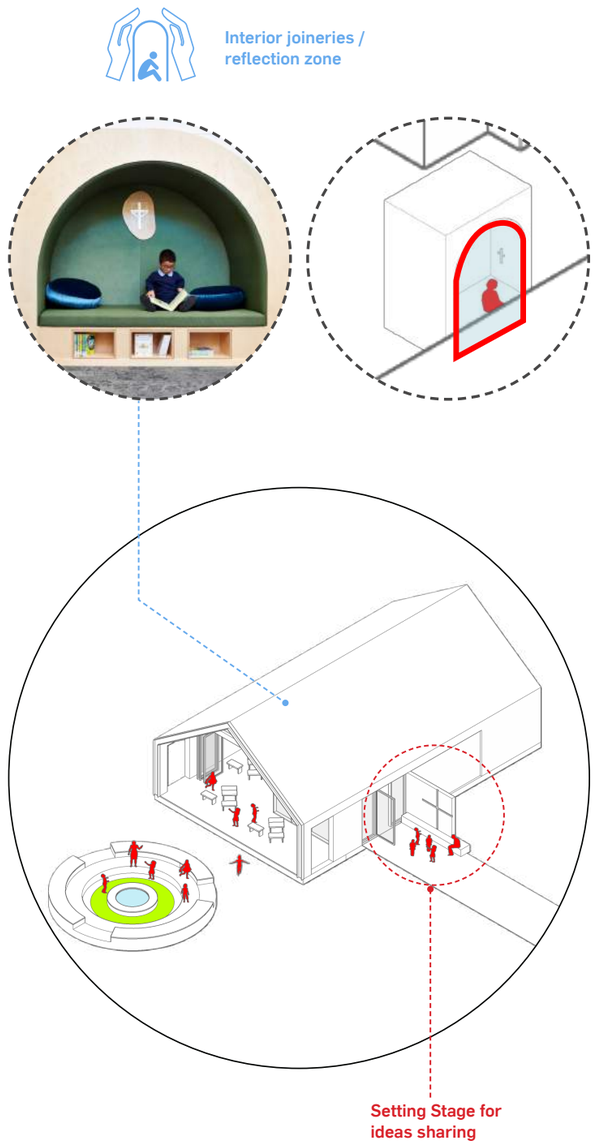
St Francis of Assisi Catholic Church



Built-form interpretation



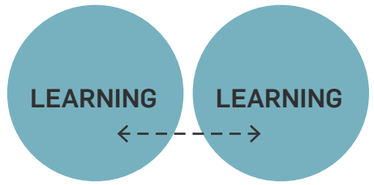
Blade wall as design feature

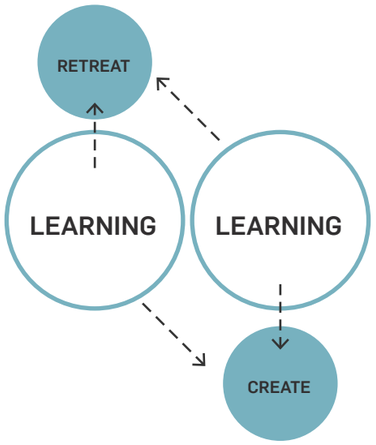


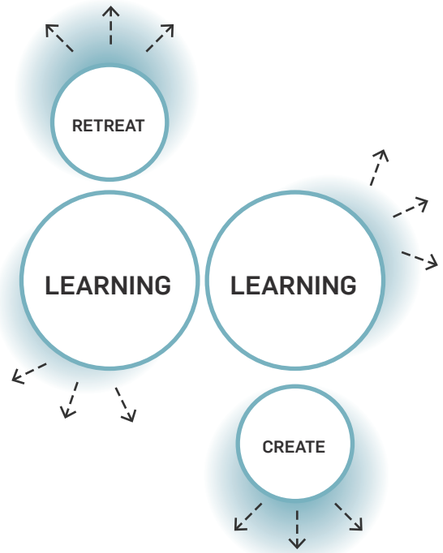
Integrating faith into architecture

Blessed Carlo Catholic College | Moama

Learning Pedagogy - Priorities







Connected Learning Environments Designed for Learning Modes and Experiences

Equal Access to Learning Opportunities, Equal Access to Amenity

Connection to the Exterior Blended Learning Environments

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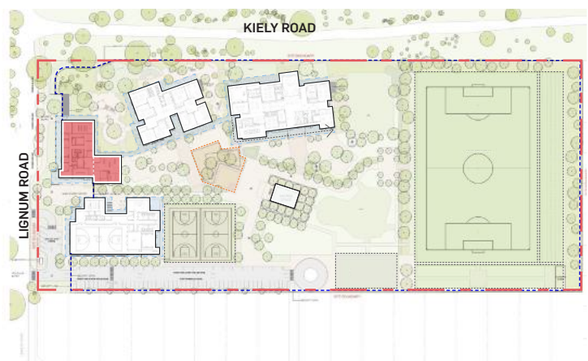
Architectural Response - Building A - Reception, Admin & Library

SSDA_FUNCTIONAL AREA SCHEDULE - BUILDING A		
Name	Qty	Area
ADMIN	1	61 m²
BOARDROOM	1	39 m²
MEETING	3	44 m²
OFFICE	1	13 m²
PRINCIPAL	1	19 m²
SICK BAY	1	23 m²
STAFF LOUNGE	1	90 m²
VICE PRINCIPAL	1	22 m²
WORKSTATION	1	60 m²
IT HELP / RECEPTION	1	23 m²
LIBRARY	1	125 m²
MEET	1	12 m²
MULTI-PURPOSE GLA	1	67 m²
WORK	1	16 m²
WORKROOM	1	17 m²
KITCHEN	1	16 m²
RESOURCE	1	22 m²
AIRLOCK	1	13 m²
CIRCULATION	2	52 m²
FOYER	1	40 m²
STUDENT FOYER	1	52 m²
ACCS.	1	8 m²
CLEANER	1	5 m²
COMMS	1	9 m²
MSB	1	3 m²
VISITOR W/C	1	6 m²
W/C	1	31 m²
Grand Total: 30		886 m²

Building A - Admin & Library

Total GBA:	1315 m²
Total GFA:	940 m²
Total UFA:	721 m² UFA
UFA to GFA Ratio:	77 %



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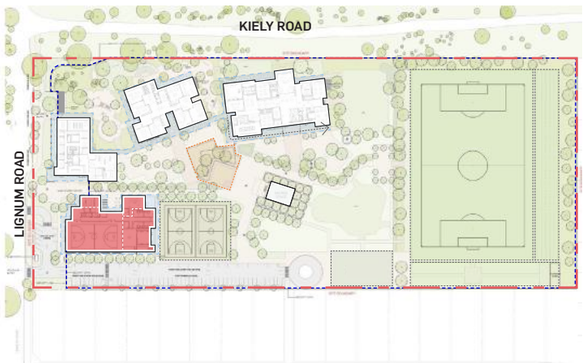
Building A - Ground Floor Plan

SSDA_FUNCTIONAL AREA SCHEDULE - BUILDING B		
Name	Qty	Area
MULTIPURPOSE SPACE	1	89 m²
MUSIC	2	105 m²
RECORDING	1	9 m²
CANTEEN PREP	1	35 m²
GYM	1	656 m²
SERVERY	2	50 m²
STAGE	1	92 m²
CIRCULATION	2	82 m²
LOBBY	2	106 m²
CLEANER	1	4 m²
COLD STORE	1	10 m²
COMMS	1	11 m²
DRY STORE	1	10 m²
FEMALE WC & CHANGE	2	57 m²
MALE WC & CHANGE	2	56 m²
MECH	1	14 m²
SPORTS STORE	1	22 m²
STORAGE	2	36 m²
W/C	2	23 m²
Grand Total: 27		1467 m²

Building B -Shared Facilities, Sports, Performance & Music

Total GBA:	2083 m²
Total GFA:	1520 m²
Total UFA:	1089 m² UFA
UFA to GFA Ratio:	72%



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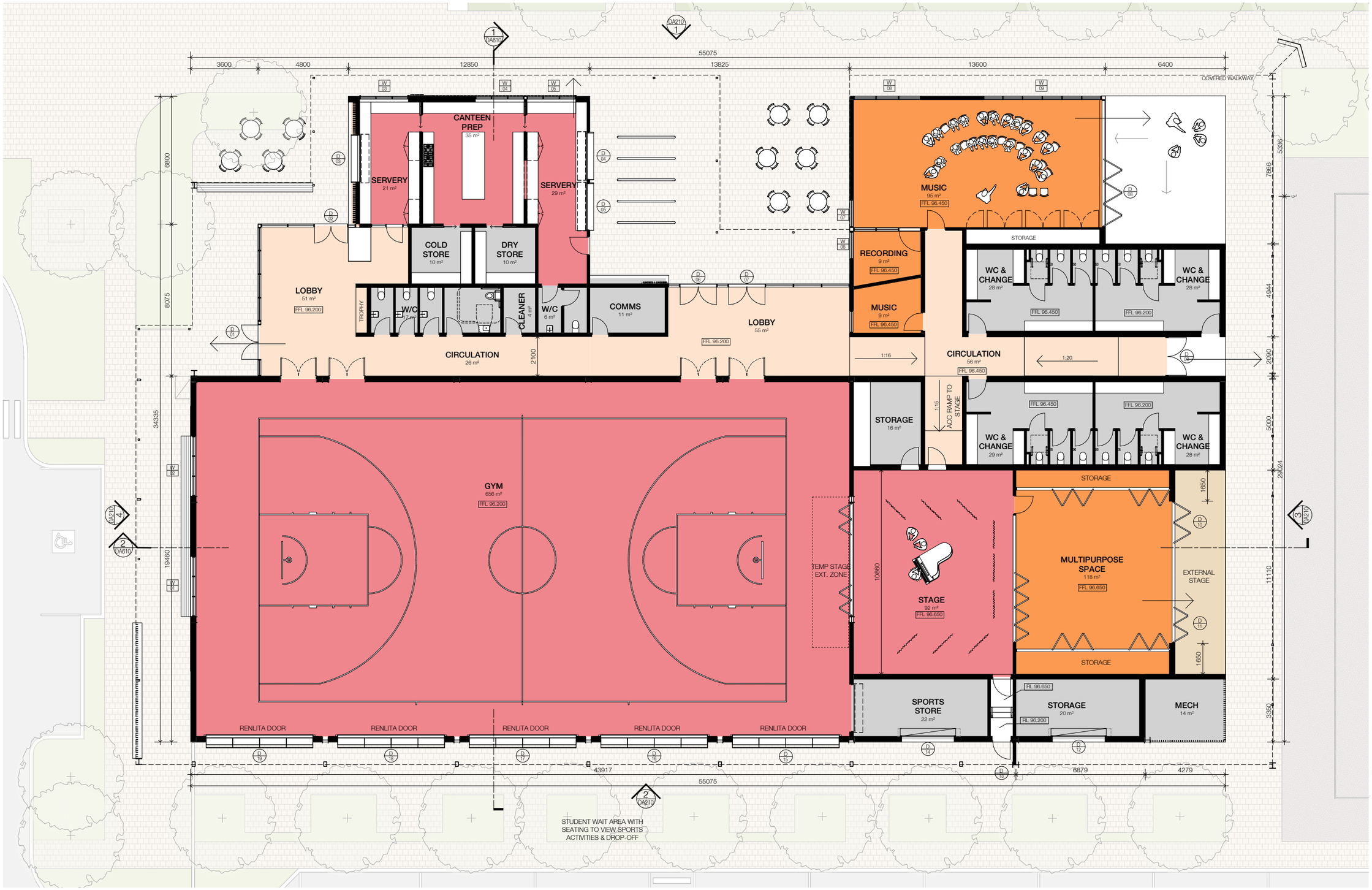
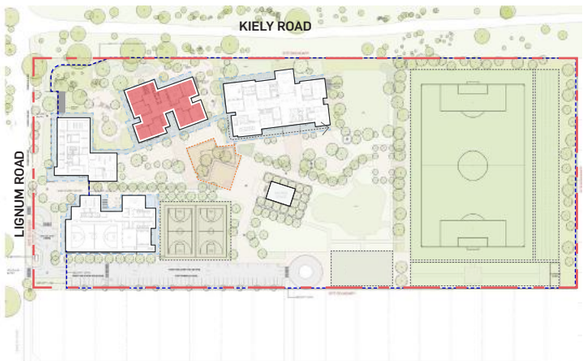
Building B - Ground Floor Plan



SSDA_FUNCTIONAL AREA SCHEDULE - BUILDING C		
Name	Qty	Area
WORKSHOP	1	72 m²
STAFF	1	25 m²
GLA	7	629 m²
CREATE	1	34 m²
GATHERING	1	29 m²
OPEN COLLAB	3	139 m²
CIRCULATION	2	116 m²
ACCS.	1	5 m²
CLEANER RM	1	3 m²
SERV.	1	8 m²
SERVICES PLANT	1	14 m²
STAFF WC	1	5 m²
STORAGE	1	14 m²
WET AREAS	2	30 m²
Grand Total: 24		1123 m²

Building C - Primary School

Total GBA:	1648m²
Total GFA:	1134 m²
Total UFA:	940 m² UFA
UFA to GFA Ratio:	83%



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Building C - Ground Floor Plan

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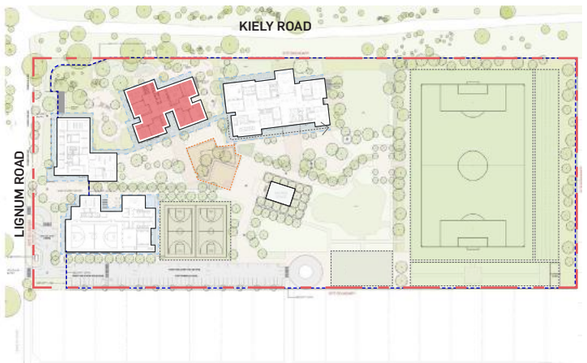
Architectural Response - Building D - Workshops & Senior School

SSDA_FUNCTIONAL AREA SCHEDULE - BUILDING D		
Name	Qty	Area
BREAKOUT	1	85 m²
DYNAMIC TECHNOLOGY	1	95 m²
EXPERIMENTS	1	23 m²
FOOD TECH	1	115 m²
INNOVATION WORKSHOP	1	152 m²
MACHINES	1	15 m²
MULTIPURPOSE WORKSHOP	1	84 m²
PREP	1	31 m²
SCIENCE	1	104 m²
SCIENCE PREP	1	30 m²
STAFF	1	56 m²
GPLA	6	448 m²
THEORY	2	150 m²
ART STUDIO	1	91 m²
BREAKOUT	2	51 m²
CREATE	1	21 m²
GROUP WORK	2	56 m²
OPEN COLLAB	3	340 m²
QUIET	3	77 m²
CIRCULATION	4	295 m²
ACCS.	2	11 m²
ART STORE	1	12 m²
CLEANER	1	6 m²
CLEANERS	1	6 m²
COMMS	2	7 m²
ENG	1	6 m²
FEMALE	2	25 m²
MALE	2	21 m²
MECH	1	26 m²
PREP	1	13 m²
STAFF WC	1	7 m²
STORAGE	5	41 m²
STORE	2	18 m²
Grand Total: 57		2517 m²

Building D - Workshops & Senior School

Total GBA:	3611 m²
Total GFA:	2586 m²
Total UFA:	2100 m² UFA
UFA to GFA Ratio:	81%



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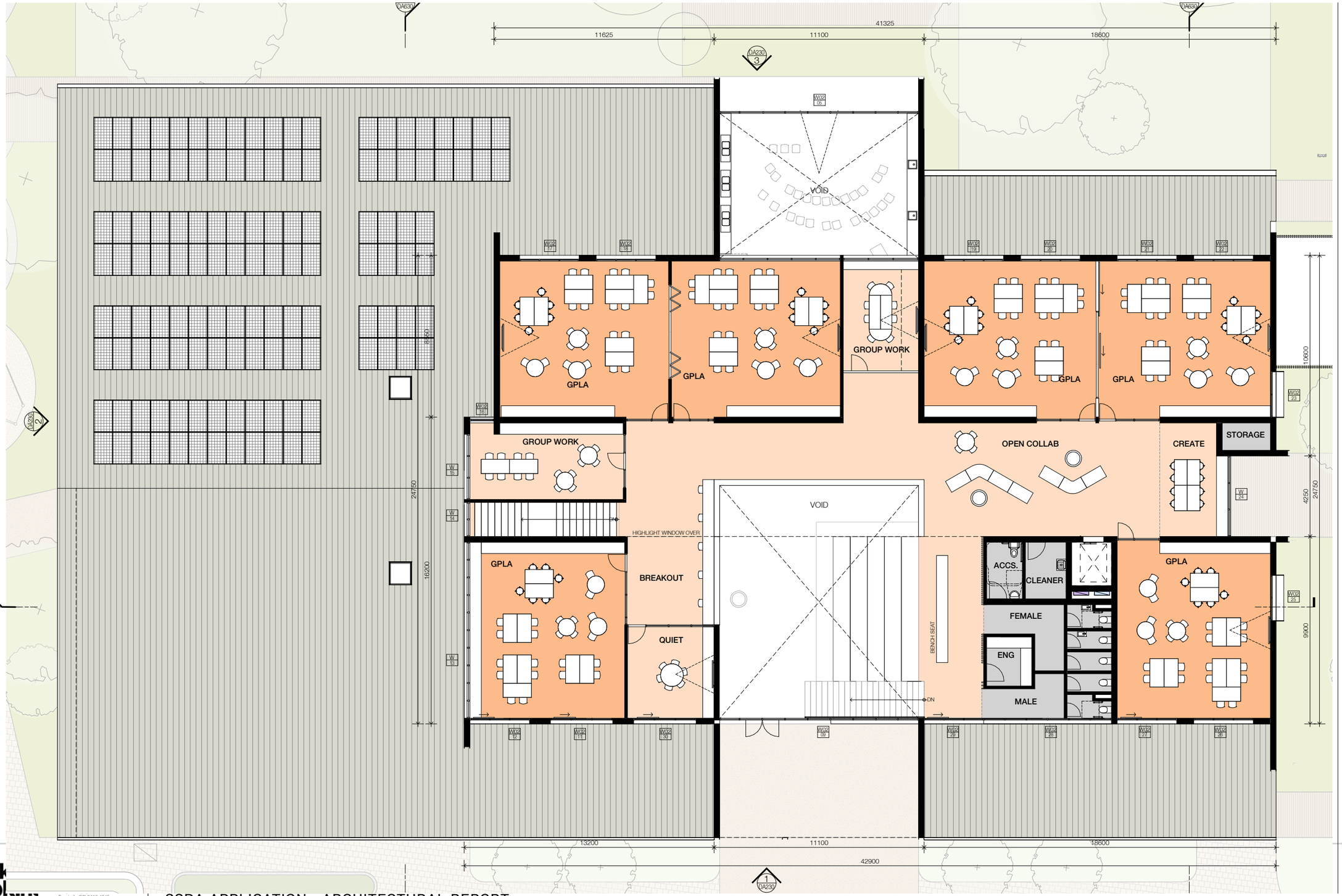
Building D - Ground Floor Plan

Blessed Carlo Catholic College

Building D - Level 01 Floor Plan



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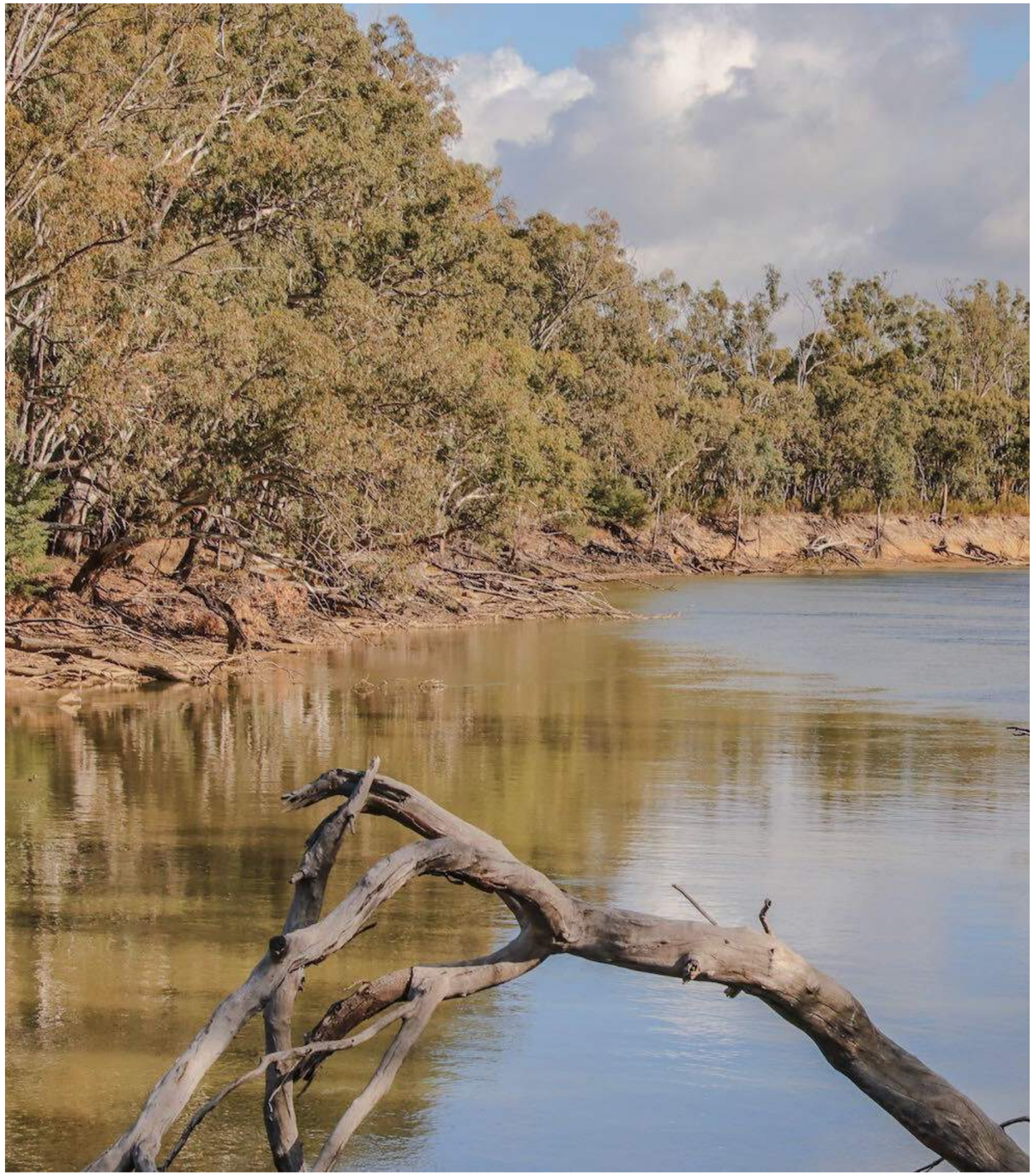
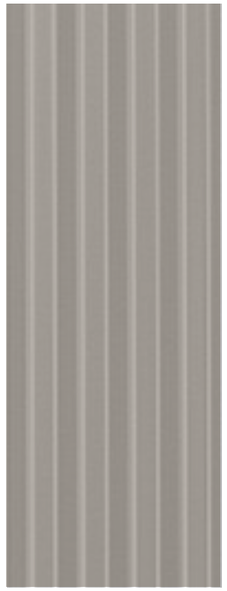
River as Inspiration - Material Palette





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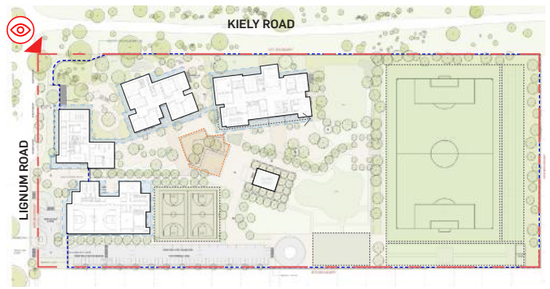
Precinct Visuals - Lignum Road [North]



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Precinct Visuals - Lignum Road [Mid.] - School Community Entry

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Precinct Visuals - Community Hearth - Central Gathering Area

BLESSED CARLO CATHOLIC COLLEGE

TECHNICAL RESPONSES

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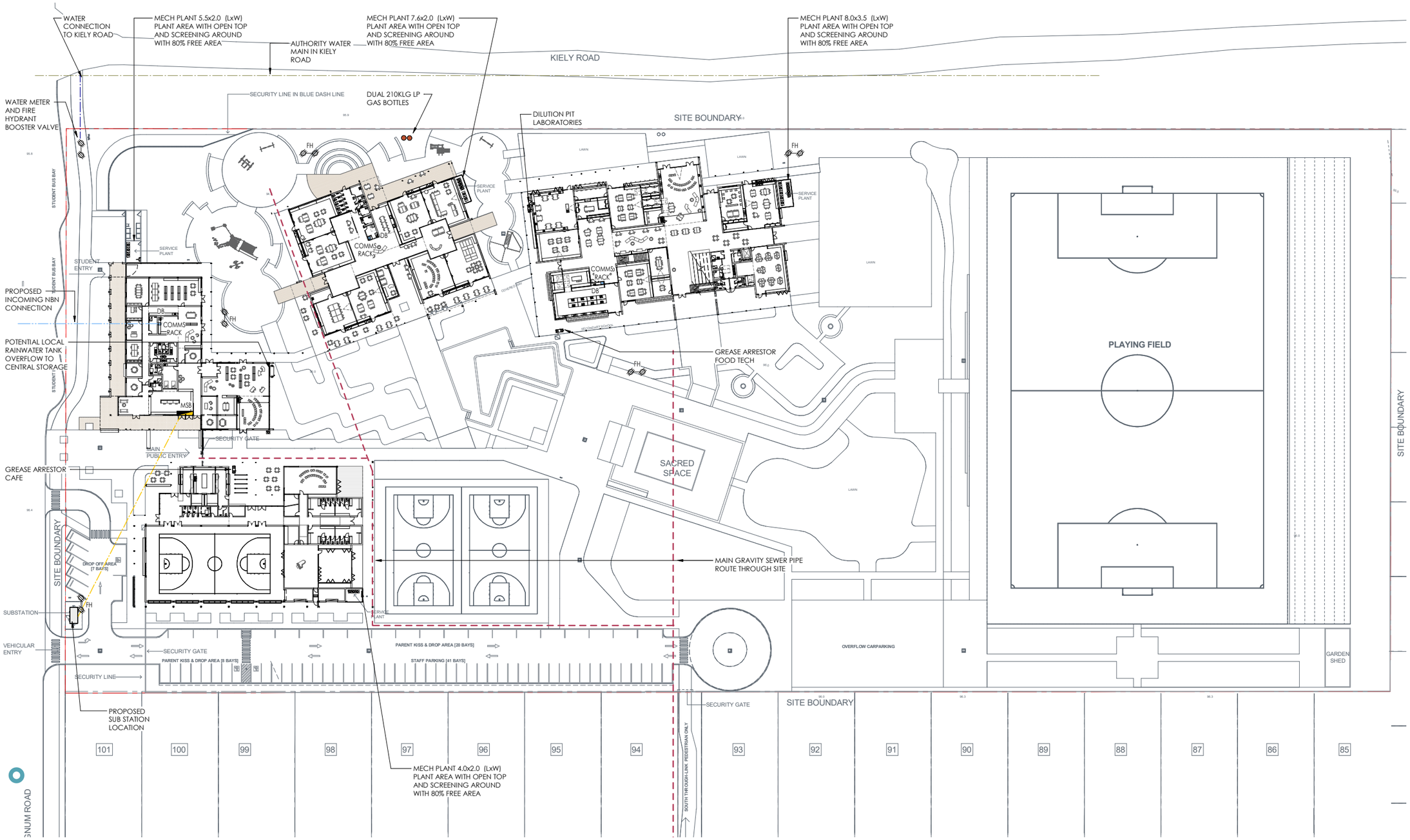
Site Infrastructure - Services



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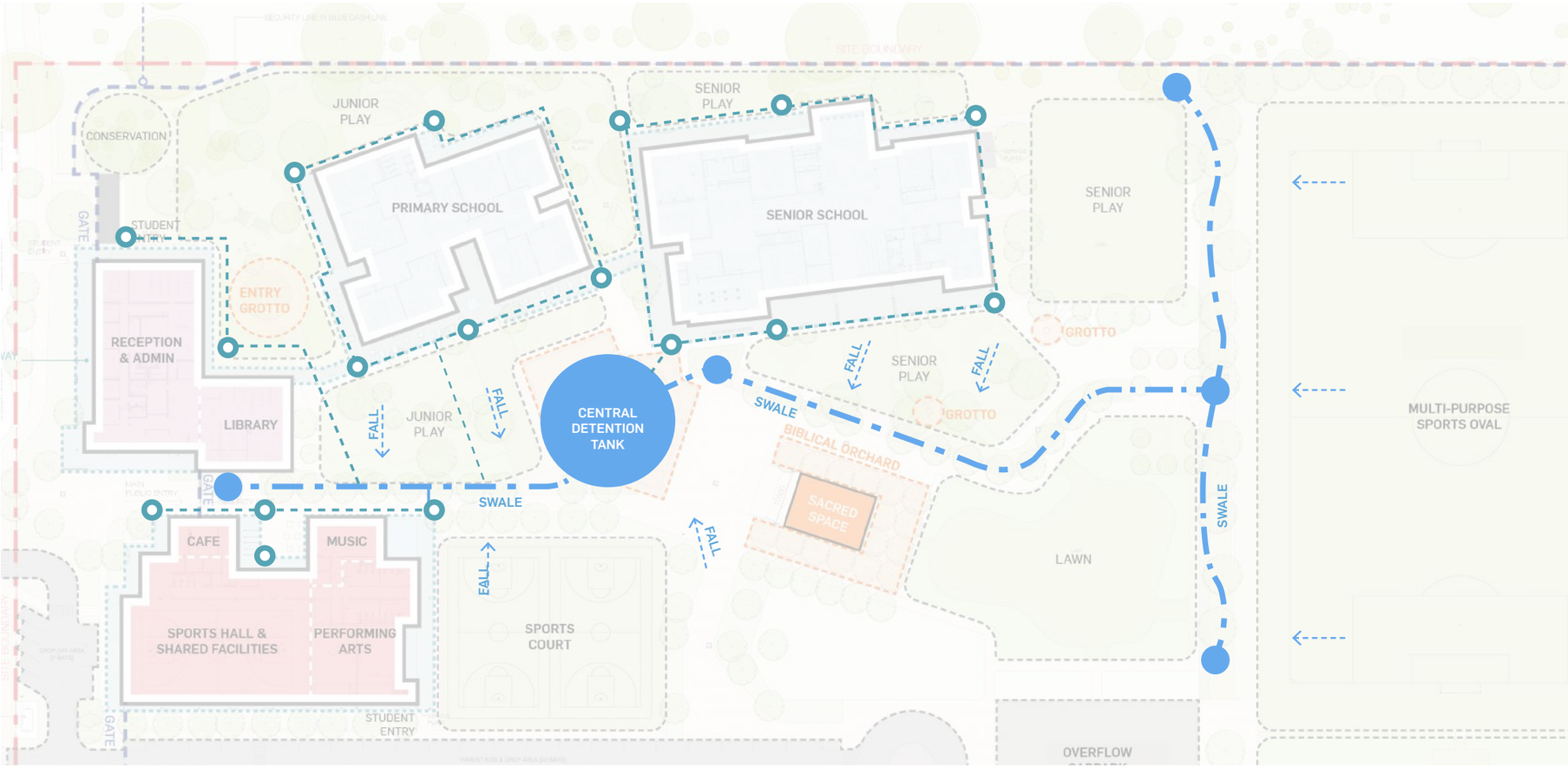
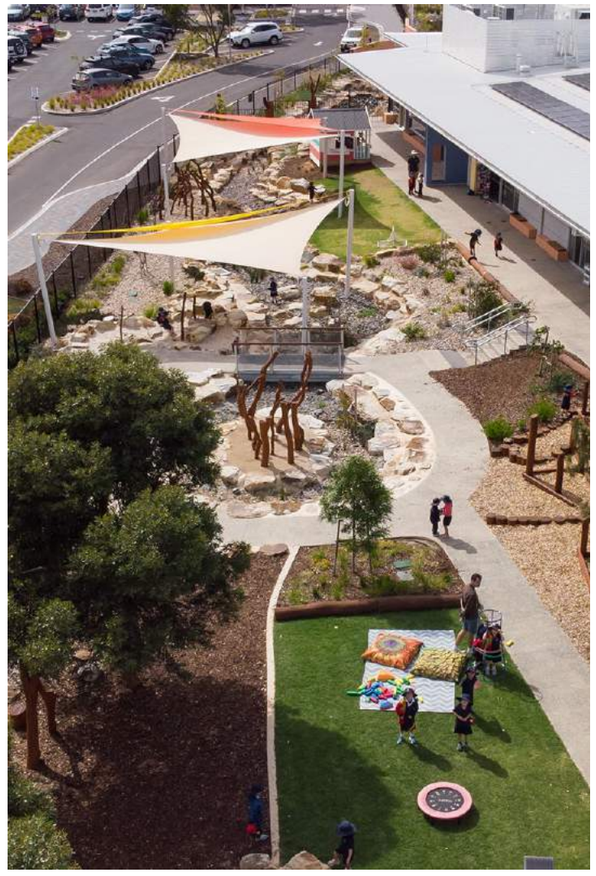
Stormwater Strategy - Integrated System





LEGEND

- VEGETATION SWALE
- ROOF DRAINAGE PATH
- ROOF DRAINAGE POINT

Native Flora and Food

Yam Daisy

Microseris lanceolata

Kangaroo grass

Themeda triandra

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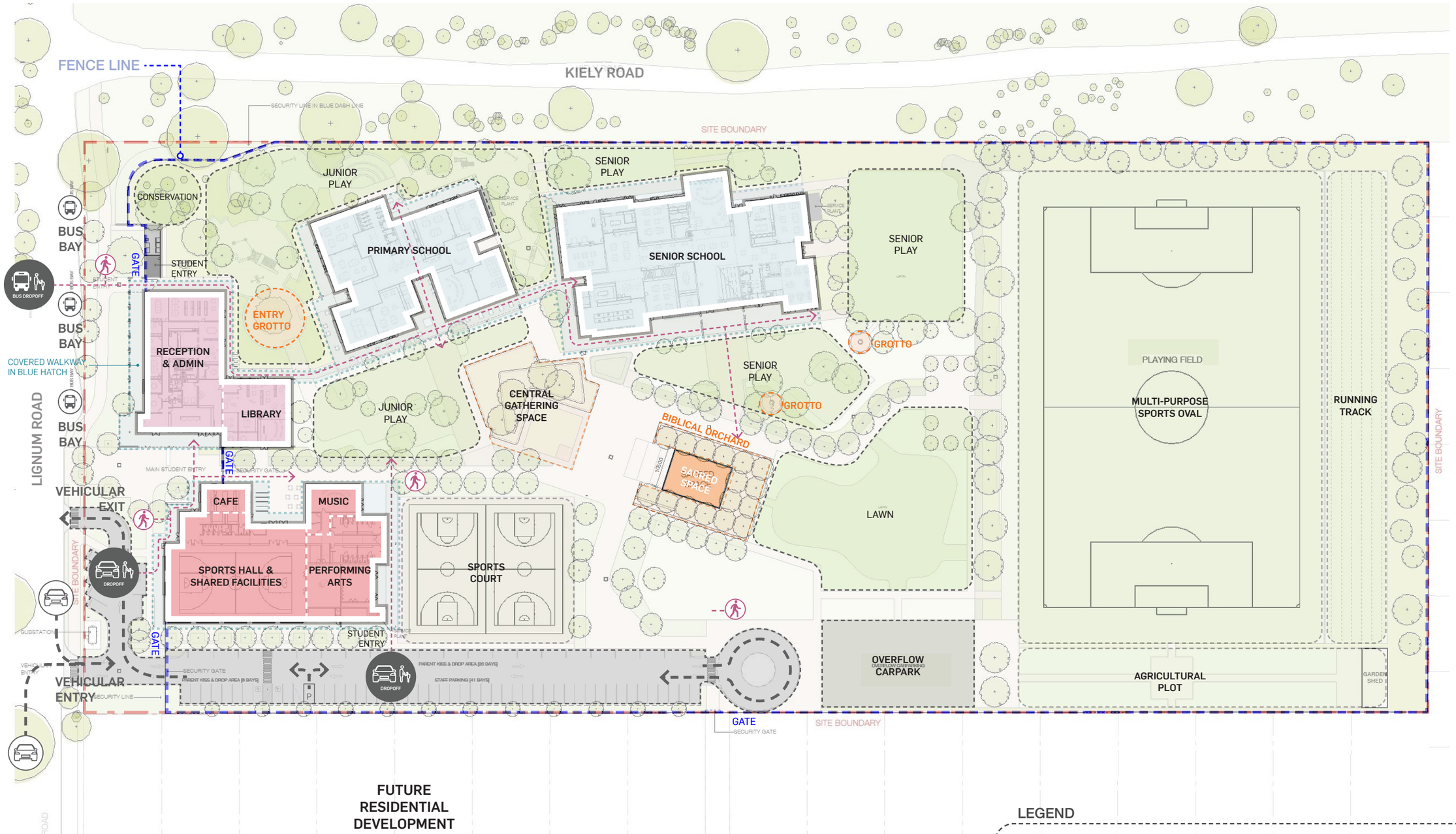
New Learning Campus - Access & Connectivity



LEGEND

FENCE LINE	SHARED FACILITY	OUTDOOR LEARNING
PEDESTRIAN PATH	ADMIN FACILITY	SACRED SPACE
VEHICULAR PATH	LEARNING FACILITY	COVERED WALKWAY

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www.chc.com.au

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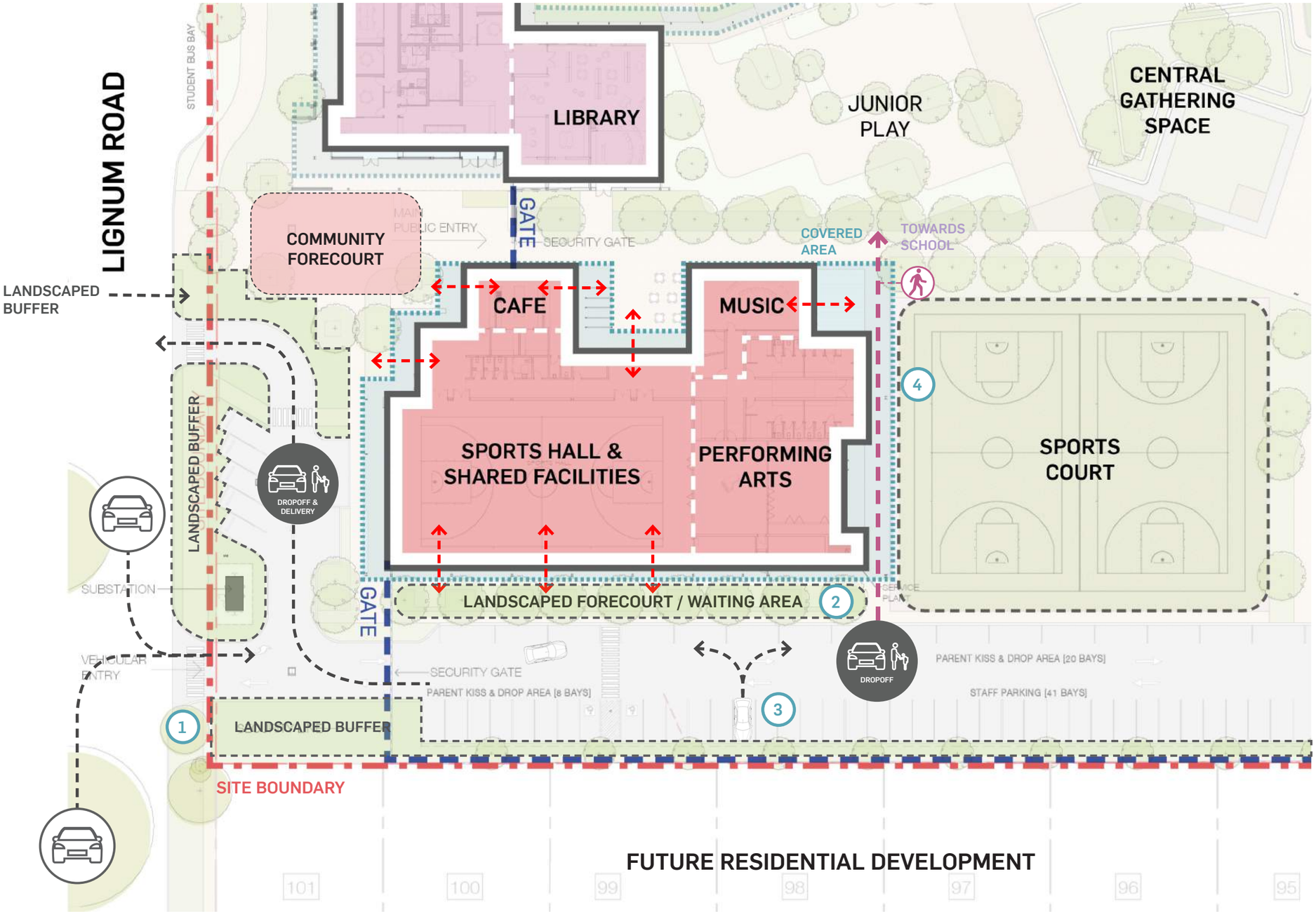
New Learning Campus - Traffic and Parking Strategy



Legends

1 Retaining green strip as landscape buffer while retaining existing vegetations.Creates buffer between internal traffic road and surrounding residential development.

2 Placemaking: a landscaped forecourt as a 'welcoming' gesture towards the community doubling as waiting area for students.

3 Perpendicular car parking to allow flexibility for driver to exit either way while reducing the overall length of carparking area needed.

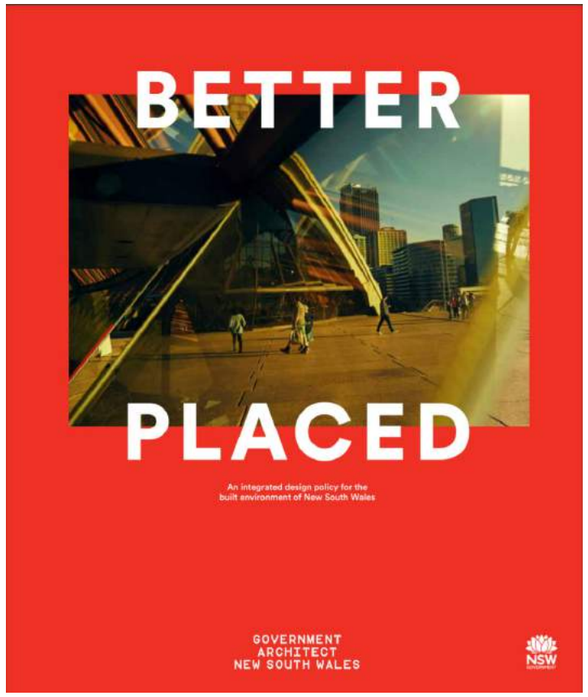
4 Covered colonnade area to provide shelter to student accessing the campus.

BLESSED CARLO CATHOLIC COLLEGE

RESPONDING TO BEST PRACTICE GUIDELINES

Blessed Carlo Catholic College

Responding to Best Practice Guidelines - Better Placed



BETTER PLACED: POLICY

Government Architect of NSW, 2017

" The design of the built environment shapes the places where we live, work and meet. The quality of design affects how spaces and places function, how they integrate, what they contribute to the broader environment, and the users, inhabitants, and audiences they support or attract. "

The Better Placed Policy (2017) provides clarity on what the NSW Government means by good design - encompassing both physical and spatial attributes, but also the function and feel of these built environments - and how built environment design can respond to broader State aspirations and vision for the future.

Good design brings benefits socially, environmentally, and economically, building on these benefits over time. The vision and architectural intent for the Blessed Carlo Catholic College seeks to provide good design, which creates usable, user-friendly and attractive places and spaces.

The new college qualifies as a state significant development due to its nature as a new school, where design can impact future directions. The college responds to the following broader NSW priorities:

- **Health:** the college's purpose as an educational facility responds directly to aspirations to creating healthier places for NSW, with connection to natural amenity and environment. .
- **Climate Resilience:** the design of the college seeks to utilise best practice and sustainable strategies in building design, construction and operations. The landscape strategy of the proposal involves minimal impact to the native environment (Kiely road green link) and retention of trees and other existing vegetation on site.
- **Changing lifestyles and rapidly growing population:** the involvement with the growing Moama and Echuca districts departs a brief for the new facility to respond to increase demand - and the shifting population demographics across regional NSW.

GOOD DESIGN METHODOLOGY

The design process and overall building program for the college follows guidelines for best practice as indicated in the Better Place policy. The design process for the new school underwent extensive organisational engagement in 2021 to establish a detailed brief, and further research and briefing process.

In future stages of the project, where design development and construction is to ensue, rigourous spatial testing is to be expected in order to test conceptual ideas and ensure that spaces meet not only function, but brand and organisational vision.

01 Better Fit

Contextual, local and of its place. The proposed design of the college responds to the natural amenity of the local Moama-Echuca context and maximises use of site opportunities such as slope and crest, parkland vistas and existing mature trees. The architecture seeks to enhance the connection to the local site through it's visual permeability, inside-outside connection, and continuation of landscape elements within the interior design. The proposed built forms respond to the residential context to the north-west and to the educational / institutional context to the south-east.

02 Better Performance

Sustainable, adaptable and durable. The proposed buildings are designed to enable the college to carry out their services in an efficient and integrated way. The centre will be a purpose-built, custom made facility, but its rational structure and lightweight internal walls will allow the building to be modified to adopt to new purpose in the future. Sustainable design strategies, construction and material use have been considered and adopted where possible in the proposed design. The main materials and constructions systems are concrete, steel, and aluminium-framed walls which can be locally procured and will require low maintenance.

03 Better for Community

Inclusive, connected and diverse. By nature of its functional and operational program, the college is a building for families and community - a central space for community.

04 Better for People

Safe, comfortable and liveable. Wellbeing, ease-of-use and accessibility (while secure) is the core of the design of the College. The proposed building design allows for passive surveillance, while maximising opportunities for interfacing and interaction. All learning spaces have easy direct access from the main entries and public waiting areas, while still ensuring acoustic and visual privacy. Generous natural daylight has been provided.

05 Better Working

Functional, efficient and fit-for-purpose. Supporting the mission and purpose of the College, the proposed design for the school is a result of extensive client (end-user)engagement and briefing process, with additional engagement expected for future phases of the project.

06 Better Value

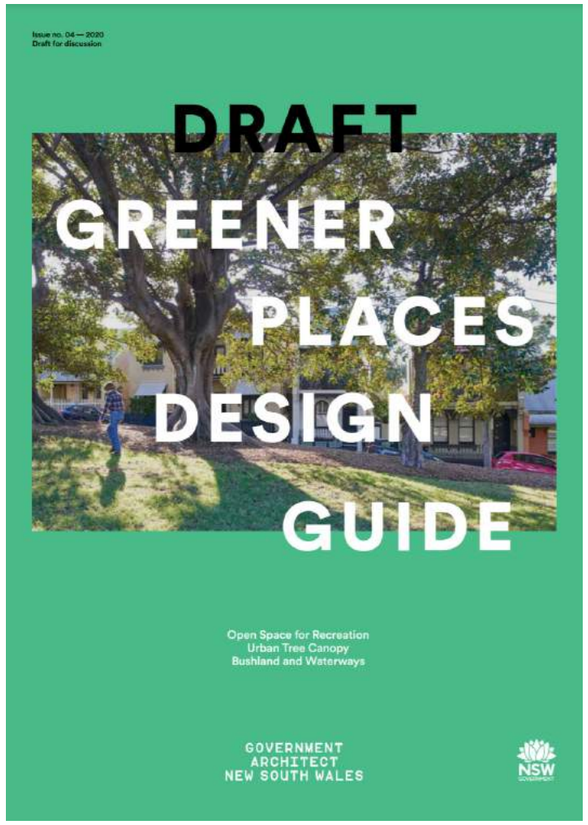
Creating and adding value. Consolidating services and teams onto a central location, and its association with the local community, the college has the opportunity to become a high value asset for future generations within Moama.

07 Better Look & Feel

Engaging, inviting and attractive. The proposed college strives to be engaging and welcoming in the architectural response with high quality finishes and natural materials used throughout the spaces.

Blessed Carlo Catholic College

Responding to Best Practice Guidelines - Greener Places



DRAFT GREENER POLICY

Government Architect of NSW, 2020.

The Greener Places Design Guide (Draft, 2020) identifies definitions, planning recommendations and State aspirations in regards to the provision of open recreation spaces, urban tree canopies, bushland and waterways occupation and use. The guide assists in providing a framework for aspirations that external or outdoors spaces must meet.

The vision and architectural intent for the college seeks to provide a fit-for-purpose, user-friendly and attractive built environment. The intent is supported by the design and implementation of extensive outdoor spaces for the new building. These outdoor spaces include:

- Public and streetside landscaping
- Internal courtyards and terraces with some public access
- School playgrounds and outdoor learning areas

These outdoor areas encapsulate aspirations to provide enhanced connection to the Kiely road green link, and provide additional community outdoor recreational amenity.

The proposed design of the outdoor spaces for the college incorporates a performance based approach, as recommended by the Greener Places Guide (2020). This involved a rigourous site analysis study and stakeholder engagement briefing to develop understanding of users and community demographics of the local area.

Outcomes of the analysis and engagement work provided 'connection to landscape and nature' as one of the key design principles driving the urban and architectural site response. This principle of connection to landscape is part of a wider conceptual driver that focuses on holistic wellbeing - of both building occupants and spatial function (service provision) of the development. Looking at holistic wellbeing, the proposed design of the college landscape incorporates accessibility within its planning and accommodates for diversity within its architectural response, with the long-term goal of enhancing local spatial experience and supporting local biodiversity.

SITE QUALITY PERFORMANCE CRITERIA:

The site of the proposed college development has been deemed appropriate for use and fit-for-purpose based on earlier development proposals and reviews (including SEARS). The site also presents to meet recommendations provided in the guidelines on fit-for-purpose sites:

- **Hazards and Constraints**
- **Minimum Widths**
- **Safety and Design**
- **Buffers and Adjacent Land Use**
- **Constructed Drains and Flooding**

RESPONDING TO NSW URBAN CANOPY APPROACH

The proposed development acknowledges and responds to state-wide efforts on improving urban canopy cover by:

- Partaking in analysis and review of existing trees by an arborist (full detailed report attached to this SSDA report), and incorporating an evidence-based strategy for existing vegetation on site.
- Protection, maintenance and retention of existing trees (where possible)

01 Integration

Within the site, the water management design of on-site detention, rainwater tanks and integration of natural swales in the landscape design allows for the campus to mimic a natural water catchment and better intergrate the built form with the green infrastructure.

02 Connectivity

The buildings on site are separated by outdoor learning spaces, reflection spaces, play areas and gathering spaces which are all intended to blend in with the natural landscape. How these spaces connect vary creating different experiences for all users.

03 Multifunctionality

The diverse landscape design within the site allows for a central on-site detention with natural creek bed like swales providing natural irrigation to planting. The rainwater tanks allow for catchment re-use and tiered seating within the landscape allow for integrated learning settings.

04 Participation

There has been various stakeholder engagement sessions with the Catholic Diocese, that helped develop the brief and ideaology of the design. Further consultation with the local RAP's and community feedback on the proposed design through direct face to face engagement has allowed the design to respond to local considerations. 2 sessions with the SDRP has allowed for direct implementation of feedback into the design which has allowed for a more considered response.

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Responding to Best Practice Guidelines - Educational SEPP

NSW legislation

Education and Care Services National Regulations

Current version for 1 September 2020 to date (accessed 5 October 2020 at 18:18)

Status information

New South Wales

Status Information

Currency of version

Current version for 1 September 2020 to date (accessed 5 October 2020 at 18:18)
Legislation on this site is usually updated within 3 working days after a change to the legislation.

Provisions in force

The provisions displayed in this version of the legislation have all commenced.

Notes—

- **Does not include amendments by**
  Education and Care Services National Amendment Regulations 2020 (486) (not commenced — regs 5, 7–10 and 12 to commence on 1.10.2020)

Authorisation

This version of the legislation is compiled and maintained in a database of legislation by the Parliamentary Counsel's Office and published on the NSW legislation website, and is certified as the form of that legislation that is correct under section 45C of the Interpretation Act 1987.

File last modified 1 September 2020

Childcare Planning Guideline Planning & Environment & Department of Education, 2017

RESPONDING TO THE SEPP (EDUCATIONAL ESTABLISHMENTS & CHILDCARE FACILITIES)

The NSW Legislation - Educational and Care Services National Regulations were reviewed in depth in the context of the design to ensure all legislative requirements were met for the new facility.

Division 1 - Centre-based services and family day care services and Division 2 - Additional space requirements for centre-based services were reviewed in depth to inform the strategies within the new centre.

Areas reviewed in detail were as follows:

Division 01

- Premises, furniture and equipment to be safe, clean and in good repair
- Fencing
- Furniture, materials and equipment
- Laundry and hygiene facilities
- Space requirements - indoor space
- Space requirements - outdoor space
- Toilet and hygiene facilities
- Ventilation and natural light

Division 02

- Administrative space
- Nappy change facilities
- Outdoor space - natural environment
- Outdoor space - shade
- Premises designed to facilitate supervision

104.Fencing or barrier that encloses outdoor spaces

The proposed boundary fencing on site will be a combination of solid lightweight metal and palisade fencing. The solid fencing to the south and east boundaries where ther is residential development will be of minimum 2.1m high to have full privacy to the neighbouring properties. The palisade fencing along Lignum and Kiely Roads will also be minimum 2.1m high. While this regulation does not apply to the school, the additional security is provided for the safety of the community and the students.

109. Toilet and hygiene facilities

The toilet amenities for each building have been designed where entry and exits are visually connected from areas of supervision and not isolated away from educators to allow increased security. Multiple entry points internally and externally of the building allow for convenient access by the children at all times of the day.

111. Administrative space

The proposed administration building will be able to cater for an increased population as the school evolves from Primary to Secondary as there are a multitude of spaces for meetings, interviews and consultations. The administration spaces for public use are designed to reduce risk for the staff in case of difficult interactions and maintain a secure line for the safety of the users including the children. There is a dedicated student entry to the rear of the building which is only accessible by students during school hours which will allow separation between students and the public.

113. Outdoor space-natural environment

The design intent of the landscape is one of a natural experience. Native vegetation and materiality is intentional to enhance the already existing biodiversity on the site and maintaining the naturally plain landscape where possible to allow for equitable access for all. The landscaping also allows the creation of outdoor learning spaces to the north and south of the learning buildings including tiered seating, gathering spaces and places of interaction.

114. Outdoor space- shade

Being of a rural setting, the existing site was quite bare with regards to tree coverage. The north west corner of the site has the most existing shade coverage and the design has proposed to maintain as much of the natural vegetation as possible here but have gone a step further and is proposing an extensive amount of natural shading through new planting of local trees. At every stage of the proposed works, our new landscaped areas will provide students an staff with a vast area of shaded landscape to protect them from the harsh natural elements.

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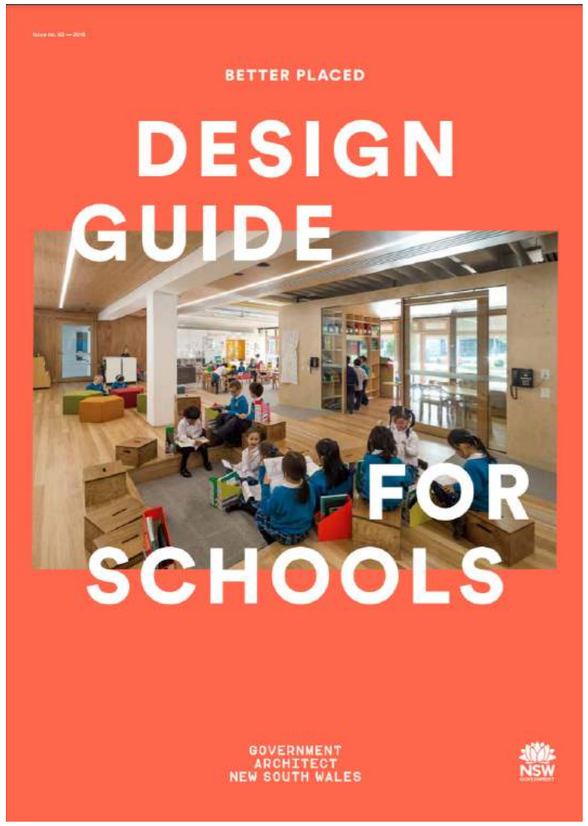
Responding to Best Practice Guidelines - Design Guide for Schools



DESIGN GUIDE FOR SCHOOLS FRAMEWORK

Government Architect Of Nsw & Department of Education, 2017

The Better Placed Design Guide for Schools has been used as a framework to drive best practice design for the new centre. The following pages touch on the seven design principles and how they have been considered in the new facilities.

01 Context, Built Form and Landscape

The school is designed to respond and enhance the experience of the site's natural green space. Classrooms are designed to orient themselves to exterior learning environments and are completely openable to the outdoors.

The design and spatial organisation responds to solar amenity – with learning modules arranged in a series of block forms for optimum solar capture and response.

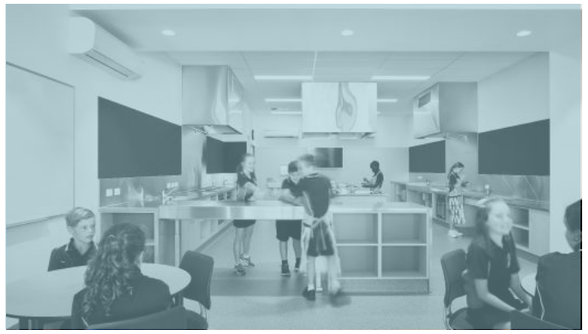
Landscape here is designed into the centre of the school – with biophilic elements drawn into learning spaces and shared facilities.

The overall proposal is oriented and positioned to retain as many of the existing trees as possible, as an asset to enhance the experience of the future centre.

02 Sustainable, Efficient and Durable

The design of the school pavilions incorporates at its core, sustainable environmental principles. The Skillion roof design encourages water capture, energy consumption and passive ventilation strategies, while maintaining connectivity to the green space surrounding the new precinct.

The school's resolution of elements and use of materiality takes into account durability resilience. A masonry base enables touchable surfaces to line the passive and active recreation areas.



03 Accessible and Inclusive

The design of the school from first principles is designed to consider diverse needs by students. The site is relatively flat and through equitable design, the spaces have been designed in a way which is accessible to all, internally and externally. There is a seamless transition between the buildings and the landscape especially around the learning spaces, a continuity that only enhances pedagogy and learning opportunities. Where we have a proposed 2nd storey in the high school, there is a lift proposed for students and staff who require it and it is centrally located to all spaces for ease of access.

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Responding to Best Practice Guidelines - Design Guide for Schools

04 Health and Safety

Front of mind in design of new educational facilities is child safety and protection - with the school facilities designed to maximise passive surveillance and security for both staff and students. The intention of the open plan and operability/flexibility of the spaces allows for constant visual connection to all spaces and reduces dark corners and nooks.

05 Amenity

The Colleges shared lobby is designed to accommodate entry by parents, carers and students onto the grounds to reinforce the sense of community within the facilities. Soft furnishings and additional amenity have been provided to encourage long-stay by visitors, enabling families to further interact with the facility.

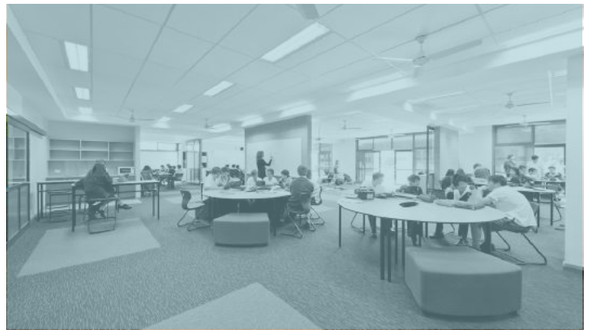
The hall is intended as a facility that further enables the schools' community interaction; with the space designed to be serviced by the reheat kitchen/canteen. This highly flexible learning area is intended to facilitate family events -

ie. Mothers' day morning teas, fathers' day celebrations, book week events and Easter parades -

- Where parents and carers actively participate in the event with the children.

Amenity for the children is designed into the framework of the learning facilities and includes equal access to the outdoors, considered daylight and learning space orientation, along with play areas for all abilities.

Staff amenity is also at the forefront - with shared facilities strategically located near reception and learning buildings.



06 Whole of Life, Flexible and Adaptive

The modular approach to the learning spaces throughout both of the schools encourages future use and flexibility of the spaces, and further adaption throughout the life time of the school.

These learning spaces are highly specialised due to the indepth acoustic and visual requirements and therefore cannot be completely open or agile in comparison to a normal school.

The learning module in itself however maintains a flexible interior and may be utilised in an agile way.

07 Aesthetics

The architectural realisation of the school is to take into account best practice environments for students. These approaches are highlighted through a 'domestic' approach to construction - or 'human scale' to the facilities.

Skillion roofs are maintained as the consistent language throughout the learning areas.

Apertures to the learning spaces are realised through sliding glazed doors and folding windows; with practical activity areas externalised to encourage workshopping to occur undercover and outdoors.

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Responding to Best Practice Guidelines - CPTED

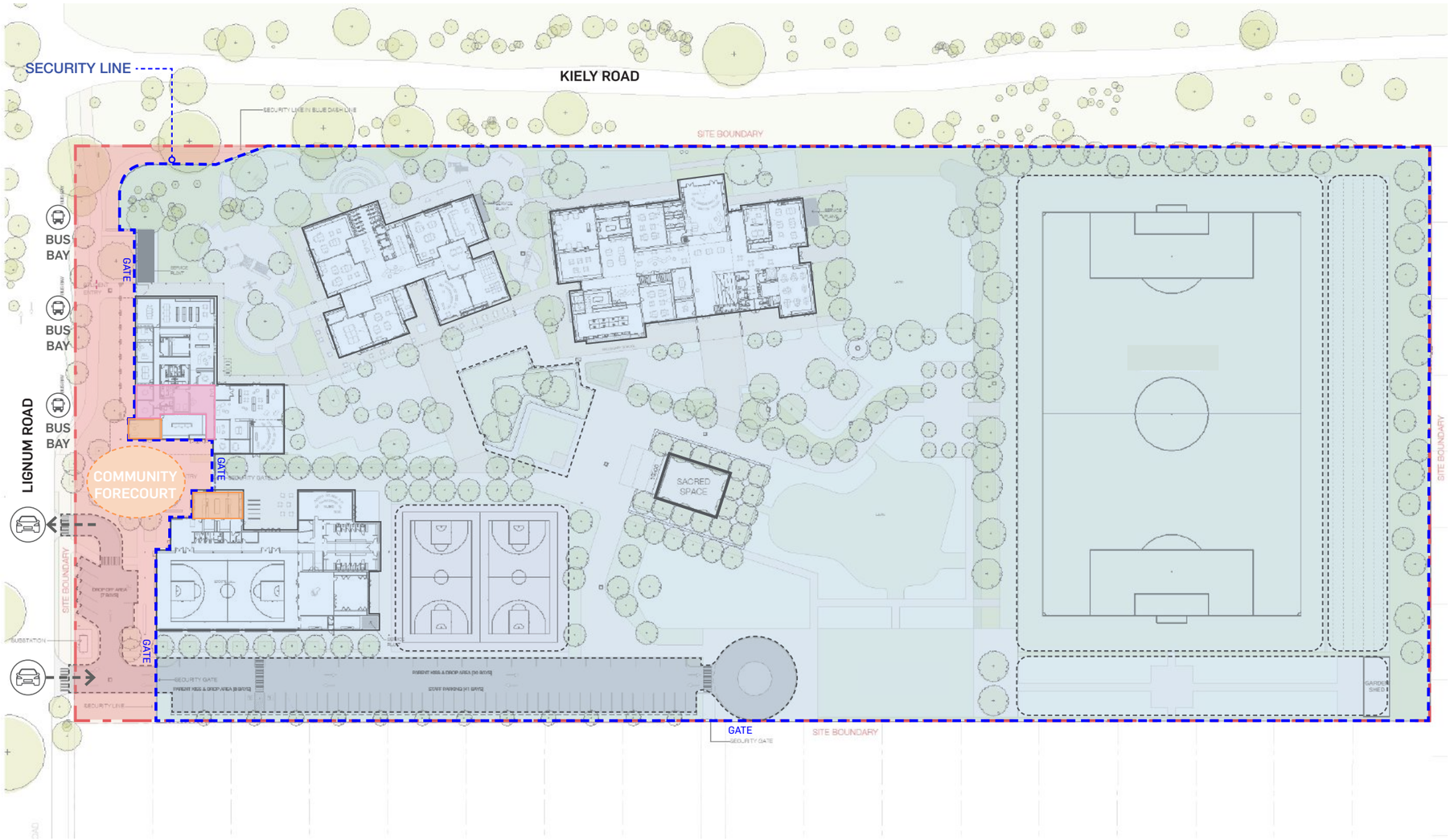
At the heart of the proposal for the new school is the embodiment of the principles of ease of access, visibility, legibility and good orientation.

Below is a brief summary of the architectural responses to the CPTED requirements.

The four main design principles as part of the CPTED approach are: Natural Surveillance and Lighting, Access Control, Territorial Reinforcement & Space Management

To maintain good natural surveillance of all areas in and around the buildings, a considerable effort has been made in the space planning so that all publicly accessible spaces around the building have some visual connection to the habitable areas. The main entries are well defined and visible from Lignum Road. The height of planting that is integrated around the facades as well as plant selections have all been set to prevent climbing onto roofs and entry into the building.

Gates have been provided at strategic locations around the front of the site to block unauthorised entry while still being integrated with the architecture and the landscape. There will be adequate signage and wayfinding throughout the facility to guide and direct people to relevant areas in and around the buildings. This will also include specific braile signage for people with vision loss. All external points of entry will have access control and these entries will have the ability to be locked down in case of an emergency.



PUBLIC:
Open space within the proposed development area accessible to public

PUBLIC:
Public foyer, cafe, reception, conference foyer

PRIVATE:
Workplace, school entry foyer, school waiting, classrooms and school shared spaces

INVITED:
Central waiting area, conference space, typical meeting room,

SECURITY LINE

BLESSED CARLO CATHOLIC COLLEGE

ENVIRONMENTAL RESPONSES

Blessed Carlo Catholic College

Environmental Response

A. Solar Access & Overshadowing

The siting, overall scale and the height of the proposed development have been carefully considered to ensure no reduction of solar access or any overshadowing to the surrounding locality.

B. Visual Privacy & Amenity

Visual privacy is accomplished through the use of solid fencing to the east and south boundaries where there is future residential development proposed. The north and west boundaries will be of palisade style fencing lined with landscape vegetation which encloses and screens the north west play areas. The classrooms, meeting rooms and habitable spaces within the school have been arranged around open communal spaces - the inward looking spaces ensuring the privacy.

C. Lighting Strategy

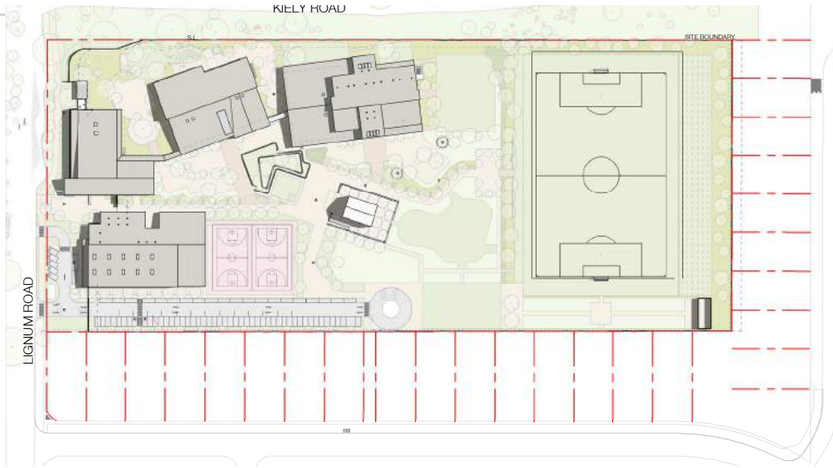
Lighting strategy and measures to reduce spill into the surrounding sensitive receivers.

Considered - emphasise/maximise natural light, supported by interior design.

Please refer to Appendix R - ESD report.

D. Reflectivity

All roofs and partial wall materials across all buildings will be of lightweight metal construction which is designed to provide and maintain high solar reflectivity which will mean less dependence on the air-conditioning and a reduction in the roofs heat stress.



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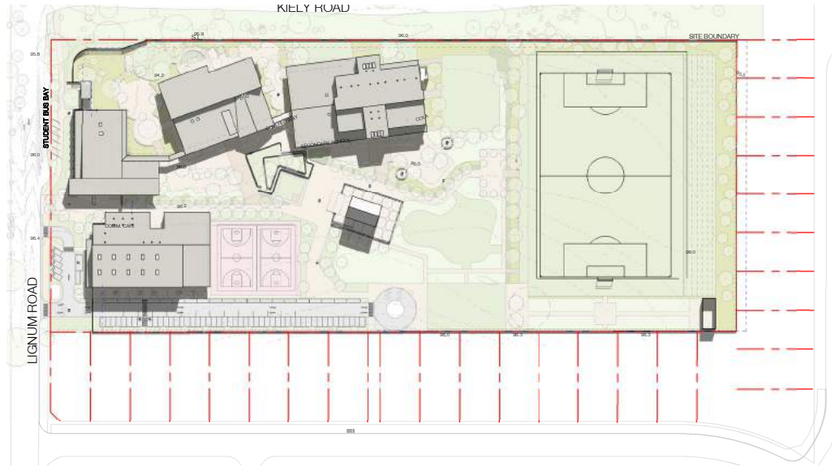
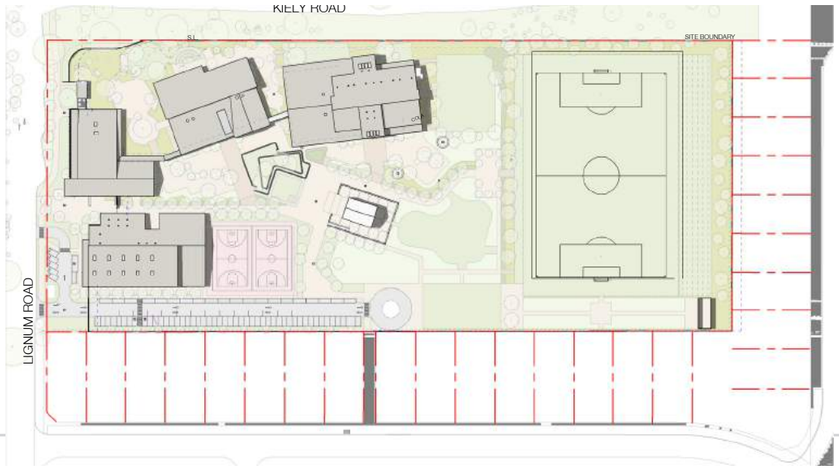
WINTER 9:00AM

SUMMER 12:00PM



WINTER 12:00PM



SUMMER 3:00PM

WINTER 3:00PM

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Blessed Carlo Catholic College

Environmentally Sustainable Design - Principles

01 Indoor Environment Quality

The building will be designed to maintain a high indoor environment quality through focussing on the categories of Ventilation, Materiality, Thermal Comfort, Light, Noise and Views.

Air Quality & Ventilation

Good internal air quality can be achieved by ensuring natural air levels are maintained throughout the building. This can be achieved through maximising opportunities for passive ventilation and reducing reliance on mechanical ventilation. A semi-automated time clock system for both mechanical and passive ventilation also allows for air quality, which is controlled in response to the use of the building and to reduce unnecessary energy expenditure.

Thermal Comfort

A semi-automated passive and mechanical ventilation system allows spaces in the building to be heated and cooled only as necessary. Zoning and manual override options allows for occupants to regulate temperatures in their immediate environment, increasing user satisfaction levels. A time clock system allows for night purging to passively cool the building overnight.

Materiality

Materials will be selected to reduce harmful pollutants into the air internally; including low or no VOC paints, carpets, coatings, sealants and adhesives.

Light

Daylight levels will be optimised through orientation responsive design. South facing windows will be maximised to allow for diffused light into learning areas; with North glazing shaded and East and West glazing minimised to allow for natural light without increasing glare. Glare will also be managed by reducing direct light onto surfaces which are in users' lines of sight.

Noise

Noise levels will be minimised through the selection of appropriate levels of insulation, reducing noise transfer from outside, as well as internal reverberation and noise transfer between spaces.

Views

Increasing connection to the outdoor environment improves user satisfaction. This is achieved by maximising external views and connections externally across of the buildings.

02 Transport

The overall site masterplan accommodates pedestrian, public transport and cycle orientated design where possible, with Stage 1 implementing transport strategies that will remain to the completion of the overall masterplan.

The Precinct Structure Plan and future infrastructure has been considered in the site planning, with bike and pedestrian access to the site from Lignum Road; as well as a dedicated bus stop for public transport connections. The overall Masterplan also locates buildings within close walking distance to each other with appropriate shade and cover from parking areas.

03 Energy Efficiency

Energy Efficiency is a key priority for the project. Several approaches have been adopted, all of which can be implemented in both the design and documentation phases of the project.

Above standard insulation and thermal mass has been incorporated into the design to provide a stable internal temperature, therefore reducing a reliance on heating and cooling systems. High performance glazing coupled with orientation responsive design reduces excessive solar heat gain. The design of appropriate shading for exposed windows allows sunlight to be captured and screened where necessary on each facade.

Internally, energy efficient fixtures will be selected. In particular, motion and light sensors allows lighting to be responsive so that artificial lights are not used unnecessarily.

04 Waste Management

Waste management can be controlled through the whole of life cycle material selection which ensures that upon demolition, materials are recovered and recycled therefore reducing waste. During the procurement process, builders' waste management strategies will be assessed in their tenders with a focus on strategies developed to minimise construction waste. The building design will also incorporate opportunities for recycling, composting and other strategies to reduce the quantity of waste going to landfill once the building is occupied.

05 Water Efficiency

Water efficiency will be incorporated into both the building and landscape design. A water wise garden planting policy, permeable landscaped surfaces and swales implemented into the design will increase water retention in the landscape, reducing wastage, and allowing for water saving strategies to be an educational outcome. Water saving plumbing fixtures will be selected to increase water efficiency

06 Urban Ecology

The urban ecology of the campus will be maintained and improved upon across the site as the masterplan is developed. The site is currently sparse and undeveloped. The masterplan proposes an increase in vegetation across the site, with landscaped areas to be integrated into the surrounding areas. Benefits of vegetation being in close proximity to the buildings include a reduced need for air conditioning internally as seasonal heat, glare and ground temperatures are regulated.

07 Stormwater Management

A comprehensive stormwater drainage strategy for the site has been investigated and will be further developed. The site will be graded for controlled drainage to centre of the site, culminating in connection to a retention pond. The strategy allows for swales to be implemented into the design, which works towards developing the site's urban ecology and promoting learning opportunities from the environment. A site stormwater strategy also limits the risk of pollutants getting washed into local waterways. Rainwater also will be collected from roofs, stored in rainwater tanks and reticulated for toilet flushing.

08 Innovation

Innovation in environmentally sustainable design is evident in the project as ESD standards are exceeded, passive design principles are implemented and the design is responsive to the site. The masterplan includes a solar farm to be developed in the future, which will generate electricity sustainably and locally to support the site with opportunities to feed back into the grid.

09 Building Materials

Building Materials for the project are selected to limit environmental impact. Selections are based on a whole of life cycle assessment; including material production and embodied energy, transport, durability, recycling and reuse potential. A focus is also placed on local products and those with ease of maintenance and cleaning to promote reduced lifecycle costs.

10 Construction & Building Management

Promoting sustainable site management will be a focus during construction to ensure environmental targets are met, through the implementation of construction and waste minimisation strategies.

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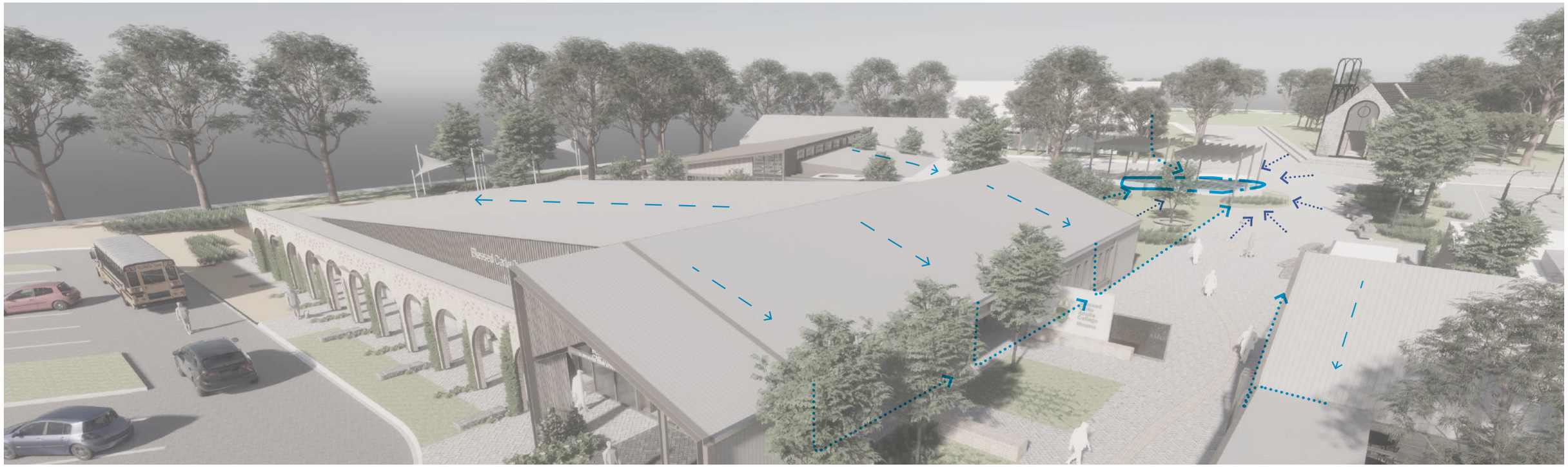
Environmentally Sustainable Design - Implementation

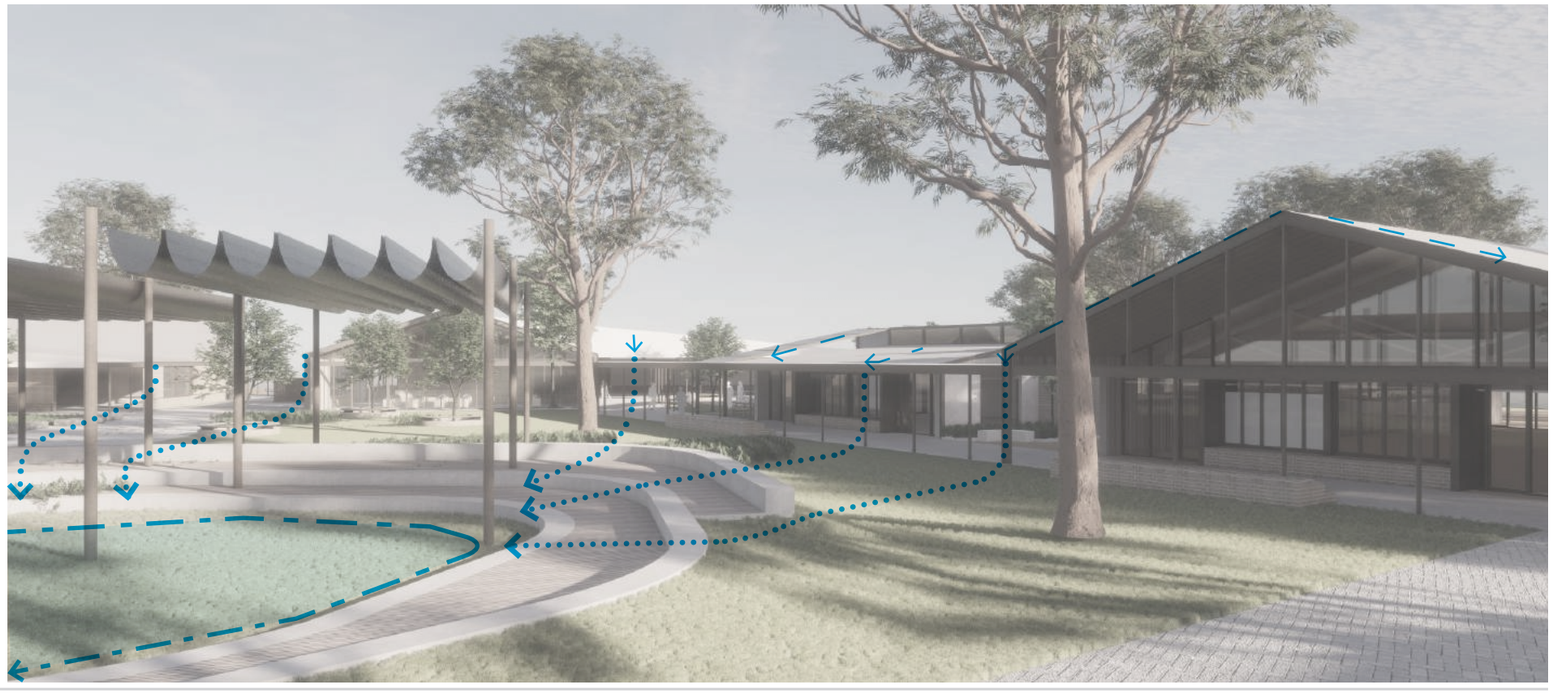


ESD Principles

- Architectural Responses to Environment
- Water Conservation
- Enery Conservation
- Indoor Environment Quality
- Emission Reduction
- Considered Materiality Applications
- Land Use & Ecology
- Emissions
- Innovation

Environmental Design - Opportunities for Learning

- Water Capture at the Heart of the Masterplan
- Learning from the College - Building Data on Display
- Wayfinding through Building Articulation and Volume
- Prioritised Connectivity to Outdoor Learning Areas & Natural Amenity



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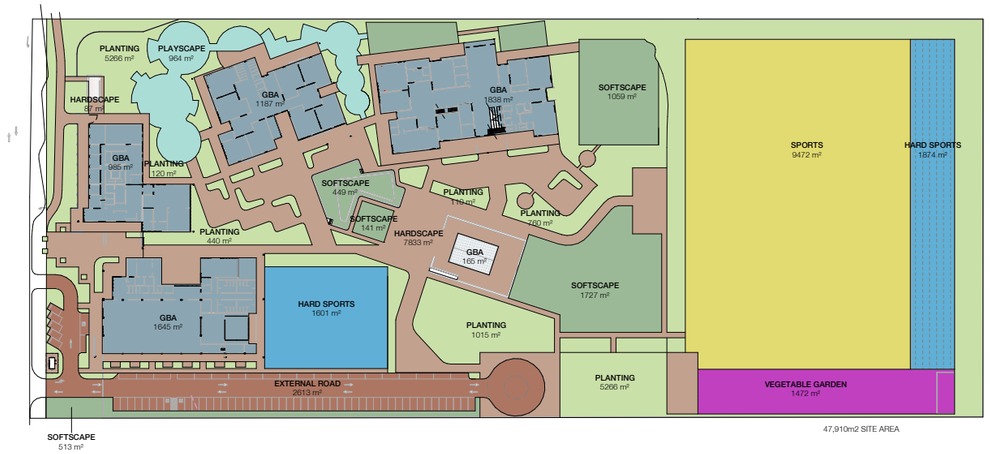
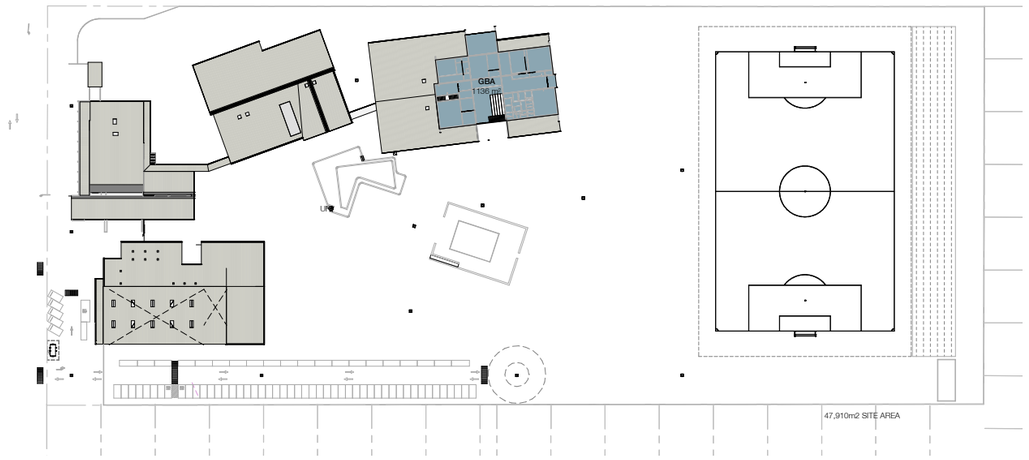
BLESSED CARLO CATHOLIC COLLEGE

AREA ANALYSIS

1.1 Proposed Masterplan - Gross Building and Landscape Areas



SITE PLAN - GROUND FLOOR GBA

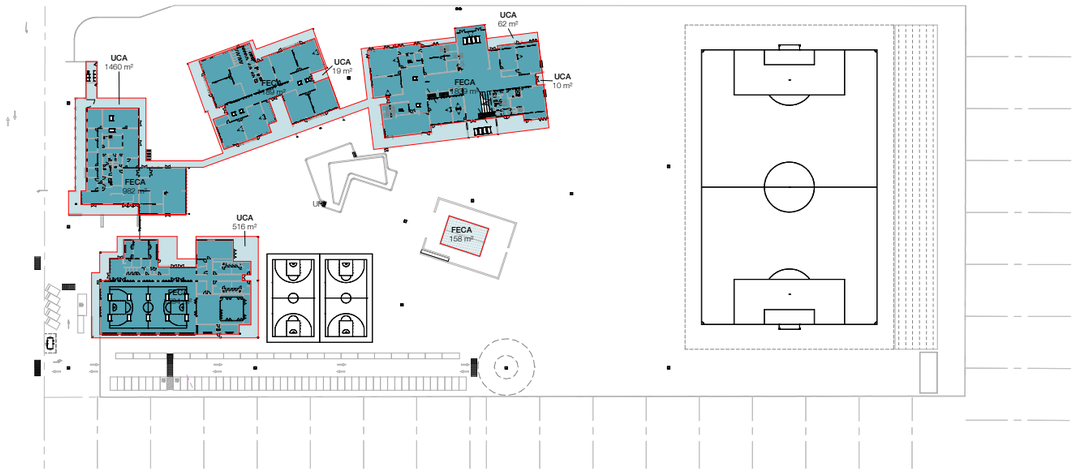


SITE PLAN - LEVEL 1 GBA

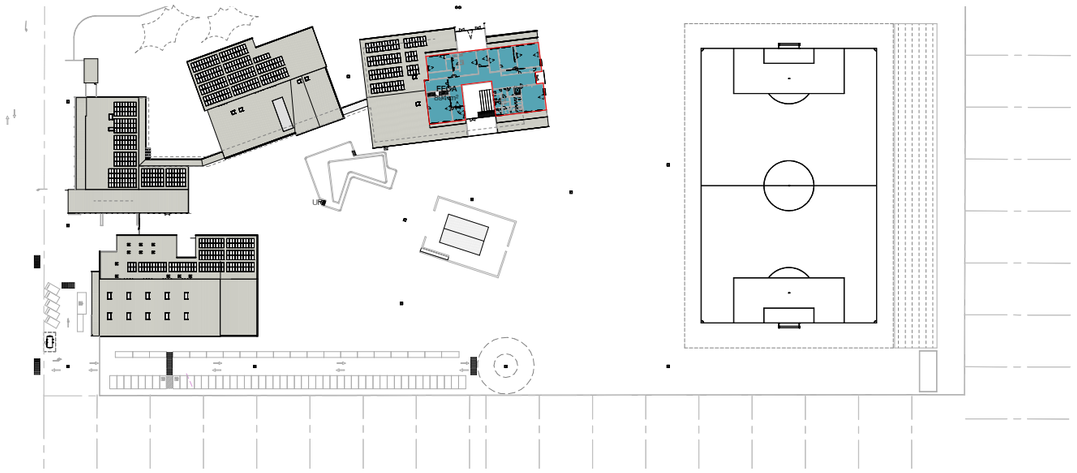
SEARS_AREAS_GBA

Level	Name	Area
Ground Floor		
Ground Floor	EXTERNAL ROAD	2613 m²
Ground Floor	GBA	5820 m²
Ground Floor	HARD SPORTS	3475 m²
Ground Floor	HARDSCAPE	8581 m²
Ground Floor	PLANTING	10584 m²
Ground Floor	PLAYSCAPE	1414 m²
Ground Floor	SOFTSCAPE	4350 m²
Ground Floor	SPORTS	9472 m²
Ground Floor	VEGETABLE GARDEN	1472 m²
		47781 m²
Level 1		
Level 1	GBA	1136 m²
		1136 m²
Grand total: 84		48917 m²

1.2 Fully Enclosed Covered Area (FECA) and Unenclosed Covered Area (UCA)



SITE PLAN - GROUND FLOOR FECA & UCA AREAS



SITE PLAN - LEVEL 1 FECA & UCA AREAS

GFA is the total of FECA (fully enclosed covered area) and UCA (unenclosed covered area.) GFA Excludes -

- Any area for common vertical circulation, such as lifts and stairs, and any basement— storage, and vehicular access, loading areas, garbage and services, and
- Plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and
- Car parking to meet any requirements of the consent authority (including access to that car parking), and
- Any space used for the loading or unloading of goods (including access to it), and
- Terraces and balconies with outer walls less than 1.4 metres high, and
- Voids above a floor at the level of a storey or storey above.

SEARS_AREAS_FECA_UCA		
Level	Name	Area
Ground Floor	FECA	5761 m²
Ground Floor	UCA	2067 m²
Level 1	FECA	894 m²
Grand total		8722 m²

BLESSED CARLO CATHOLIC COLLEGE

PROJECT REALISATION

1.3 Sketch Visual - Gateway from Lignum Road

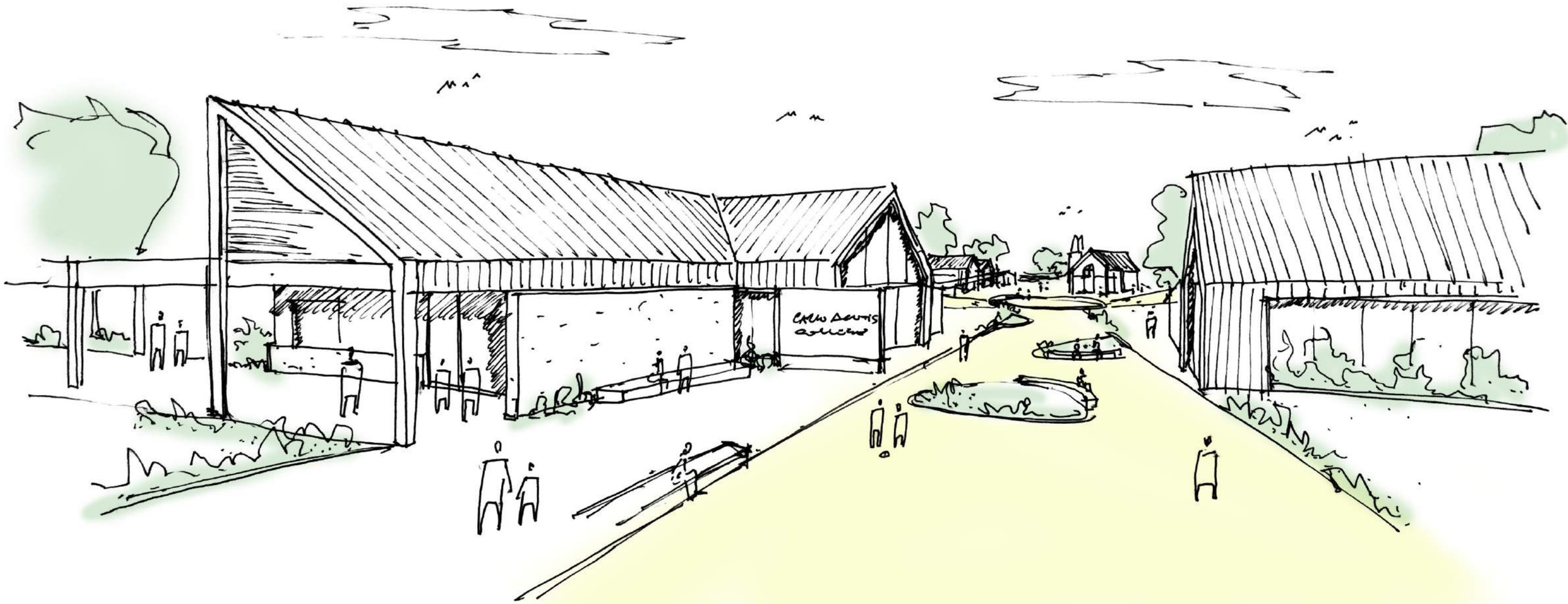


ILLUSTRATION - BLESSED CARLO COLLEGE - GATEWAY VIEW

1.4 Sketch Visual - Central Campus View

ILLUSTRATION - BLESSED CARLO COLLEGE - CENTRAL GATHERING SPACE

1.5 Proposed Masterplan - Functional Areas - Ground Level

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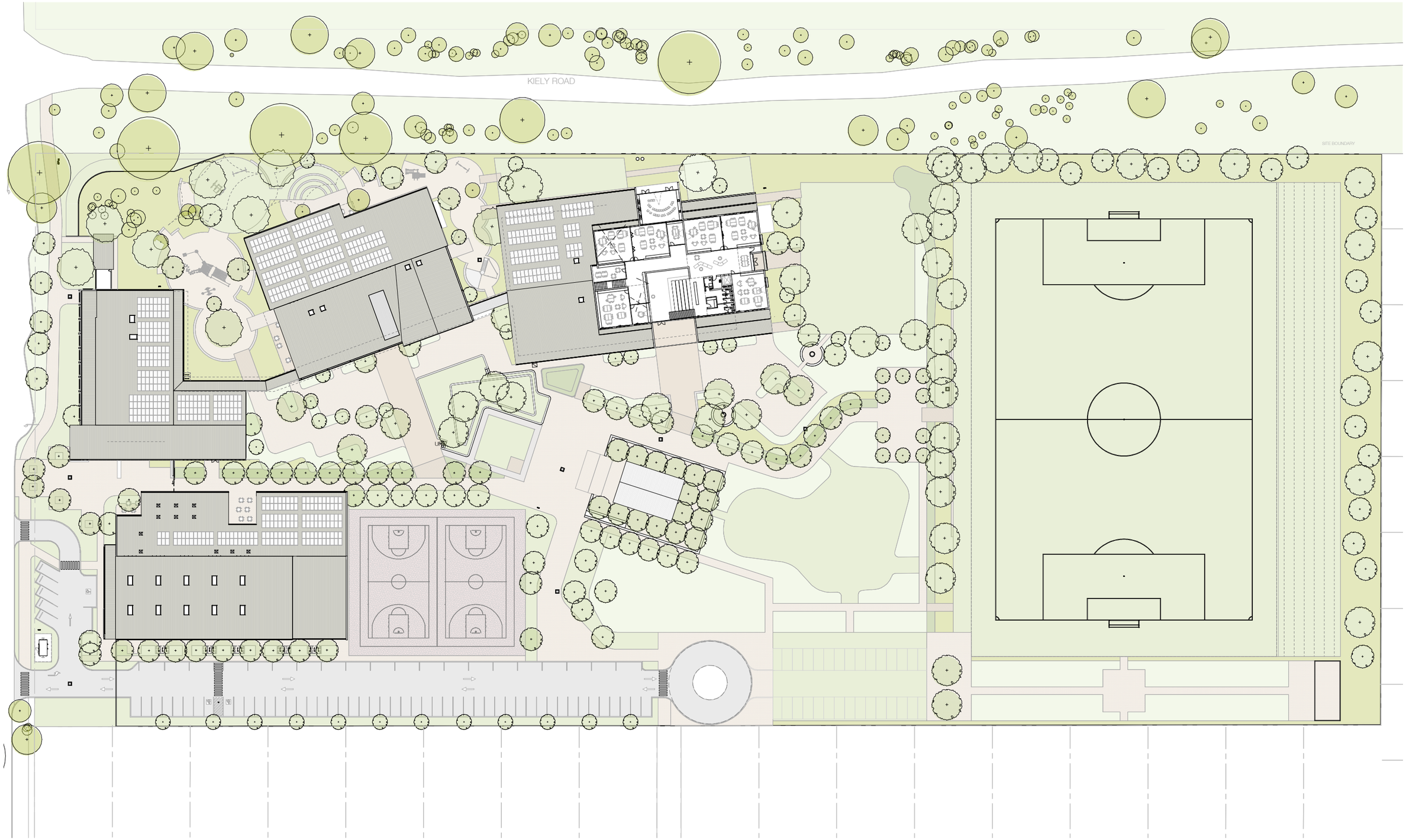
1.6 Proposed Masterplan - Functional Areas - Level 01



1.7 Proposed Masterplan - Functional Areas - Full Schedule

FACILITY		CBGA ENTITLEMENT			PROPOSED		
		No. of Spaces	m2	m2 Total	No. of Spaces	Area	m2 Total
Primary General Learning Areas	Type						
General Learning Area	GPC				7	65	455
	GLA Store				7	5	35
	Collaboration / Breakout	7		671	2	25	50
	Withdrawal				2	12	24
	Wet Area / Create				2	20	40
	Staff Work				1	25	25
	Student Amenity (provisional area)				1	45	45
SUB TOTAL		7	0	671	*20*		*674*
Primary Specialist Learning Areas	Type						
Visual Arts	Primary Art				1	70	70
	Art Store				1	10	10
Library / Resources	Library	1		100	1	90	90
	Library Workroom				0	0	0
SUB TOTAL		1	0	100	*3*		*170*
Secondary General Learning Areas	Type						
General Learning Area	GPC				10	70	700
	GLA Store				10	5	50
	Collaboration / Breakout	10		1,046	4	60	180
	Withdrawal				4	34	36
	Wet Area / Create				2	40	80
SUB TOTAL		10	0	1,046	*30*		*1046*
Secondary Specialist Learning Areas	Type						
Performing Arts	Music / Drama / Dance	1		119	1	80	80
	Music / Drama / Dance Store				1	15	15
Visual Art	Art			248	1	80	80
	Art Store				1	10	10
	Graphics / Design			0	1	80	80
	Graphics / Design Store				1	10	10
	Information Technology				1	80	80
	Information Technology Store				1	20	20
	Fabrics / Textiles				1	80	80
	Fabrics / Textiles Store				1	20	20
	Food Technology / Hospitality				1	100	100
	Food Technology / Hospitality Store	1		836	1	35	35
	Food Technology Dining				1	60	60
	Technology & Applied Studies				2	100	200
	Technology & Applied Studies Store				2	20	40
	Tech & Applied Studies Project Rooms				1	25	25
	Tech & Applied Studies Collab areas				1	60	60
Science	Science lab				2	100	200
	Science Store				2	10	20
	Science Prep Area	1		156	1	35	35
	Science Prep Store				1	10	10
	Science Project Rooms				1	25	25
	Science Collab areas				1	60	60
Library	Library				1	100	100
	Library Workroom				1	25	25
	Library Store	0		187	1	20	20
	Careers Area				1	42	42
	IT Support				1	15	15
SUB TOTAL		2		*1,547*	*32*		*1547*

FACILITY		CBGA ENTITLEMENT			PROPOSED		
		No. of Spaces	m2	m2 Total	No. of Spaces	Area	m2 Total
Multipurpose Teaching							
Mulitpurpose / Communal Space	Sports Hall				1	800	800
	Sports Store	1		448	1	20	20
	Multipurpose Store				1	20	20
	Fitness Space	1		43	1	40	40
Faith / Wellbeing	Sacred Space				1	100	100
COLA	Covered Outdoor Learning Area	1		265	1	250	250
SUB TOTAL		3		756	*6*		*1230*
Staff & Administration							
Administration	Office - Principal				1	20	20
	Office - Senior Personnel				3	12	36
	Conference Room				1	30	30
	Meeting Rooms						
	Counselling and Interview Room				1	12	12
	Office - Bursar			291	1	12	12
	General Office				1	35	35
	Store - Office and Security				2	15	30
	Sickbay				1	25	25
	Sickbay Acc Toilet / Shower					9	9
	Uniform Shop					20	20
Staff Facilites	Staff Lounge				1	93	93
	Staff Resource Store				2	10	20
	Staff Work Area			251			150
	Staff Toilets						30
	Staff Change Room						20
SUB TOTAL		0		542	*14*		*542*
Student Amenity							
Pupil Amenities	Canteen				1	45	45
	Toilets - Boys				4	45	60
	Toilets - Girls				4	45	60
	Toilets - Unisex Accessible				5	24	30
	Change Room & Showers - Boys			236	1	15	15
	Change Room & Showers - Girls				1	15	15
	Change Room & Showers - Acc				1	8	8
	Locker Area				0	0	0
Students with Disabilities	Students with Diasabilities			28	2	28	28
SUB TOTAL		0		264	*19*		*261*
Other Spaces							
Building Services	Engineering				1	10	10
	Clearners				4	20	80
	Server room			63	1	12	12
	Site Store				1	20	20
1	Maintenance				1	40	40
Circulation	Travel Area - Internal			0	0	0	551
	Travel Area - External				0	0	370
SUB TOTAL		0		63	*8*		*1083*
TOTAL AREA				*4988*	*132*	*0*	*6553*

* NOTE:
Functional areas nominated above may be subject to minor change, as the design of the new college is clarified during Detailed Design.