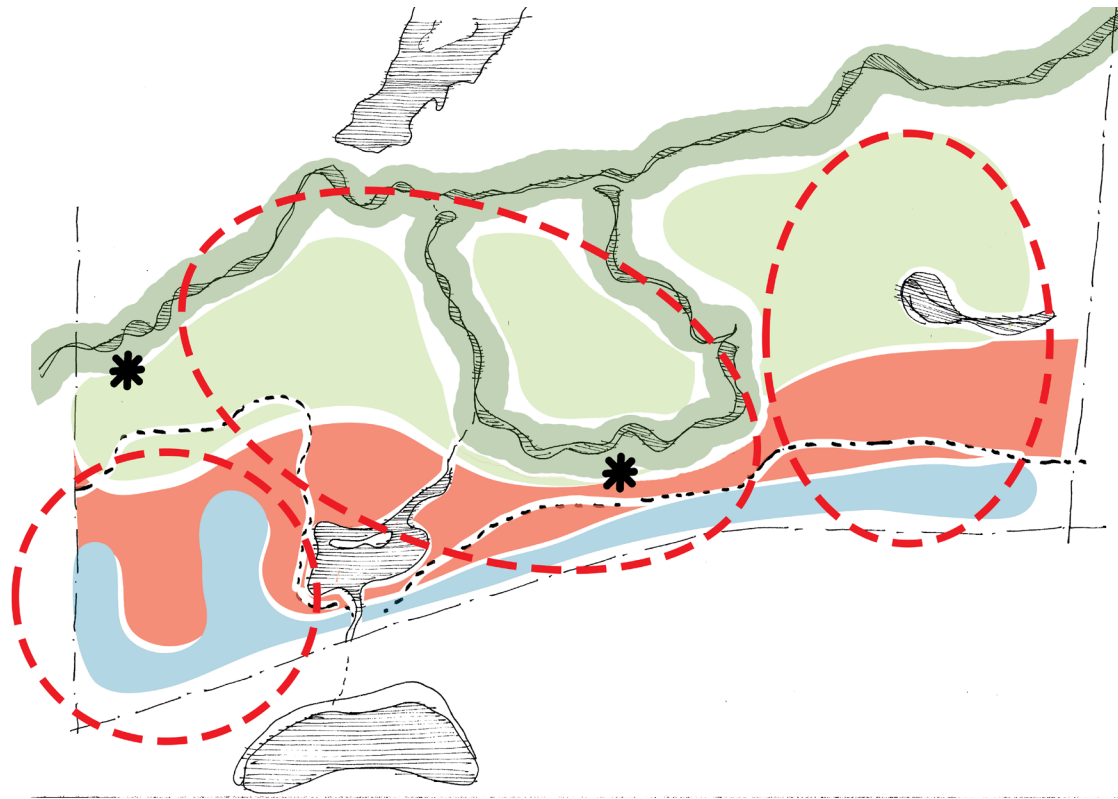


# **Appendix G5**

## **Concept Design Report**

# **Environmental Impact Statement**

for Alterations and Additions to  
St Philip's Christian College,  
Cessnock



# ST PHILIP'S CHRISTIAN COLLEGE

## Concept Design Report

JANUARY 2022: REV G

02 4961 5888  
[www.SHAC.com.au](http://www.SHAC.com.au)

SHAC



## QUALITY ASSURANCE

# Summary of Revisions

REVISION	BY	REVIEW	DATE	COMMENT
A	CD	JP		DRAFT - Report Setup
B	EF	JP	29.11.21	50%
C	EF	JP	06.12.21	75%
D	EF	JP	08.12.21	85%
E	EF/JP	JP	14.12.21	95%
F	EF/JP	JP	21.12.21	Draft 100% for Review
G	EF/JP	JP	27.01.22	Final Report 100%

Checked: JH/JP

Author: SHAC

Ref: 4347\_SHAC\_SPCC-Cessnock\_ConceptDesignReport\_RevG

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# Acknowledgment of Country



"This piece is part of my Formation series. A series inspired by the formation of the land. It depicts layers of sand, stone, rock and coal. Each layer of the earth telling its own story, witnessing its own past present and future. The dotted lines pay tribute to my great, great grandfather, a proud Wiradjuri man who worked as a tracker. The lines represent his tracks and those of the generations before us on the same land. This style of painting is featured throughout most of my work connecting my art to my family and people."

**Lauren Freestone**; from *freestone* a contemporary Indigenous artist based in Newcastle.

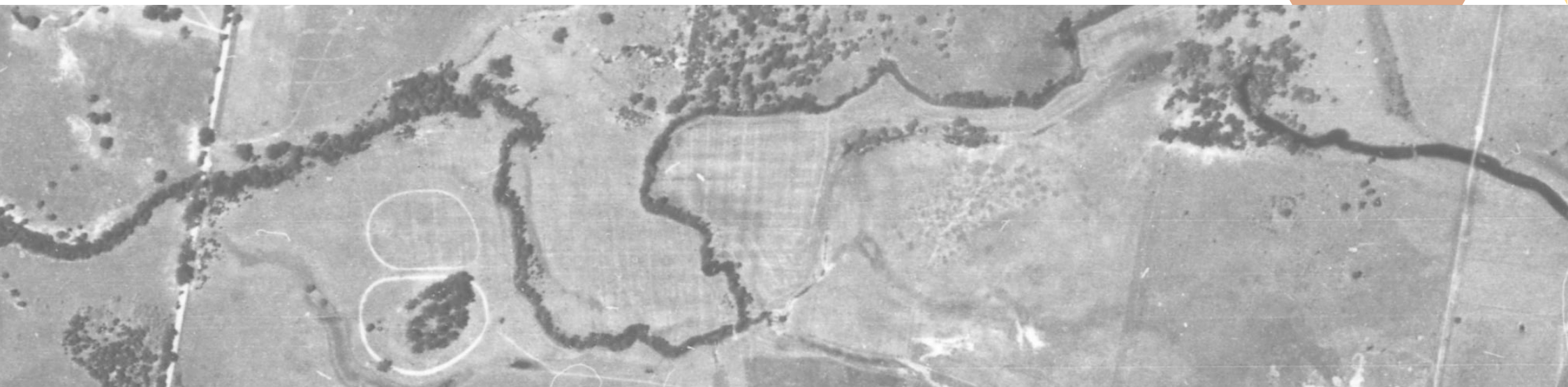
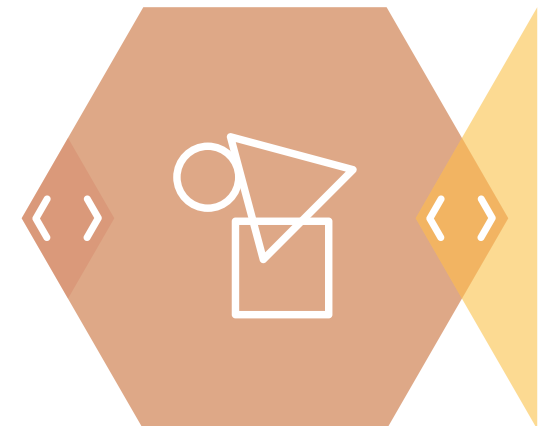
SHAC acknowledges the Traditional Custodians of the land, the Awabakal & Worimi people, upon which this document was created, as well as the land where this document now rests in your hands. We pay respect to Elders past, present and emerging, and we honour Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place, and their rich contribution to our society. **To that end, all our work seeks to uphold the idea that if we care for Country, it will care for us.**

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# 1. Introduction

SHAPING OF PROJECT THUS FAR



## 1.1 INTRODUCTION

This Architectural Design Report informs the lodgement of the State Significant Development Application (SSDA) for St Philip's Christian College Cessnock Masterplan and accompanies the Environmental Impact Statement (EIS) agreeable to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

This reports addresses the Secretary's Environmental Assessment Requirements (SEARs).

Secretary's Environmental Assessment Requirements	
Architectural Plans	Drawings
<b>Provide:</b>	
- a detailed <b>site and context analysis</b> to justify the proposed site planning and design approach including massing options and preferred strategy for future development.	See Architectural Plans Package
- a <b>visual impact assessment</b> that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items.	See Architectural Plans Package
- a <b>detailed constraints map</b> identifying the key environmental and other land use constraints that have informed the final design of the development.	See Design Report Section 3
- <b>plans, elevations and sections</b> of the proposed development.	See Architectural Plans Package
- <b>cladding, window and floor details</b> , including external materials.	See Architectural Plans Package & Design Report Section 8.1, 8.3, & 8.4
- a <b>site plan</b> showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process).	See Architectural Plans Package
- <b>plans and details of any advertising/business</b> identification signs to be installed, including size, location and finishes.	See Design Report Section 7.5 & 8.3
- <b>shadow diagrams</b> .	see Design Report Section 7.1
- a <b>view analysis</b> , where relevant, of the site from key vantage points and streetscape locations and public domain including photomontages or perspectives showing the proposed and likely future development.	VIA prepared by Moir. See Design Report Section 8.5
- an <b>analysis of proposed lighting</b> that identifies lighting on-site that will impact surrounding sensitive receivers and includes mitigation management measures to manage any impacts.	TBC with Lighting and Electrical Consultant once engaged.

Design Report	
<b>Address:</b>	
- the <b>height, density, bulk and scale, setbacks and interface</b> of the development in relation to the surrounding development, topography, streetscape and any public open spaces.	See Design Report Section 8. Built Form, Materiality & Landscape
- <b>design quality and built form</b> , with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colour palette.	See Design Report Section 8. Built Form, Materiality & Landscape
- how <b>Crime Prevention through Environmental Design</b> (CPTED) principles are to be integrated into development.	See Design Report Section 7.2 & 7.3
- how <b>good environmental amenity</b> would be provided, including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility	See Design Report Section 9. Environmental Amenity & Sustainability
- how <b>design quality will be achieved</b> in accordance with Schedule 4 Schools – design quality principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 and the GANSW Design Guide for Schools (GANSW, 2018).	See Design Report Section 4. Design Guidelines & Section 5. Concept Design Development
- how <b>services</b> , including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	See Design Report Section 7.4
<b>Provide:</b>	
- a <b>detailed site and context analysis</b> to justify the proposed site planning and design approach including massing options and preferred strategy for future development.	See Design Report Section 3. Site Analysis
- a <b>visual impact assessment</b> that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items	VIA prepared by Moir. See Design Report Section 8.5
- a <b>detailed constraints map</b> identifying the key environmental and other land use constraints that have informed the final design of the development.	See Design Report Section 3. Site Analysis
- <b>plans, elevations and sections</b> of the proposed development.	See Design Report Section 6. Planning
- <b>cladding, window and floor details</b> , including external materials.	See Architectural Plans Package & Design Report Section 8.1, 8.3, & 8.4

- a <b>site plan</b> showing <b>all infrastructure and facilities</b> (including any infrastructure that would be required for the development, but the subject of a separate approvals process).	See Architectural Plans Package & Design Report Section 8.1, 8.3, & 8.4
- <b>plans and details</b> of any <b>advertising/business</b> identification signs to be installed, including size, location and finishes.	See Design Report Section 7.5 & 8.3
- <b>shadow diagrams</b> .	See Design Report Section 7.1
- a <b>view analysis</b> , where relevant, of the site from key vantage points and streetscape locations and public domain including photomontages or perspectives showing the proposed and likely future development.	VIA prepared by Moir. See Design Report Section 8.5
- an <b>analysis of proposed lighting</b> that identifies lighting on-site that will impact surrounding sensitive receivers and includes mitigation management measures to manage any impacts.	TBC with Lighting and Electrical Consultant once engaged.
- <b>Assess</b> amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing, wind impacts and acoustic impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	See Design Report Section 9. Environmental Amenity & Sustainability
<b>Design report to demonstrate how design quality would be achieved in accordance with the above Key Issues including:</b>	
- architectural design statement.	See Design Report Section 5.1
- diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal.	See Design Report Section 5. Concept Design Development & Section 6.Planning
- detailed site and context analysis.	See Design Report Section 3. Site Analysis
- analysis of options considered to justify the proposed site planning and design approach.	See Design Report Section 5.3
- summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and responses to this advice.	See Design Report Section 11.2
- summary report of consultation with the community and response to any feedback provided.	See Design Report Section 11. Stakeholder Consultation & Design Validation
- Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing, wind impacts and acoustic impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	See Design Report Section 7.1

## 1.2

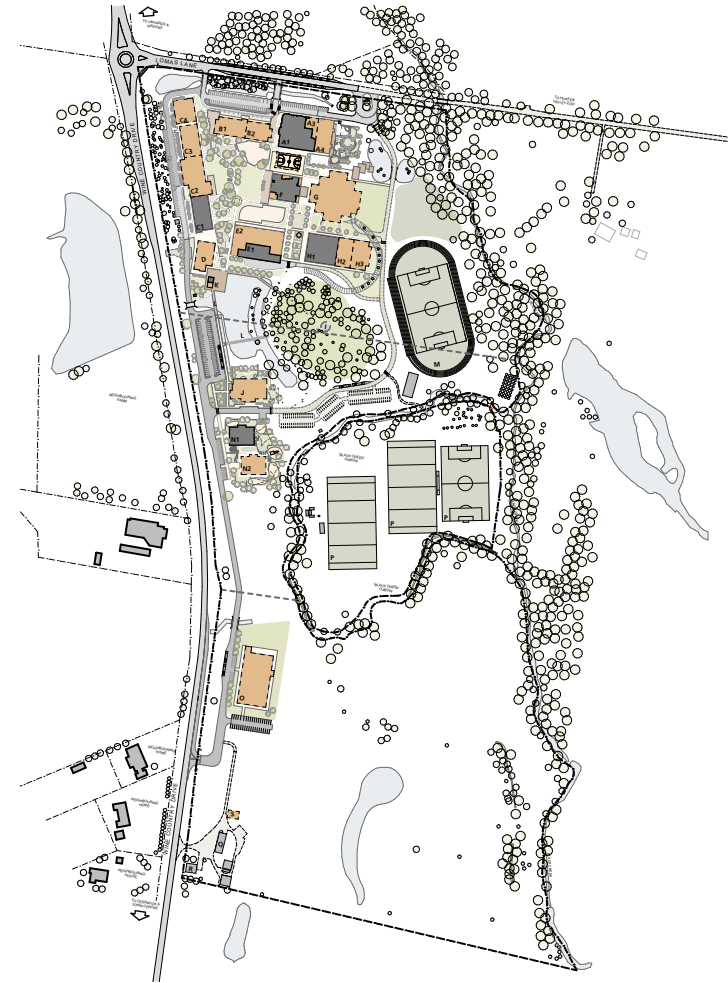
### PROPOSAL

The proposal is a masterplan for the expansion of the St Philip's College at Cessnock to a 4 stream Primary and 6 stream Secondary Campus, facilitating a projected 1649 students and 83 in Early Learning, in order to meet community demand.

The proposal generally includes the following works:

- Site preparation;
- Construction of a series of buildings up to two storeys including specialist classrooms, general learning spaces, Library-Chapel, Sports Hall, Aquatic Centre, Performing Arts, Narnia Early Learning Centre and administration/staff areas;
- Construction of new walkways, central plaza and outdoor games courts;
- Construction of a new at-grade car parks;
- Associated site landscaping and open space.

The proposal will include site preparation works, such as preparing the existing fill pad to accommodate the proposed buildings and play areas. It will also include construction of a new entry and driveway from Wine Country Drive at the southern end of the site.



### **1.3 DESIGN REPORT**

This Design Report provides an analysis of the site's current constraints and opportunities for the school's development. The report has also been developed to establish design guidelines and development parameters to clarify the design intent of the proposal and demonstrate how design quality will be achieved in accordance with the Design Guide for Schools and the Design Quality Principles outlined in Schedule 4 of the Education SEPP 2017:



## 2. Project Background

THE CONSISTENT PURPOSE GUIDING THE PATH FORWARD.



## 2.1 PROJECT BRIEF

### ST PHILIP'S CHRISTIAN COLLEGE CESSNOCK

<b>PROJECT:</b>	St Philip's Christian College Cessnock
<b>CLIENT:</b>	St Philip's Christian College
<b>ADDRESS:</b>	10 Lomas Lane, Nulkaba, NSW 2325
<b>SITE AREA:</b>	433,720sqm (approx)
<b>EXISTING:</b>	44 General Learning, 13 Specialist
	1,198 students
	157 Staff
<b>PROPOSED:</b>	68 General Learning, 26 Specialist
	1,649 Students
	216 Staff

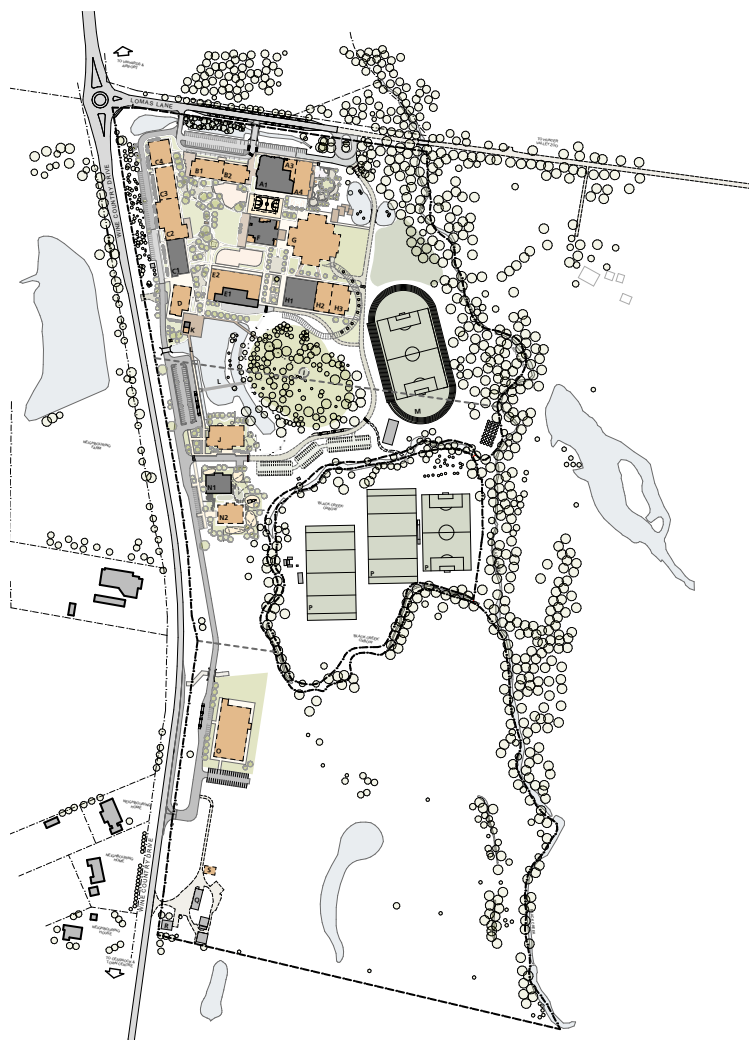
This Concept Design report has been prepared by SHAC as architect on behalf of the principal client, St Philip's Christian College.

St Philip's Christian College Cessnock Campus has great potential to deliver Christian education to the Hunter Valley in new and state-of-the-art facilities that parallel their pedagogical vision. The majority of learning spaces are currently accommodated in modular or temporary facilities onsite, and due to this, the College community look forward to future flexible, permanent learning environments that provide for an encouraging, supportive and functional school for Cessnock.

The Cessnock campus caters to:

- Narnia & Prep (0-5)
- Junior School (K-4)
- Middle School (5-8)
- Senior School (9-12)
- Dynamic Alternative Learning Environment (DALE)
- Sports Centre of Excellence
- Agriculture

The St Philip's Christian College Cessnock campus will respond to the ever-changing needs of students & teachers, as well as the technologies and educational principles of the school. The result; an inspiring place where young people can grow, collaborate and contribute for the 'whole of their lives'.



The proposed development has been designed to accommodate 1,649 school students and 83 Narnia enrolments equating to 4 – stream primary facilities and 6 – stream secondary facilities. The majority of the proposed development is located on the north portion of the 43-hectare site on top of the existing fill pad.

The proposed development includes:

- Junior School w/ Homebases, specialist learning areas, staff hub, admin, outdoor play areas.
- Middle School w/ General Learning areas, shared learning area, admin, shared specialist facilities
- Senior School w/ General Learning areas, shared learning area, admin, shared specialist facilities
- Dynamic Alternative Learning Environment (DALE)
- Narnia
- Chapel & Library
- Trade Training Centre (specialist learning facility)
- Sports Centre of Excellence
- Sporting Fields, Athletic Tracks, Covered Outdoor Sports courts
- Performing Arts Centre
- Aquatic Centre
- Waste Management Depot
- Integrated landscaping and drainage swales
- Carparking, bus bays, Kiss & drops

## 2.2 ST PHILIP'S CHRISTIAN COLLEGE



Education  
School Infrastructure



### NSW Department of Education

#### VISION

To be Australia's best education system and one of the finest in the world.

#### PURPOSE

To prepare young people for rewarding lives as engaged citizens in a complex and dynamic society.

#### GOALS

1. All children make a strong start in life and learning and make a successful transition to school.
2. Every student is known, valued and cared for in our schools.
3. Every student, every teacher, every leader and every school improves every year.
4. Every student is engaged and challenged to continue to learn.
5. All young people have a strong foundation in literacy and numeracy; deep content knowledge; and confidence in their ability to learn, adapt and be responsible citizens.
6. All young people finish school well prepared for higher education, training and work.
7. Education is a great place to work and our workforce is of the highest calibre.
8. Our school infrastructure meets the needs of a growing population and enables future-focused learning and teaching.
9. Community confidence in public education is high.
10. Our education system reduces the impact of disadvantage

### St Philip's Christian College Foundation

The school's vision was to establish an independent school that would develop the **'whole child'** intellectually, socially, physically and spiritually, to "provide an enriching and liberating education... acquiring a deep sense of the greatness of life and learning". By placing importance on student engagement with the Christian faith, it is believed a strong sense of purpose, good values and integrity develops through innovative and effective learning experiences taught by skilled and dedicated teachers.

St. Philip's Christian College seeks to be a **leading provider of quality Christian schooling** within our nation, where:

#### EVERY STUDENT...

1. Develops a **personal faith** in Jesus Christ and is empowered to live with purpose, integrity & joy;
2. Achieves their God-given potential & is well equipped to make a significant **contribution to society**;
3. Benefits from **innovative & effective learning experiences** taught by skilled & dedicated teachers;
4. Enjoys a safe & secure learning environment wherein they **feel connected & affirmed**;
5. Contributes to a **culture of respect, dignity, care & concern** for others; and
6. Has access to excellent learning resources & is taught in the **best learning facilities** we can provide.



SOURCE:  
Surreal Worlds - Oil Painting by Modestas Malinauskas

## 2.2.1 SCHOOL BACKGROUND



St Philip's Christian College is a dynamic learning community of opportunity and excellence.

St Philip's Christian College is an independent cluster of schools providing Christian education within the Hunter and Central Coast Regions, focusing on Whole of Life education by providing a schooling system that remains on the forefront of teaching and learning methodologies to best serve the needs of the community, with a vision beyond school. With locations in Newcastle, Port Stephens, Cessnock and Gosford, the Colleges cater from babies and preschool children up to Year 12 and Tertiary education. St Philip's Christian College also addresses the needs of students that have emotional, behavioural or intellectual challenges, and the needs of young parents through its Dynamic Alternative Learning Environment (D.A.L.E) program and Young Parents program.

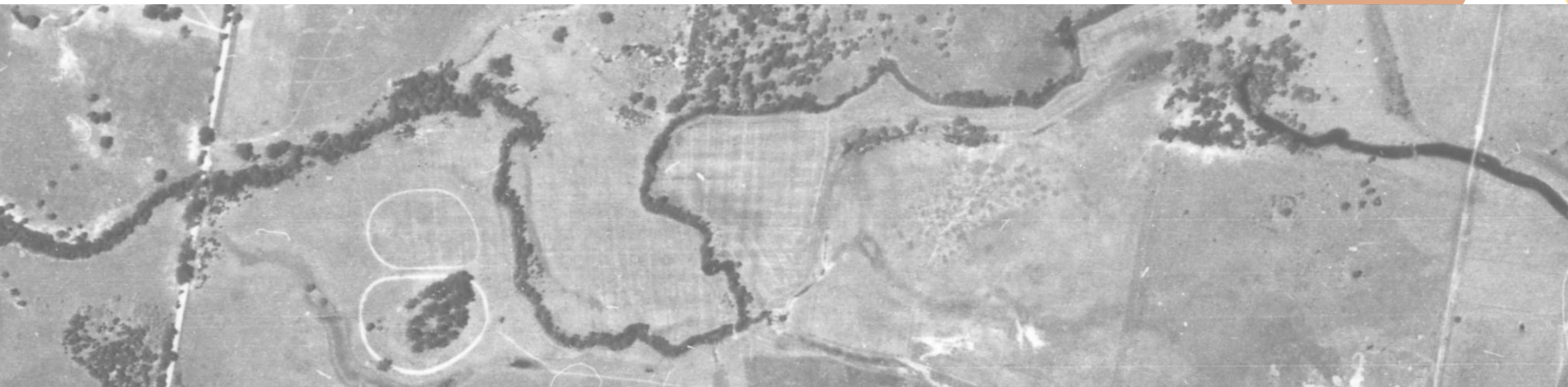
At St Philip's Christian College they passionately believe in the need for independent schools which develop the whole child - intellectually, socially, physically and spiritually; schools that maintain high academic and behavioural standards while keeping the truth of the Christian Gospel at its core.



# 3. Site Analysis

LOCATION & CONTEXT

SITE ANALYSIS



### 3.1 LOCATION & CONTEXT

The Wonnarua Nation, are the traditional custodians of the land.

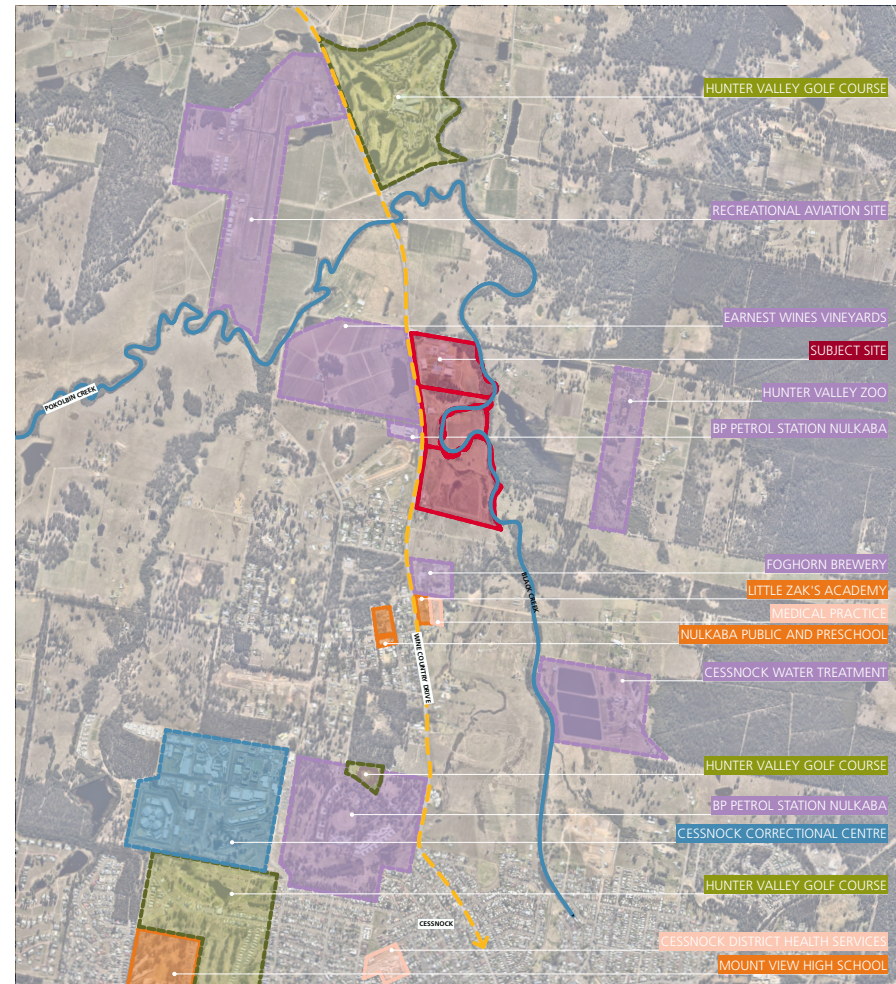
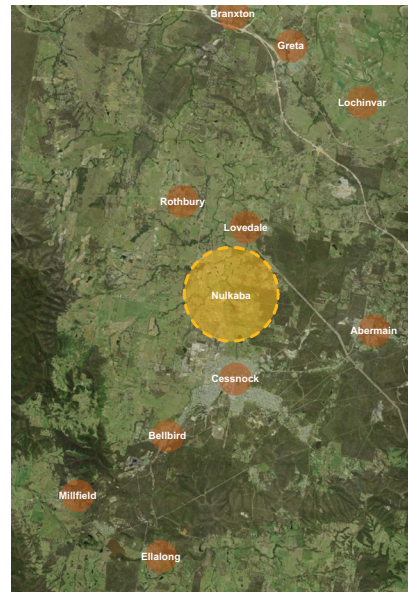
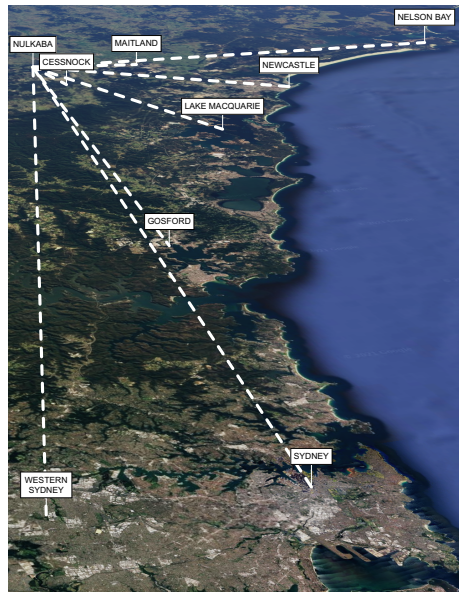
European settlement of Cessnock began in 1823 and the land was harvested for cedar and rosewood by convicts. Maize, wheat, oats, barley, potatoes and tobacco were also planted and farmed. Cessnock then transitioned into one of the largest coal mining cities in Australia, with the establishment of the South Maitland Coal Fields in 1903, having a strong impact on the area.

The lands of Nulkaba were set aside for a church and school in the area, with St Luke's Anglican Church built in 1872, and the first school in 1877.

Today, Cessnock LGA is known as the Gateway to Wine Country, which includes Pokolbin, Mount View, Lovedale, Broke, Rothbury and Branxton. Due to the vineyards, beautiful vistas and landscapes reflective of Wonnarua, the area is a fast-growing tourist destination.

Cessnock is home to both public and private schools, supermarkets, a TAFE campus,

a community health care centre, police station and hotels, hostels, entertainment venues, cafes, pubs and as stated, many wineries.





## 3.2 PHOTOGRAPHIC ANALYSIS

The site is located at 10 Lomas Lane, Nulkaba NSW approx. 5km out of Cessnock town Centre. The large rural property sits alongside Wine Country Drive spanning over 1km in distance.



VIEW ALONG WINE COUNTRY DRIVE TOWARDS SITE



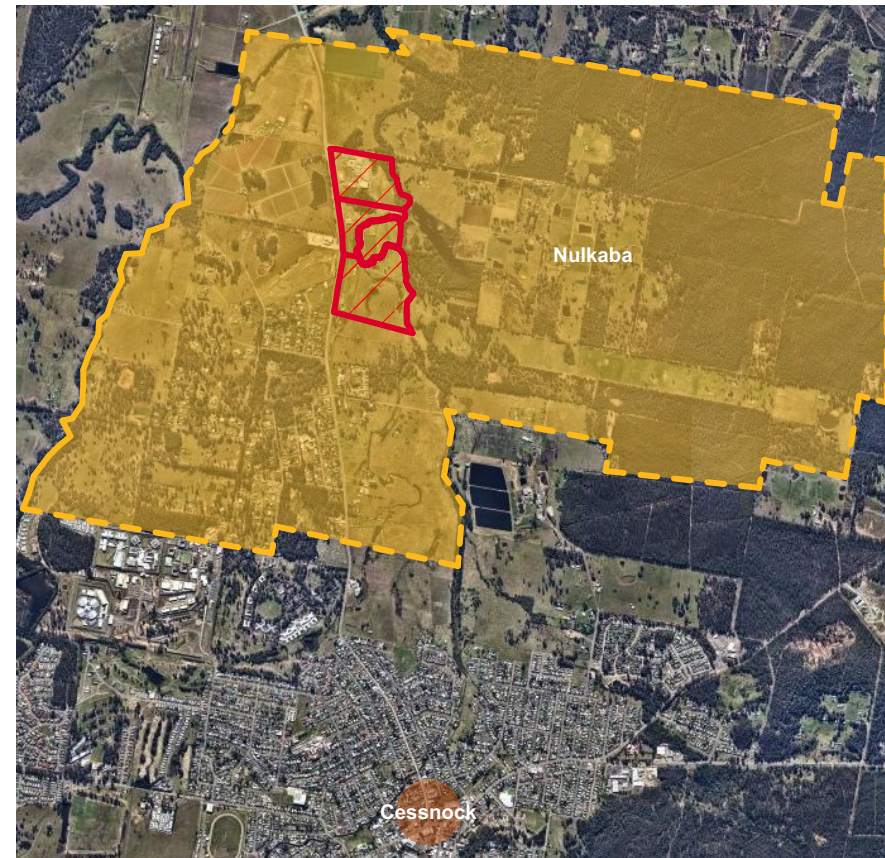
VIEW ALONG LOMAS LANE



VIEW OF NEIGHBOURING PROPERTY ACROSS WINE COUNTRY DRIVE



VIEW OF SITE FROM WINE COUNTRY DRIVE





### 3.2.1 EXISTING SITE CONDITIONS - IMMEDIATE CAMPUS



To Entry A - intersection of Lomas Lane + Wine Country Drive



View from Lomas Lane to Senior Building



View down Lomas Lane

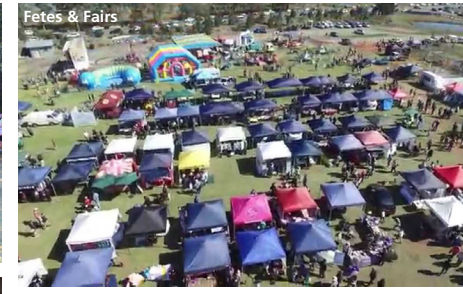
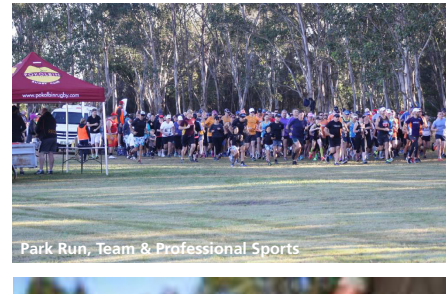


Western view from Campus

**VAST, OPEN PADDOCKS AND DOTTED OUTBUILDINGS ARE THE BACKDROP TO THE CAMPUS. THE CAMPUS RESPONDS WITH SOFT BOUNDARY EDGES AND PROVIDES PRESENCE TO THE OTHERWISE FORMLESS JOURNEYED EDGE.**



### 3.2.2 EXISTING SITE CONDITIONS - COMMUNITY USE OF CAMPUS



### THE COLLEGE PLAYS A CENTRAL ROLE IN THE PHYSICAL, SPIRITUAL, SOCIAL AND ECONOMIC HEALTH AND WELLBEING OF THE COMMUNITY

- A meeting PLACE
- A place to GATHER
- An opportunity to experience Country
- Upholding and caring for community and Country



### 3.2.3 EXISTING SITE CONDITIONS - BROADER LOCALITY CONTEXT



**DIVERSE, INCOMPATIBLE BUILT FORMS DOMINATE THE TRANSITION ZONE BETWEEN THE SUBURBAN AREA OF CESSNOCK AND THE VINEYARDS OF THE HUNTER VALLEY, WHERE THE COLLEGE IS SITUATED.**

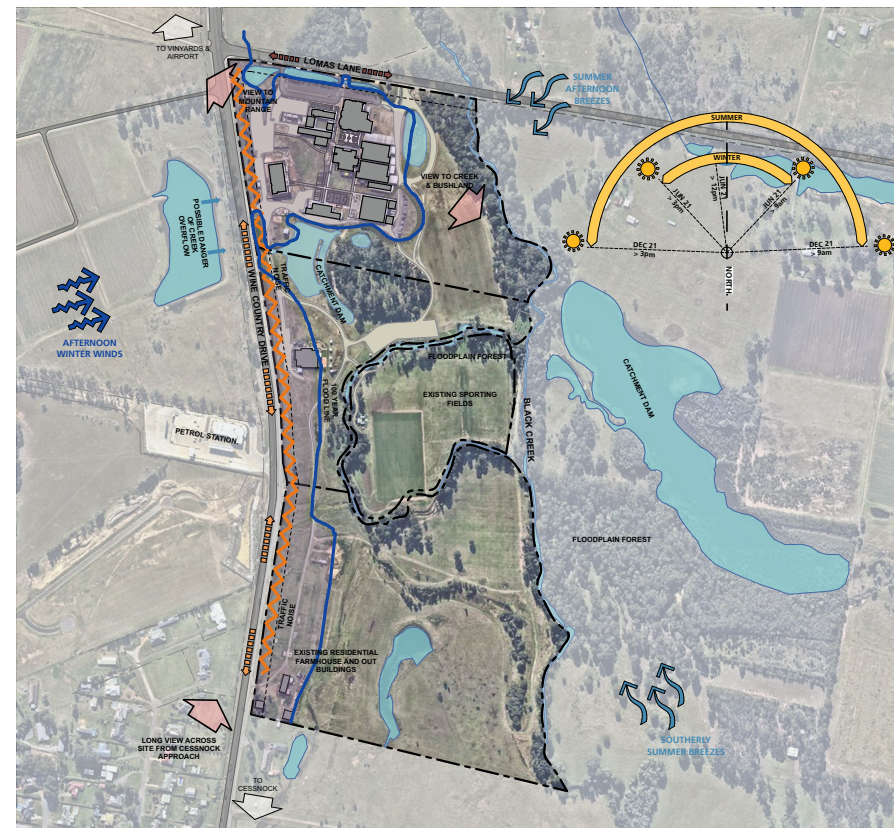
### 3.3 SITE ANALYSIS

St Philip's Christian College, Cessnock Campus is a long, linear, rural site. The school campus is located to the north, only consuming a small portion of the land, with open, vast area extending across the rest of the site. The site is approximately 433,720m<sup>2</sup> and made up of mostly open fields, curving tree lines and natural and man made water beds. The school campus has a busy main road to the west, a generally quiet local road to the north, residential properties to the south and a dense tree line and creek bed to the east.

Access to the site is from Lomas Lane (to the site's north) with a new southern access from the busy Wine Country Drive now proposed.. Due to the close proximity to Black Creeks and surrounding waterbeds, the generally flat site is subject to flooding. A fill pad underlying the existing buildings has been developed with the possibility of expanding in the future.

The school has connections to the road network leading to destinations such as Cessnock City Centre to the south, Hunter Valley vineyards to the north and Hunter Valley Zoo to the east.

The school campus currently contains a number of modular buildings which can be easily relocated. There are 5 key permanent buildings existing on site, the Junior School building, the Library HUB building, the Trade Training building, the Activate Centre, and the Senior School. Unique site features such as the remnant forest in the site's centre and riparian features create an excellent opportunity for connecting the school to its beautiful site in the future.

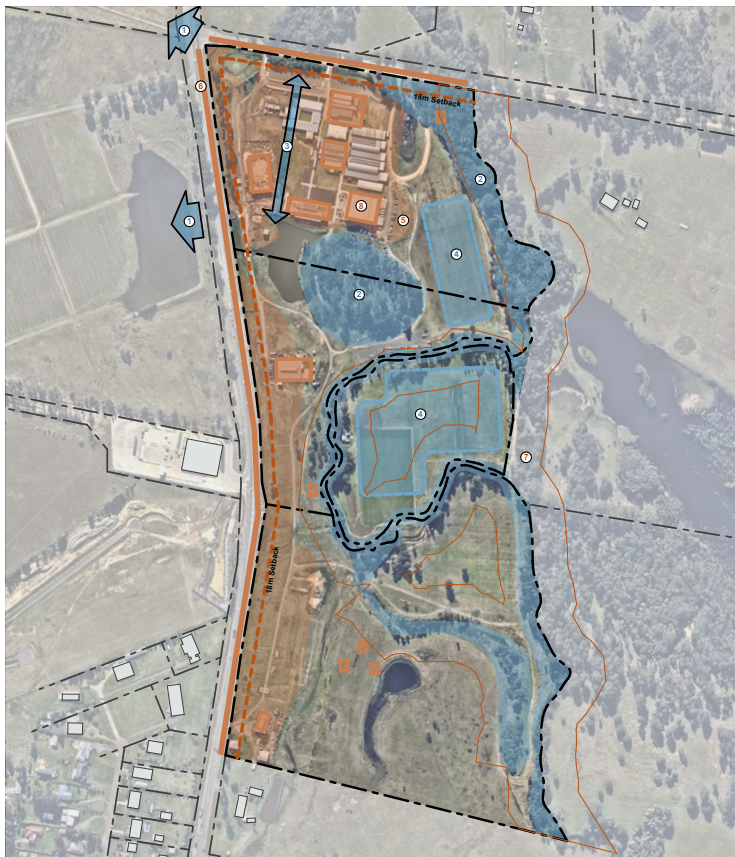


**CONSIDERATIONS: HERITAGE (ABORIGINAL) / BUSHFIRE / FLOODING / TRAFFIC MANAGEMENT / DRAINAGE & STORMWATER / FLORA & FAUNA / ACOUSTICS**



### 3.4

## OPPORTUNITIES & CONSTRAINTS



## OPPORTUNITIES

1. Unique rural campus setting with views to Brokenback Range and out to open plains.
2. Bush context with excellent natural amenity: Remnant Forest & Black Creek.
3. Well orientated north-south, access to light and ventilation.
4. Abundant areas of cleared vegetation for outdoor play

## CONSTRAINTS

5. Limited developable area due to natural environmental factors including flood and bushfire
6. Wine Country Drive & Lomas Lane frontages needs to appropriately manage traffic, transport and staff/student/visitor road safety.
7. Archaeology study found artifacts and cultural sites of importance scattered across the site. A 50m buffer zone has been established around black creek.
8. Existing infrastructure on the site dictates possible masterplan options.

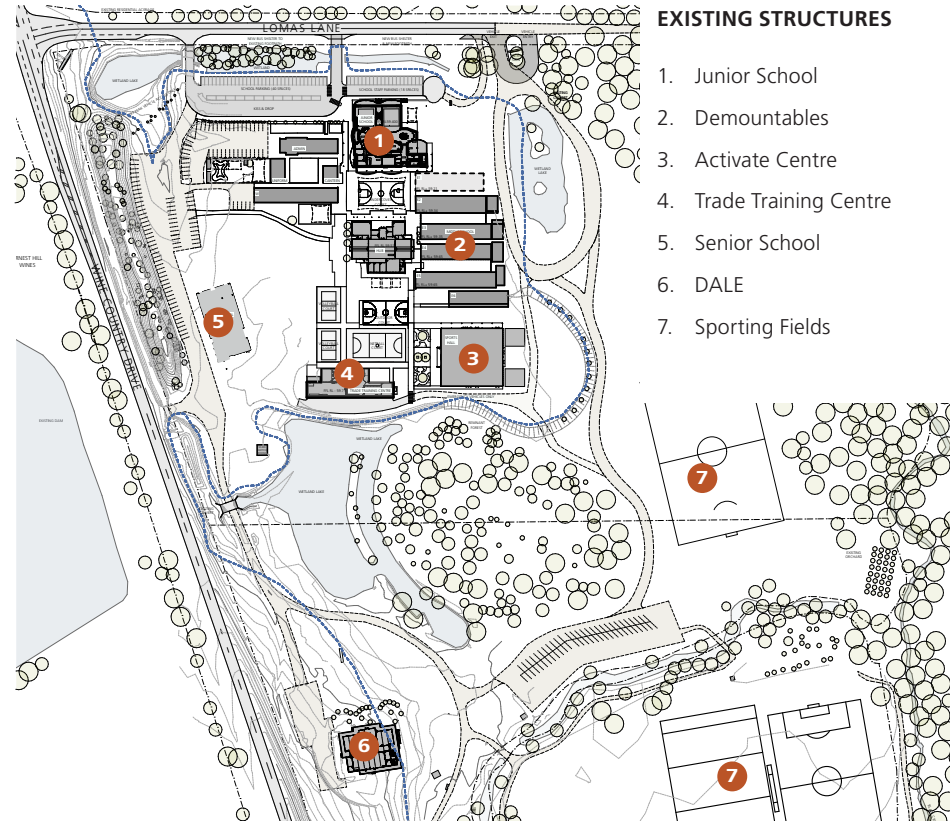
### 3.5 EXISTING SITE ESTABLISHMENT



Subject site in 2015



Subject site in 2021



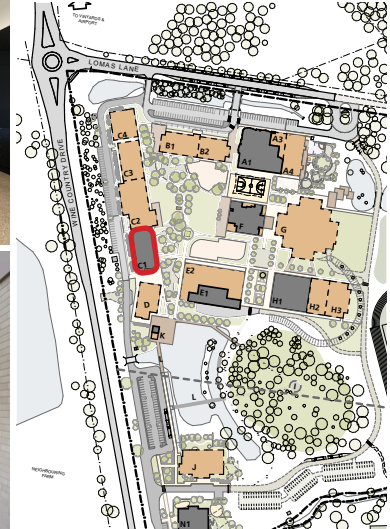
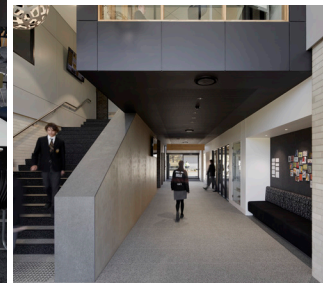
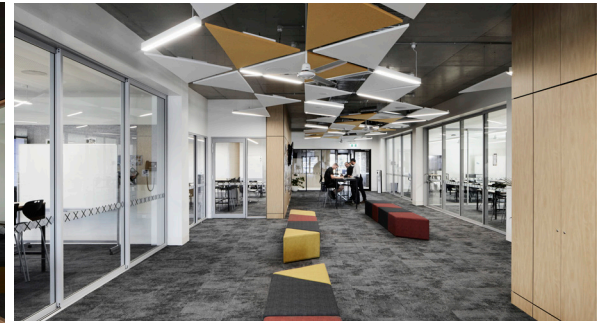
Existing Site Plan



### 3.5.1 RECENT DEVELOPMENT: ACTIVATE CENTRE - COMPLETED 2018

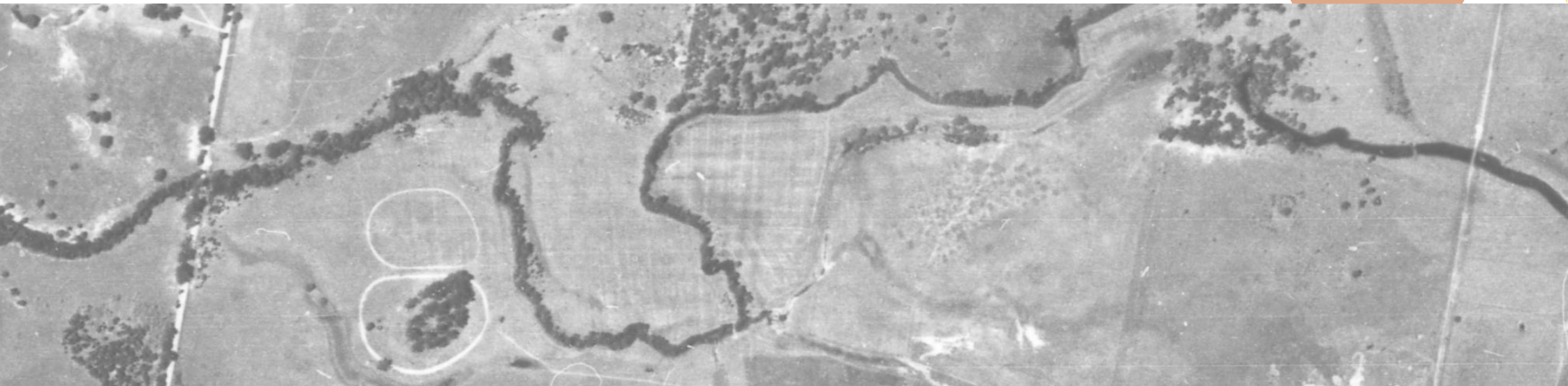
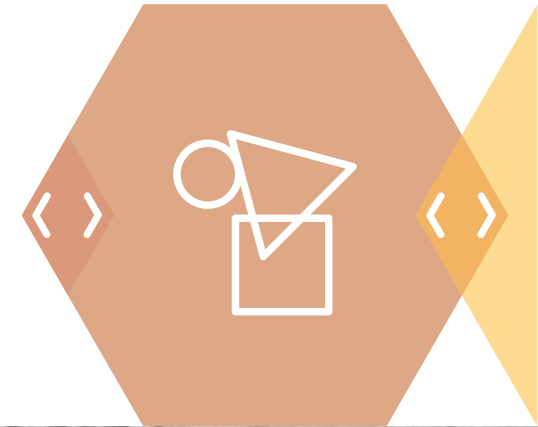








## 4. Design Guildlines



## 4.1 ST PHILIP'S CHRISTIAN COLLEGE

### 4.1.1 EDUCATIONAL VISION



#### NSW Department of Education

##### VISION

To be Australia's best education system and one of the finest in the world.

##### PURPOSE

To prepare young people for rewarding lives as engaged citizens in a complex and dynamic society.

##### GOALS

1. All children make a strong start in life and learning and make a successful transition to school.
2. Every student is known, valued and cared for in our schools.
3. Every student, every teacher, every leader and every school improves every year.
4. Every student is engaged and challenged to continue to learn.
5. All young people have a strong foundation in literacy and numeracy; deep content knowledge; and confidence in their ability to learn, adapt and be responsible citizens.
6. All young people finish school well prepared for higher education, training and work.
7. Education is a great place to work and our workforce is of the highest calibre.
8. Our school infrastructure meets the needs of a growing population and enables future-focused learning and teaching.
9. Community confidence in public education is high.
10. Our education system reduces the impact of disadvantage.

#### St Philip's Christian College Foundation

The school's vision was to establish an independent school that would develop the 'whole child' intellectually, socially, physically and spiritually, to "provide an enriching and liberating education... acquiring a deep sense of the greatness of life and learning". By placing importance on student engagement with the Christian faith, it is believed a strong sense of purpose, good values and integrity develops through innovative and effective learning experiences taught by skilled and dedicated teachers.

St. Philip's Christian College seeks to be a **leading provider of quality Christian schooling** within our nation, where:

##### EVERY STUDENT...

1. Develops a **personal faith** in Jesus Christ and is empowered to live with purpose, integrity & joy;
2. Achieves their God-given potential & is well equipped to make a significant **contribution to society**;
3. Benefits from **innovative & effective learning experiences** taught by skilled & dedicated teachers;
4. Enjoys a safe & secure learning environment wherein they **feel connected & affirmed**;
5. Contributes to a **culture of respect, dignity, care & concern** for others; and
6. Has access to excellent learning resources & is taught in the **best learning facilities** we can provide.



**Our  
Educational  
Rationale is  
that we Don't  
Dictate Space**

SOURCE:  
Surreal Worlds - Oil Painting by Modestas Malinauskas

## 4.1.2

## ST PHILIP'S CHRISTIAN COLLEGE - PEDAGODGY



Education  
School Infrastructure



### PEDAGOGICAL STATEMENT SUMMARY

St Philip's Christian College has developed their Pedagogical Brief, an organic document that will continually update and transform to remain relevant to the needs of staff, students, families and the wider community. Their story, overarching vision and guiding principles are detailed in this document (please refer to Appendices for full document), as well as their *Why*:

#### INCLUSION

"Inclusivity prompts teachers and students to consider everything we study from a range of cultural perspectives and to value heritage. Through a range of different educational experiences, we seek to explore multiple perspectives and provide opportunities for learners to think carefully about solutions based on the truth of the Word of God. Decolonising learning helps to develop respect and appreciation of the diverse cultures and backgrounds of students, actively engaging them in discovering the wonder of diversity. It is an approach that includes indigenous knowledge and ways of learning, enabling students to truly understand that we are all fearfully and wonderfully made in the image of God and that all are valued."

#### WONDER

"At St Philip's Christian College, we encourage students to marvel at the wonders of creation, such as a brilliant landscape or the perfectly balanced timing of the solar system, creating an experience that provokes interest and curiosity and a deeper understanding of God the Creator. By questioning and investigating encounters in the everyday world, student's desire to understand leads to a love of learning."

#### FAITH

"Faith underpins all that we do at St Philip's Christian College. Our staff and students are valued with the love and teachings of Jesus, thus establishing our schools as places that engage the mind and heart. Living, learning and teaching with a sense of the bigger picture allows students to experience greater depths of compassion, understanding, peace, awe and wellbeing."

#### COMMUNITY

"Learning in the classroom can be enriched by the everyday experiences from everyday life. These possibilities are endless if we move beyond the traditional classroom environment. Place-based learning considers location to be a trigger for learning and an active part of how people learn. At St Philip's Christian College, we seek to connect learning and communities, increase student engagement, improve learning outcomes, promote an understanding of the world around us, and develop 21st Century skills."

#### NOMENCLATURE: A GLOSSARY OF TERMS

Arcadia - A utopian space or garden associated with bountiful natural splendour and harmony, usually inhabited by shepherds

Carillon - A musical instrument, usually within a bell tower of a church or chapel, that consists of at least 23 cast bronze, cup-shaped bells played to produce a melody

Pavilion - Each freestanding College building block, connected by covered walkways and accommodating school facilities

Province - The sub-school zones; *an area of special knowledge, interest or responsibility*

- Junior School Province
- Middle School Province
- Senior School Province
- Shared-use & Community Province



Learn  
Guide  
Explore  
Investigate  
Engage  
Experience  
Reflect

SOURCE:  
Surreal Worlds - Oil Painting by Modestas Malinauskas

## 4.2 GUIDING AND KEY DESIGN PRINCIPLES

### 4.2.1 ST PHILIP'S EDUCATIONAL RATIONALE



#### JUNIOR SCHOOL

*DISCOVERY, FUN & FOUNDATIONS*

Students in Junior School are similar to sibling relationships, instilling a domestic atmosphere of comfort, adventure and care, subconsciously educating one another during a significant period of growth both physically, psychologically, socially and spiritually. With this in mind, the vision for Junior School physically manifests by being sited nearby the admin & Narnia, providing clear understanding of where they have come from and where they can seek help and guidance.

Junior School should allow for freedom of movement, through predominantly organic design with shapes and geometry expressed in furniture, ground planes, and having access to internal and external open space to run, jump, catch and throw. Learning spaces should be able to accommodate every need of the child and house small, medium and large groups, and be calming, promoting a feeling of familiarity by having access to smaller nooks and corners that are quiet, soft and characteristic of the lounge room or bay window at home. Patterns, music & rhythmic elements should be expressed in the architecture and structure by repetition and form, adding a new level of learning and discovery. Junior School students should have access to nature, both indoors and outdoors, for psycho-social and environmental benefits for child growth, in the form of natural materials, gardens, stones/rocks, timber, earth and gardens, lowering the window sill to allow children to see directly outside, particularly in a rural setting. Colours should be warm and light, symbolic of energy and activity.



#### MIDDLE SCHOOL

*MASTERY & BELONGING*

Middle School students are at an age of development, searching for meaning in social situations, learning environments and creative or academic endeavours. By this time, students and their personalities are known, celebrated and nurtured, which is expressed in the physical by their central location, signifying a sense of belonging and importance to the culture of the school community.

Placed on the axis of the Chapel & Performing Arts Centre, the position of the Middle School Province is also symbolic of students' search for meaning, guidance, focus & energy, and learning how to serve one another and their community. Cooling colour tones are encouraged in this Province; blues & greens for focus & concentration, and are colours connected to nature, expelling energy and looking out into nature and the world around them, inspiring to serve the community and the environment.



#### SENIOR SCHOOL

*EXCELLENCE & PURPOSE*

Senior School students are becoming skilled in their chosen pathways, developing an ability to test their knowledge and explore a realm of abstract ideas and thoughts, and look toward experts, mentors and the community for further challenges and answers.

Senior School Province is located further along the campus, providing greater privacy and anticipated quiet when engaging in study and examination, yet allow for moments of gathering and community in times of celebration. To accommodate this, Senior School Province have access to a Cafe, where they can engage with each other, staff & mentors, as well as specialist facilities and makerspaces for inquisitive and creative explorations. Senior School has outlook across the campus to Junior School, the Chapel, gardens and the site vegetation, a reminder of where they have come from, who/what has helped guide them, and where they are heading toward beyond school.

**+ DALE:** Dynamic Alternate Learning Environment

**+ NARNIA:** Pre School & Prep

**+ YOUNG PARENTS:** Back to School



#### 4.2.2. EDUCATION RATIONALE

The Educational Rationale identified school-specific principles of learning and teaching attempting to describe the range of opportunities and desired pedagogical strategies of the school. These principles were addressed as followed:



##### 1. LEARNING IS VALUED THROUGH EXCELLENCE IN TEACHING & LEARNING, INCLUDING HIGH EXPECTATIONS

- Spaces allow for flexible use of furniture
- Spectrum of public and private spaces for a range of DoE learning modules and practices to be activated
- Saturated use of wall space for ICT infrastructure and writable surfaces to facilitate a range of interactive learning activities
- Collaborative and independent working spaces for teachers



##### 2. LEARNING IS AGILE & RESPONSIVE IN SUPPORTING STUDENTS TO SUCCEED IN A CONTINUALLY & RAPIDLY CHANGING WORLD.

- Furniture selections will be made to support flexibility in use of defined learning modes
- Connected range of learning spaces to allow seamless opportunity for physical interrogation of curriculum and acknowledge different learning modalities.
- Refined lightweight internal walls and regular structural grid ensures long term flexibility is achieved.



##### 3. LEARNING IS COLLABORATIVE FOR BOTH TEACHERS & STUDENTS.

- Seamless transitions between seminar, shared learning, learning spaces and workshops allow students to chose the learning spaces based on their needs and intentions.
- Zones within the co-located Staff Precinct allows for teachers to work independently and collaboratively.
- Library, Support Unit and Specialist spaces allow for teachers able to maintain supervision of students in multiple areas.



#### **4. LEARNING IS INCLUSIVE OF ALL CULTURES & VALUES, INCLUDING STUDENTS' PERSONAL EXPERIENCES**

- Through applying considered entrance and techniques the school is open and welcoming to the community
- Indigenous perspectives such as yarn circles, outdoor learning spaces and way finding have been incorporated into the design
- Sufficient shading and landscaping to meet the severe heat environments at Cessnock.
- All learning facilities are easily accessible for students and staff with physical disabilities



#### **5. LEARNING IS RELEVANT TO STUDENTS, VALUING BOTH THEIR ACADEMIC & SOCIAL/ EMOTIONAL SUCCESS**

- Operable walls allow for greater groupings of students that are beyond the traditional class sizes
- Students with special needs are supported and integrated within the General Learning Spaces
- Existing programs valued within the school such as VET, agriculture, robotics and Indigenous programs are sustained
- Spaces facilitating sport and performance are designed and located to accommodate joint use of facilities
- Space and location requirements for emotional support, such as counsellor are carefully considered.



#### **6. LEARNING IS SUPPORTIVE OF STUDENTS MAKING AND VALUING CONNECTIONS BETWEEN SCHOOL-BASED LEARNING & POST SCHOOL VOCATIONS**

- Career counsellor has access for both individual and larger collaboration
- Storage, shedding and equipment meet the needs of the vocational education programs
- The hospitality room is a Trade Training Centre, with the potential to operate during performances and other joint use programs due to its proximity to the Gymnasium and sporting facilities

## 4.6 FUNCTIONAL AREA GUIDLINES

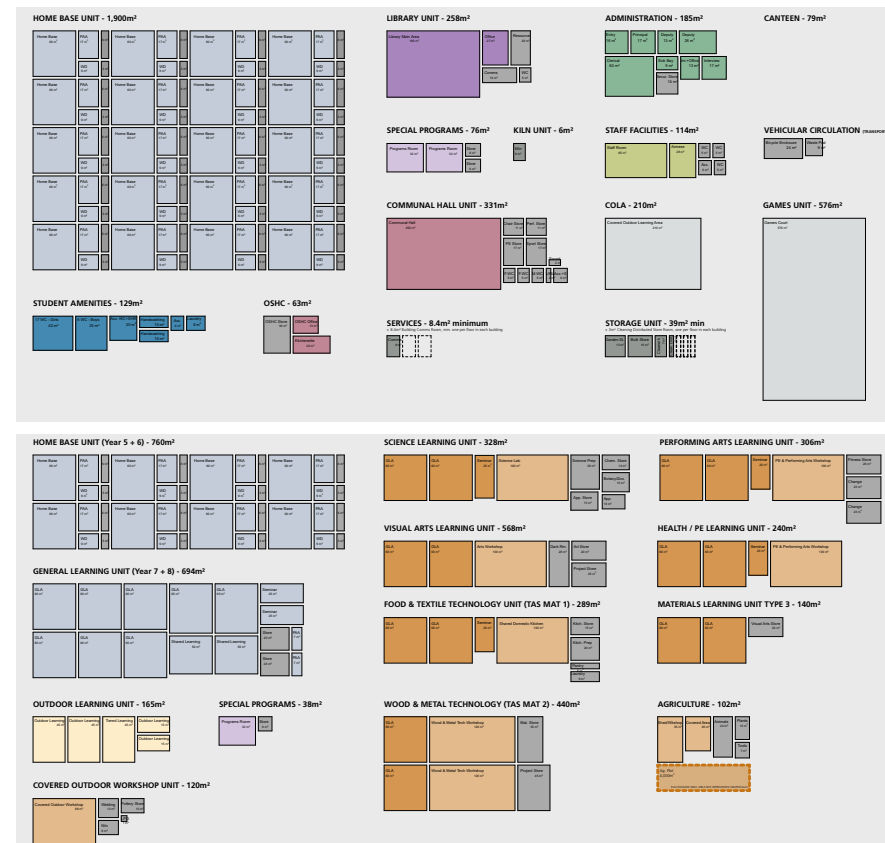
The Functional Area Guidelines are based off the most up-to-date Educational Facilities Standards & Guidelines (EFSG) at the date access. The provided areas as used as a guideline only to inform the requirements of St Philip's Christian College, and have been tailored to the location, subject site, intended pedagogy and methodology of the Cessnock campus.

As an independent association school, St Philip's Christian College is not mandated to provide a certain amount of area to suit its intended population. SHAC provide the following schedule of areas as a guide and comparison to both the Educational Facilities Standards & Guidelines (EFSG) and Catholic Block Grant Authority (CBGA) equivalent areas.

The schedule is based on the following student populations:

- Junior School K-4 – 500 Students
- Middle School 5-8 – 500 Students
- Senior School 9-12 – 600 Students
- Ancillary Schools: Narnia Early Learning & DALE

This schedule provides functional areas based on 25 students per classroom. This results in the equivalent 4 stream primary facilities and 6 stream secondary facilities that reflect SPCC's education rationale, class sizes & course offerings.



FUNCTIONAL AREA GUIDLINES EXTRACTS FROM SPCC CESSNOCK PLANNING



## 4.5 UNIQUE CONTEXT DRIVERS



- **Population Growth:** The projected population growth in Cessnock is estimated to be over 20,000 people over the next 20 years driven by natural change and people moving to the Cessnock area. Source: Cessnock City Council.
- **Projected School Growth** up to 1732 students: Narnia, K-12 & DALE. 1,270 current students.
- **Site Constraints:** Include site access & traffic, flooding, main rural road, weather considerations, environmental elements.
- **St Philip's Christian College** Education: Education Mission, Pedagogical Statement
- **Schools Vision: Community** Hub, Sports Centre of Excellence, Low Socio-economic area, Local Industry: Hospitality, Viticulture, Agriculture
- **Landscape / Environment:** Existing natural environments, capitalise black creek & remnant forest. Rural landscape setting - opportunities for learning outside of classrooms including agriculture, waste management, discovery play.
- **Community Assets:** Opportunities to engage community and provide community amenity and enhance the town centre.
- **Post-School Vocation:** New facilities to provide access to quality education for young people and support post school employment in local emerging industries.



## 4.3 GUIDELINES: DESIGN EXCELLENCE PRINCIPLES BY GOVERNMENT ARCHITECT NSW

### BETTER PLACED

#### EDUCATION SEPP DESIGN QUALITY PRINCIPLES:

The following section lists the Education SEPP Design Quality Principles to be used when designing new schools and school building upgrades. These principles are a set of values that enable a common understanding between school developers, design teams, school staff, students and the community when designing new school buildings or upgrades.

SHAC have continued to consider the Education SEPP Design Quality Principles as part of a holistic and integrated project design and review process to ensure the delivery of 'better' design.



#### BETTER FIT CONTEXT, BUILT FORM AND LANDSCAPE

Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage

The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate

Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites

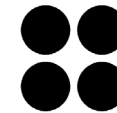
School buildings and their grounds on land that is identified in or under a local environmental plan as a scenic protection area should be designed to recognise and protect the special visual qualities and natural environment of the area, and located and designed to minimise the development's visual impact on those qualities and that natural environment.



#### BETTER PERFORMANCE SUSTAINABLE, EFFICIENT AND DURABLE

Good design combines positive environmental, social and economic outcomes. Schools and school buildings should be designed to minimise the consumption of energy, water and natural resources and reduce waste and encourage recycling

Schools should be designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.



#### BETTER FOR COMMUNITY ACCESSIBLE AND INCLUSIVE

School buildings and their grounds should provide good wayfinding and be welcoming, accessible and inclusive to people with differing needs and capabilities

(Note: Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space)

Schools should actively seek opportunities for their facilities to be shared with the community and cater for activities outside of school hours.



### **BETTER FOR PEOPLE** HEALTH AND SAFETY

Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.

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### **BETTER WORKING** AMENITY

Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood

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Schools located near busy roads or near rail corridors should incorporate appropriate noise mitigation measures to ensure a high level of amenity for occupants

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Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas.

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### **BETTER VALUE** WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning

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Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.

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### **BETTER LOOK & FEEL** AESTHETICS

School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements

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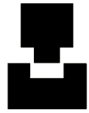
Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood

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The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.

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## DESIGN VERIFICATION



### BETTER FIT CONTEXT, BUILT FORM AND LANDSCAPE

Respect and respond to its physical context, neighbourhood character, streetscape quality and heritage

Consider interpretation of Aboriginal cultural heritage within the design of buildings and open spaces in consultation with local Aboriginal community

Respond to its natural environment including scenic value, local landscape setting and orientation

Retain existing built form and vegetation where significant

Include tree planting and other planting that enhances opportunities for play and learning

Ensure landscaping improves the amenity within school grounds and for uses adjacent to the school

Be informed by a current Conservation Management Plan (CMP) and consider local heritage items both on the school site and in the local neighbourhood

Take advantage of its context by optimising access to nearby transport, public facilities and local centres

Consider height and scale of school development in relationship to neighbouring properties.

## DESIGN RESPONSE

The vicinity is a mix of commercial, residential and agricultural typologies within a rural backdrop of vast, open paddocks. The campus responds with soft boundary edges and provides presence to the otherwise formless journeyed edge along Wine Country Drive. The single and two storey school buildings, aim to complement the mix of typologies.

The project team, including representatives from the school, have and will continue to actively consult with the local Indigenous parties that have registered their interest in the project. The Mindaribba LALC and Wonnarua Elders are sharing their knowledge about the cultural heritage of the Country upon which the school is built. They are informing the design of a pathway throughout the site which will explore the creekside environment and unique oxbow lagoon, revealing the stories and artefacts that are part of the landscape. The students who form Junior Aboriginal Educational Consultive Group (JAECG) have been encouraged by the Elders to find their voice and to explore their own ideas about Country, sense of place and how the stories can be expressed throughout the school buildings, public spaces and art.

The school has been developed upon a linear parcel of rural landscape. Bordering Black Creek and containing an Oxbow Lagoon, the site's riparian features, remnant forest and open grasslands, provide a unique learning environment. Development is restricted to above the 100 year flood line which runs adjacent the Wine Country Drive and Lomas Lane boundaries, which minimises the extent of physical intervention on the culturally and ecologically rich site. The main campus buildings form a crescent on the north-west portion, which address both streetscapes, while creating an north-east facing internal communal space sheltered from the harsh western aspect. This space eliminates long travel distances / circulation, whilst promoting passive observation and active participation, creating a sense of community. Circulation spines, form an external street-scape of shared informal learning areas strongly connected to the surrounding landscape and providing links to even the most distant features of the site.

Apart from demountable buildings being removed, the existing built form is to be retained, as are all established vegetation.

This is addressed in the Landscape Architecture Package by Moir Landscape Architecture. Opportunities for outdoor learning & places to sit, play and engage with the surrounding landscape is enhanced by increasing local native plantings and canopy communities

This is addressed in the Landscape Architecture Package by Moir Landscape Architecture. The proposed masterplan further promotes opportunities for the community to share the sport and recreation precinct outside of school hours and creates a green corridor throughout the school linking the main shared facilities.

Although the site is not located within proximity to a local heritage item or conservation area, the proposed development does share the objectives outlined by the Cessnock Council Heritage Policy, particularly in relation to cultural heritage of the site and Country. An Aboriginal Cultural Heritage Assessment Report was undertaken through engagements & walking the site. The project will continually evolve with engagements with the local community.

The school at Nulkaba is located on Wine Country Drive, a regional roadway between Cessnock township and the Pokolbin vineyard locality. As such the site has great exposure and is accessible to the broader community by providing recreational facilities in the form of an Indoor Sports Centre, gym and playing fields. The proposed Chapel-Library and Administration buildings are designed to further engage with the streetscape, increasing the suite of public facilities on site and enhancing the precinct where members of the locality gather to learn and play.

The masterplan comprises buildings of one and two storeys in height and occupies the north-west portion of the rural site. The buildings along Wine Country Drive are setback 40m and setback 60m from Lomas Lane respecting the height of the existing landscape.

## DOCUMENT REFERENCE

Section 3.0 of this report.

Section 5.0 of this report.

Section 3.0 of this report.

Section 5.0 of this report

Landscape Plans and Design Report by Moir Landscape.

Landscape Plans and Design Report by Moir Landscape & Proposed Site Plan

McCardle Heritage Report and Heritage Now Report

Section 3.0 of this report.

Section 3.0 of this report

## DESIGN VERIFICATION



### BETTER PERFORMANCE SUSTAINABLE, EFFICIENT AND DURABLE

Be responsive to local climate including sun, wind and aspect

Select materials and approaches to detailing that are robust and durable

Integrate landscape, planting and Water Sensitive Urban Design (WSUD) principles to enhance amenity and building performance

Include deep soil zones for ground water recharge and planting

Minimise reliance on mechanical systems

Include initiatives to reduce waste, embodied energy and emissions, through passive design principles and the use of advanced energy production systems where possible

Maximise opportunities for safe walking, cycling and public transport access to and from the school

## DESIGN RESPONSE

The climate environment is typically hot, dry summers and cold, wet winters. Typical devices and strategies have been implemented, such as screening, covered walkways, operable openings, cross-ventilation and planting.

Material selection will ensure durability, and will be addressed further during design development & documentation in close consultation & collaboration with EFSG and the BCA.

The landscape design includes extensive planting to provide shade to the play spaces & enhance amenity, with particular consideration to local native plants & trees and to increasing canopy communities. WSUD principles are developed in the design of onsite stormwater pathways, filtration and detention systems to manage the flood-proned site, and provide protection to downstream localities.

The site has extensive areas for deep soil plantings and allowances and both groundwater & stormwater management systems onsite and for the surrounding context.

Operable glazing allows for natural and cross ventilation alleviating year-round reliance on mechanical systems. Sunlight penetration into the floorplates during winter contribute to comfortable internal temperatures and minimises need for these systems during colder months. Training for the management and maintenance system for the operation of natural systems will be implemented upon completion to ensure the effectiveness of these allowances.

Refer to above. Additionally, an ESD consultant has been engaged that not only assesses but contributes to the implementation of strategies to maximise positive Energy & Carbon, Water, Waste & Materials, Resilience and Place processes.

New pedestrian pathways, green corridors, a bus stop and dedicated kiss&drop at the school entrance has been accommodated to ensure safe arrival and pick up of students travelling to/from school, as well as during after hours use of the site and the use of site pathways around the school.

## DOCUMENT REFERENCE

Section 9.0 of this report

Section 8.0 of this report

Section 8.0 of this report, Landscape Plans & Design Report by Moir Landscape, Civil Engineering Design Report, Plans & Stormwater Management Plan by Northrop, Flood Impact Assessment by BMT

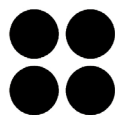
Landscape Plans & Design Report by Moir Landscape, Civil Engineering Design Report & Plans by Northrop

Section 9.0 of this report and ESD Report by Steensen Varming

Section 9.0 of this report and ESD Audit by Steensen Varming

Section 7.0 & 8.0 of this report

## DESIGN VERIFICATION



### BETTER FOR COMMUNITY ACCESSIBLE & INCLUSIVE

Establish security requirements early to ensure any required secure lines can be designed and integrated with built form

Balance security with accessibility and inclusiveness by minimising the use of fencing particularly along street frontages

Engage students, educators and the community in development of the vision and design brief for the school

Allow for passive and dynamic play of different age groups

Provide school frontages and entrances that are visible, engaging and welcoming

Encourage access for members of the community to shared facilities after hours

Ensure clear and logical wayfinding across the school site and between buildings for all users including after hours community users

Ensure accessibility for all users of the site

## DESIGN RESPONSE

Secure lines have been designed in coordination with Civil/Stormwater & Landscape, contributing to a robust, community-focused design solution. There is a hierarchy of fence heights to indicate precincts that can be shared with the community outside of school hours, and securing the school buildings during these times.

A balance has been developed between the security of the school campus and accessibility of pedestrians by ensuring all possible entrance pathways have been accommodated with pathways and gates to enter the school site leading to entry stairs and ramps, bridges over the proposed swale and access to community facilities after hours. The boundary fence to the school is timber post and rail located 10m from the street frontage which softens and embeds this necessary element into the landscape features of the site.

Workshops with the school have been ongoing. A major workshop was undertaken onsite to meet with each faculty individually to ensure specific voices and requirements were captured at the beginning of the design phase, including the Aboriginal Education Officer. Ongoing workshops with School representatives (Project Reference Group, Expert Review Panel) and educators have been integral to the design process and have allowed updates to the design for approval and to be communicated in an effective manner that can be communicated to the rest of the school community at their discretion.

The landscape design includes a variety of outdoor spaces that account for passive and active play, including the central courtyard with a mix of hard and soft surfaces for Middle and Senior School, the Junior School Playground, the Sports Hall /Gymnasium, the Sports courts, and the Sports field for more formalised and active play opportunities.

The campus will have two entries to service the vast site and cater for its large population. The original Entry location off Lomas Lane will be upgraded with Bus Shelters and renewed signage. The new Entry will be at the other end of the site off Wine Country Drive near the proposed Aquatic Centre. Both Entries lead to large landscaped forecourts adjacent the Administration units that service the Junior, Middle and Senior schools. These areas are characterised by large, yellow threshold structure signifying entry into the centre of the campus.

Key learning spaces have been purposefully sited nearby the street frontages and main entry to the school grounds, such as the Chapel-Library Room, and Sports Hall/Gymnasium to accommodate access by the community after hours and on weekends by community groups, community information sessions, workshops, opportunities for learning and engagements, amongst many other opportunities. The flexible and adaptable nature of these facilities accommodates a range of needs to maximise their relevance to the community.

All the buildings and paths on site lead to the two entries of the school or central courtyard space, making wayfinding clear. In future design phases, wayfinding methods and signage will form part of this in consultation with the school.

Accessibility for all users have been accommodated with equal access to ramps and ramped landscape elements, elevated decks and walkways, and the inclusion of numerous lifts to access the first floor level of buildings from the central courtyard.

## DOCUMENT REFERENCE

Section 8.0 of this report

Section 8.0 of this report

Section 5.0 of this report

Section 8.0 & Landscape Plans & Design Report by Moir Landscape.

Section 5.0 & 7.0 of this report

Section 5.0 & 7.0 of this report.

Section 5.0 & 7.0 of this report

Section 5.0 & 7.0 of this report

## DESIGN VERIFICATION



### BETTER FOR PEOPLE HEALTH & SAFETY

Locate buildings and design facades that optimise fresh air intake and access to daylight

Prioritise pedestrians and avoid conflicts between vehicles and people

Provide covered areas for protection from sun and rain

Support safe walking and cycling to and from school through connections to local bike and foot paths and the provision of bike parking and end of journey facilities

Support passive surveillance, including through the location of toilets and areas for communal use outside of school hours

Incorporate Crime Prevention Through Environmental Design (CPTED) principles

Clearly define access arrangements for after school hours

Consider location and number of toilet facilities to allow safe use by different age groups and genders

### DESIGN RESPONSE

The classrooms are located on the external edges of the buildings maximising natural daylighting. Furthermore the buildings' fenestrations includes operable louvres allowing for natural ventilation

Service roads are located along the perimeter of the site (northern and western boundary) which separates pedestrian and vehicular movements. A dedicated bus bay and vehicle kiss+drop is located along the street frontage ensuring separation. Pedestrian pathways have been accommodated across the campus and along the street frontages, footbridges crossing the drainage swale at key points along the street lining up with adjoining pathways and street crossing

Covered circulation is provided to access all areas of the school. Local native plantings and trees will be implemented to maximise natural shading devices in outdoor passive and active play spaces and courtyards. Covered outdoor learning opportunities are accommodated by COLA's and the large indoor/outdoor tiered learning area.

Bike parking has been accommodated in multiple locations onsite for staff and students. However these are under utilised given the lack of cycleways and footpaths leading to the site.

Student amenities are located adjacent circulation pathways for the safety, surveillance and protection of students. Open play spaces and sporting fields for communal use outside of school hours are free from dead end pathways, open and are not visually impaired by large structures or landscape elements so allows for ease of passive surveillance.

Increased perception of risk to criminals by increasing the possibility of detection, challenge & capture by utilising passive surveillance principles, particularly by the open space surrounding the development. High palisade boundary fences and setbacks surround the campus buildings to increase the energy & resources required to enter the campus. Overall, by strengthening the community's relationship and connection to the school campus in turn provides a sense of ownership and therefore encouraging a sense of care, protection and surveillance over the actions of peoples utilising and surrounding the site.

CPTED principles have be incorporated as outlined above. The main campus secure line is fenced with a palisade boundary fence, which lowers to surround the sporting and recreation fields and facilities to be shared with the community outside of school hours

.Toilets are typically located on all floors of each main building. They are located adjacent key facilities or outdoor spaces, to increase accessibility and amenity. The Admin areas have their own dedicated faciities for staff & visitors.

### DOCUMENT REFERENCE

Section 6.0 of this report

Section 6.0 of this report and Traffic & Accessibility Impact Assessment by TTW

Section of this report and Landscape Plans & Design Report by Moir Landscape

Section 3.0 of this report

Section 6.0 & 7.0 of this report

Section 7.0 of this report

Section 7.0 of this report

Section 6.0 of this report

## DESIGN VERIFICATION



Be integrated into, and maximise the use of, the natural environment for learning and play

Ensure access to sunlight, natural ventilation and visual outlook wherever possible.

Facilitate flexible learning by providing access to technology

Seek opportunities for buildings and outdoor spaces to be learning tools in themselves

Provide a diversity of indoor and outdoor spaces to facilitate informal and formal uses

Provide buffer planting in setbacks where appropriate to reduce the impact of new development

High rise schools should... minimise the negative impacts... on surrounding built form, open space and school grounds.

Ensure outdoor play ground space is sufficient to accommodate the student population including future growth.

Locate buildings away from noisy roads and other noise sources to ensure acoustic levels within teaching and learning spaces are acceptable

Where teaching and learning spaces must be located alongside noise sources, arrange built form to ensure dual aspect that will allow for natural ventilation away from the noise source. In extreme cases, mechanical systems and other technologies may be necessary to ensure acoustic levels can be maintained along with cross flow ventilation and natural light.

## DESIGN RESPONSE

The landscape design proposes a variety of outdoor learning spaces. The architectural solution integrates the landscape and unique civil solution for this project site. Existing vegetation onsite will be enhanced through specification of local, native plantings and trees, improving access to natural shading devices and providing opportunities for student learning and play amongst an enriched landscape.

Operable glazing allows for natural and cross ventilation, as well as ample daylighting to teaching spaces that is maximised by their location along the perimeter of the buildings adjacent external circulation pathways and views to the surrounding landscape. Elevated views across the site and beyond are captured from the second storey levels.

An extensive building services strategy is captured throughout the design including main switch room, communications rooms, centralised building services stores & cupboards.

The inclusion of native planting provides an opportunity to learn about bush tucker, bush medicine & how the natural environment can be used as educational tools and reference. In particular, by showcasing the ESG principles integrated into the school design and services, this can be a reference and learning tool for the Science and Mathematics curriculum, at a minimum.

Outdoor learning spaces across the campus can also be utilised as passive play spaces, increasing their usability and amenity for students. Indoor learning spaces are flexible and adaptable to a range of learning modes and informal uses

Buffer planting is provided along property boundaries, particularly to the northern neighbour to act as both visual and noise barrier for privacy and to minimise development impacts

N/A. The proposed buildings do not significantly overshadow the site & surrounding buildings as it is not a high rise school.

The large rural site provides sufficient area outdoor recreation and sporting amenity, including the provision of future growth of the school

The project site is adjacent the busy Wine Country Drive. An approximate 40m setback to buildings from the roadway has been accommodated, with plantings and berms to act as noise buffers as well as minimising glazing and apertures along the western facade fronting this roadway.

Majority of learning spaces have cross ventilation without the reliance on the western facade fronting Wine Country Drive. Additionally, all learning spaces have operable walls and the ability to access both natural and cross ventilation opportunities throughout other spaces, when appropriate. Operable glazing to the northern, eastern and southern facades away from the highway have been maximised where appropriate. Clerestory windows are used in all buildings to as part of the environmental strategy.

## DOCUMENT REFERENCE

Section 8.0 of this report and Landscape Plans & Design Report by Moir Landscape.

Section 9.0 of this report

Section 6.0 of this report

Section 8.0 of this report, and Landscape Plans & Design Report by Moir Landscape

Section 6.0 & 8.0 of this report

Section 8.0 of this report

Section 7.0 of this report

Section 8.0 of this report

Section 8.0 of this report

Section 9.0 of this report

## DESIGN VERIFICATION



### BETTER VALUE WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

Allow for future adaptation to accommodate demographic changes, new teaching and learning approaches and the integration of new technologies

Be based on a masterplan of the school site that includes the testing of options for future potential growth

Take a whole-of-life cycle approach when considering cost and consider wider public benefits over time

Provide capacity for multiple uses, flexibility and change of use over time

Respond to the findings of a site appraisal including in-ground conditions, contamination, flora and fauna, flooding, drainage and erosion, noise and traffic generation

Understand the potential impacts of future local projected growth

Design learning spaces to cater for a range of learning styles and group sizes

Consider providing areas for collaboration, group learning, presentations, specialised focus labs, project space and wet areas, display areas, student breakout, teacher meetings, and reflective / quiet spaces.

## DESIGN RESPONSE

The regular structural grid of the proposed buildings allow for flexibility and future adaption of the floor plate. Learning spaces are unimpeded by columns, and have operable glazing and wall systems between learning spaces to increase open space accommodating small, medium and large learning modes.

The masterplan accounts for potential future growth to a 4 stream Primary and 6 stream High school equating to 1649 students plus 83 in Early Learning Centre. Fundamentally, the objective of the masterplan was to unite the disparate buildings that had been erected over the school's evolution, both functionally and aesthetically to create a more cohesive Campus. Options were explored with the school with the proposed masterplan deemed most appropriate given the environmental (flooding), access and operational parameters.

The proposed design is the result of a rigorous masterplan process, finding a solution to the flooding (civil/stormwater) issues the site and locality experiences. A ESD consultant is engaged which considers and suggests modifications to the project's resilience and climate adaptation capacities to ensure its relevance to the existing and future community, technologies, environmental factors and place. The resulting design will be as low maintenance as possible as a school facility, contains elements that are able to be shared by the community, act as a town hub & heart and contribute to the community sporting and recreation amenity

By providing unimpeded learning spaces with operable glazing walls, they can be flexible and adaptable to a range of teaching and learning modes, community uses and change of use over time.

The resulting site layout and design encapsulates all consultant findings and recommendations and responds to the unique site conditions including Potential Archaeological Deposits (PADS), flooding/drainage/civil, existing tree communities and native grasses, onsite contamination, noise/acoustics, traffic/access/circulation & security.

The main impacts of projected growth include car parking and public transport infrastructure, which has been considered in the Masterplan to allow for expansion.

The flexibility of the teaching spaces provides the opportunity to cater to a range of learning styles & group sizes, including small, medium, large, one-on-one, life skills areas and outdoor learning opportunities.

The design includes general and specialist learning spaces, seminar rooms, meeting and presentation spaces, practical activity and life skills areas, labs & workshops, outdoor learning, and quiet study spaces including a library space able to be accessed by the community.

## DOCUMENT REFERENCE

Section 6.0 & 8.0 of this report

Section 2.0 of this report

Section 9.0 of this report

Section 6.0 of this report

Refer to the EIS for full consultant reports.

Section 6.0 of this report

Section 6.0 of this report

Section 6.0 of this report



## DESIGN VERIFICATION



### BETTER LOOK & FEEL AESTHETICS

Reflect a commitment to and investment in design excellence

Create engaging and attractive environments

Achieve a purposeful composition of materials and elements through a rigorous design process

Provide an engaging environment for pedestrians visually and materially along public street frontages

Seek opportunities to enhance public facing areas with landscaping and ensure landscape and building design are integrated

Integrate service elements with the building design

Balance internal spatial requirements with an external mass and scale that responds to its environment

Avoid long stretches of security fencing to public facing areas through arrangement of building edges, landscaping, gates and other openings

Look for opportunities to include public art.

## DESIGN RESPONSE

SPCC is a longstanding client of SHAC. We have a deep understanding of the organisations values. Our commitment to the best outcome for the Cessnock campus is demonstrated in the rigorous research and engagement to understand their specific needs through various workshops, and our continual research into the heritage of the site both Indigenous and European.

The material palette has been carefully chosen to achieve the desired aesthetic while optimising the building's thermal performance.

The chosen colour palette reflects the remnant forest on site, with greys, browns and glimpses of yellow wattle, and the native grasses in the sunlight. It creates a rhythm of colour and texture across the street facade to Wine Country Drive, creating pride of place and street presence within the community

Engaging drainage swale contains natural elements including rocks, grasses and adjacent sandstone seating and elements along pedestrian pathways along the site boundary and within the school campus. Natural landscape is enhanced through local native plantings and grasses along the school entrance on Lomas Lane, with special consideration to increasing canopy communities and natural shading devices

A landscape masterplan and design has been coordinated with the overall design intent of the built forms, with particular mention to the rhythm of the facade and materiality being reflected in the chosen patterns and paving surrounding the built forms, and including local native plantings to embed the campus with the landscape.

Services input came early on in the design process and therefore could be integrated to decrease visual impacts to the built form and within the landscape.

Surrounding Context studies have been undertaken that identify bulk, scale and materiality within the locality and industrial typologies. the proposed design responds to these studies and the colours of the surrounding landscape to create a cohesive and embedded built form of its place.

The security fence is setback from the Wine Country Drive, and all fencelines are softened by landscaping, local native plantings and the landscaped drainage swale along the perimeter of the site

Ongoing consultation and collaboration is underway with the local Wonnarua Elders, with opportunities alongside the site's artefacts being explored. Kawal (Ka-wal), the Wedge Tailed Eagle is an important totem within the community and will feature throughout the campus.

## DOCUMENT REFERENCE

Section 2.0 of this report

Section 8.0 of this report

Section 8.0 of this report

Section 8.0 of this report

Section 8.0 of this report and refer to Moir Landscape plans & reports

Section 7.0 of this report

Section 3.0 of this report

Section 8.0 of this report & Moir Landscape plans & reports

Section 5.0 of this report

## 4.4

## CHILD CARE PLANNING GUIDELINES BY NSW GOVERNMENT PLANNING & ENVIRONMENT

The following section lists the Child Care Planning Guidelines used when designing new childcare facilities. The Guideline establishes the assessment framework to deliver consistent planning outcomes and design quality for centre-based childcare facilities in NSW.

Guideline Planning objectives

- Promote high quality planning and design of child care facilities in accordance with the physical requirements of the National Regulations
- Ensure that child care facilities are compatible with the existing streetscape, context and neighbouring land uses
- Minimise any adverse impacts of development on adjoining properties and the neighbourhood, including the natural and built environment

SHAC have continued to consider the Child Care Planning Guideline Principles as part of the project design and review process.

### CONETXT PRINCIPLE 1



Good design responds and contributes to its context, including the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions.

Well-designed child care facilities respond to and enhance the qualities and identity of the area including adjacent sites, streetscapes and neighbourhood.

Well-designed child care facilities take advantage of its context by optimising nearby transport, public facilities and centres, respecting local heritage, and being responsive to the demographic, cultural and socio-economic makeup of the facility users and surrounding communities.

### BUILT FORM PRINCIPLE 2



Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the surrounding area.

Good design achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.

Good design also uses a variety of materials, colours and textures.

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Contemporary facility design can be distinctive and unique to support innovative approaches to teaching and learning, while still achieving a visual appearance that is aesthetically pleasing, complements the surrounding areas, and contributes positively to the public realm.

### ADAPTIVE LEARNING SPACES PRINCIPLE 3



Good facility design delivers high quality learning spaces and achieves a high level of amenity for children and staff, resulting in buildings and associated infrastructure that are fit-for-purpose, enjoyable and easy to use. This is achieved through site layout, building design, and learning spaces fit-out.

Good design achieves a mix of inclusive learning spaces to cater for all students and different modes of learning. This includes appropriately designed physical spaces offering a variety of settings, technology and opportunities for interaction.

#### **SUSTAINABILITY** PRINCIPLE 4



Sustainable design combines positive environmental, social and economic outcomes.

This includes use of natural cross ventilation, sunlight and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and re-use of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Well-designed facilities are durable and embed resource efficiency into building and site design, resulting in less energy and water consumption, less generation of waste and air emissions and reduced operational costs.

#### **LANDSCAPE** PRINCIPLE 5



Landscape and buildings should operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Well-designed landscapes make outdoor spaces assets for learning. This includes designing for diversity in function and use, age-appropriateness and amenity.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks

#### **AMENITY** PRINCIPLE 6



Good design positively influences internal and external amenity for children, staff and neighbours. Achieving good amenity contributes to positive learning environments and the well-being of students and staff.

Good amenity combines appropriate and efficient indoor and outdoor learning spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, service areas and ease of access for all age groups and degrees of mobility. Well-designed child care facilities provide comfortable, diverse and attractive spaces to learn, play and socialise.

#### **SAFETY** PRINCIPLE 7

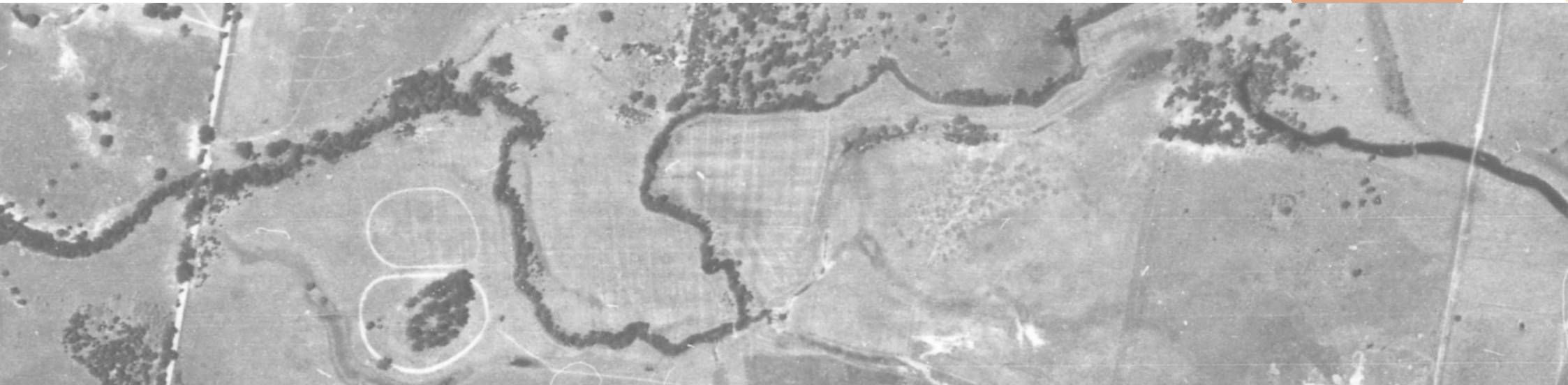
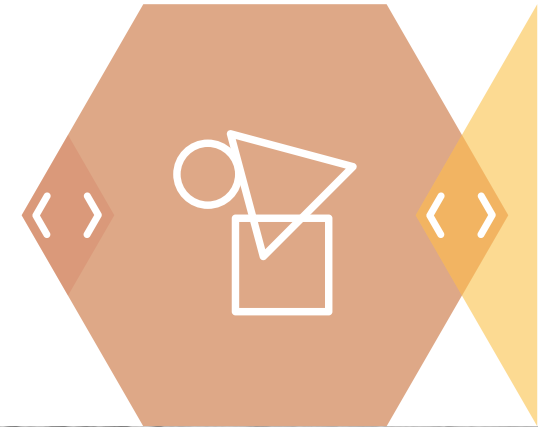


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## 5. Concept Design Development

SHAPING OF PROJECT THUS FAR





## 5.1 MASTERPLAN CONCEPT

### KEY APPROACHES

The masterplan concept was driven by the school's contextual parameters - both physical and operational, as well as addressing key functional requirements identified during the planning process.

Fundamentally, the objective of the masterplan was to unite the disparate buildings that had been erected over the school's evolution, both functionally and aesthetically to create a more cohesive Campus.

**Site:** The existing school buildings are clustered on a fill pad to the north-western corner of the site due to flooding and roadway access issues. Through infill development a crescent of buildings has been created, reminiscent of the adjacent Oxbow lagoon. This allows for students to circulate within the interconnected built form and externally along the edges at all times protected from the elements. A central communal space is created at the heart of the campus, which supports a sense of community, and allows for passive observation and active participation in activities across the playground/campus, and connects the campus by minimising distances between learning spaces.

The overall site planning is an efficient use of the site that creates precincts that spatially arrange functions; Spiritual/Learning, Environmental, Recreation & Agriculture.

**Climate:** The built form shelters the central communal space from harsh westerly weather, provides access to favoured northerly sun in winter, and affords shade in the heat of summer at the peripheries and under large, covered play and circulation spaces.

**Entries:** There are two clear road entrances and drop off zones from approach to site: one existing from Lomas Lane; and the second proposed off Wine Country Drive. SPCC's split campus system directs Junior and Middle School students through Entry Point A off Lomas Lane, and Senior School students through the main Entry Point B, past there respective Administration Buildings and into the heart of the school.

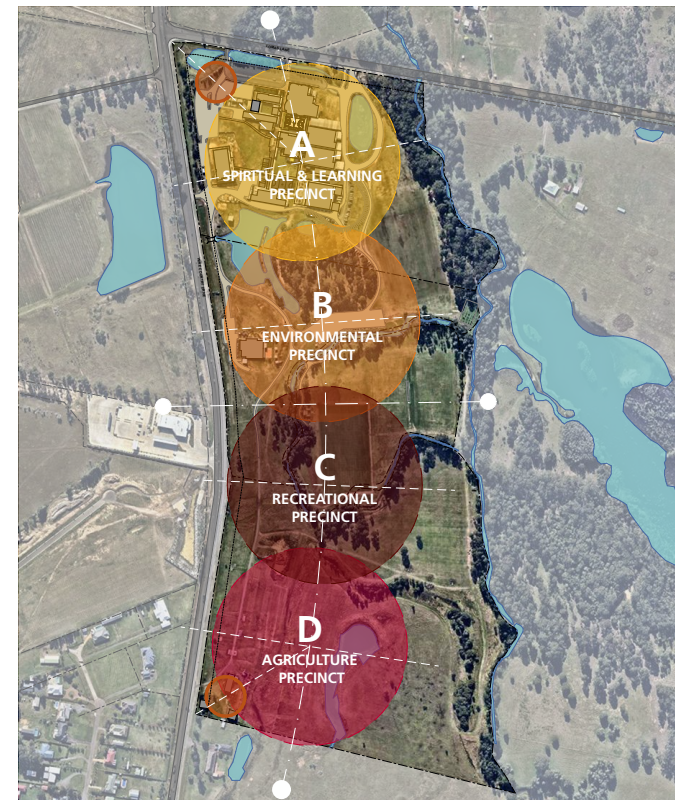
Secondary public access points and parking on the site are controlled and located towards the Northern and Southern side of the site for access and service to the rear of the Theatre, Sports Centre, TAS/VET, and Sports Fields to cater for public access, sporting events, extra curricula school events and after hours school use.

Secondary vehicle access into the site runs along the Southern service road to provide vehicle access for the Aquatic Centre, separated from students, teachers and general public access.

**Circulation:** Adopting the Australian vernacular of the veranda, the proposal utilises its performative and spatial qualities. Clear identifiable entry, circulation spines and an external street-scape of shared informal learning areas are formed, with multiple entry points from playground to reduce load.

**Spiritual-Learning-Recreation:** The learning spaces able to be shared with the community, such as the Sports Hall and Chapel-Library, are located on the periphery of the built form for ease of access and adjacent sports fields and play spaces, to harness and strengthen connection of these functions with the surrounding landscape and native vegetation, and highlight their shared use to the community. This creates a sense of ownership and pride of the school, in turn aiding supervision/surveillance of the school after hours. Highly serviced learning units are located to the north of the built form, which is nearest the service road for deliveries and servicing, e.g. gas for science or materials for TAS.

**Environment:** The site provides opportunities to experience and learn from unique landscape features such as the Oxbow Lagoon, the Black Creek Riparian zone and rich Aboriginal heritage. In consultation with the local Aboriginal community, the Landscape masterplan aims to create an experiential pathway that celebrates all these prominent attributes.



## 5.2 DESIGNING WITH COUNTRY

The Traditional Custodians of the land that lies within and surrounding Cessnock Local Government Area (LGA) are the Wonnarua Nation, and also includes Darkinjung and Awabakal lands. Wonnarua means 'land of hills and plains', describing the area simply and beautifully. Many localities in the Cessnock LGA have Aboriginal place names & histories that are deeply significant to Aboriginal peoples and to our greater understanding of history and Aboriginal culture.

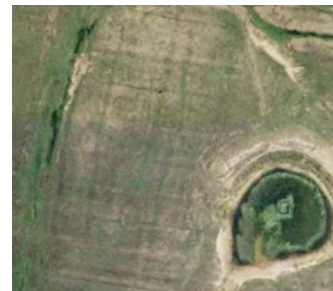
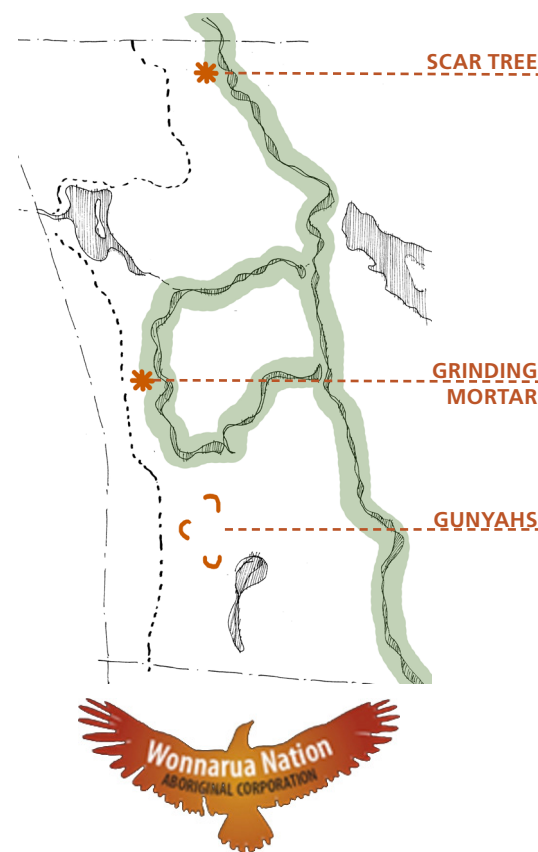
The Masterplan that will complete the existing campus, has responded to the GANSW Draft Connecting to Country framework and to consultation with Wonnarua Elders and the Mindaribba Local Area Land Council (LALC).

The School's Principal, Aboriginal Support Worker and the Junior Aboriginal Education Consultative Group (JAECG), who are all First Nations Australians, are driven to create a place that reveals and celebrates the history of the site, enriching the cultural identity of the school and instilling a sense of pride in the students, staff and local community.

A preliminary heritage assessment was undertaken in December 2008. This report identified potential Aboriginal heritage constraints, triggering a detailed Aboriginal Cultural Heritage Assessment which was conducted by AECOM in October 2009. With the assistance of the local Aboriginal community, this report identified 10 Aboriginal sites of varying importance.

In 2021 McCardle Cultural Heritage prepared an updated I ACHA which designated areas of Potential Archaeological Deposit (PAD), within 50m of Black Creek and its tributaries, remaining riparian zones and the old oxbow path of the diverted creek bed.

A summary of discussion points from the initial walk on Country is in the adjacent table.



## 5.2.1 DESIGNING WITH COUNTRY CONSULTATION



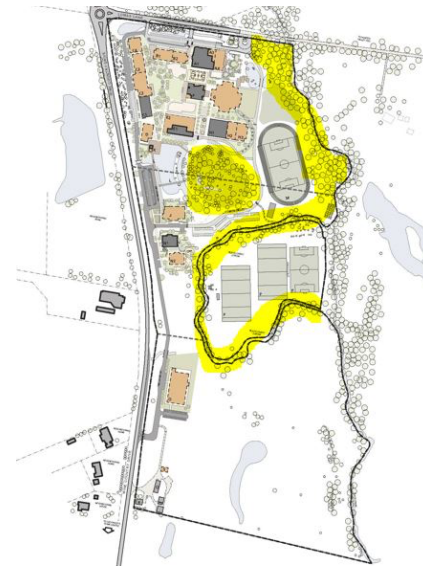
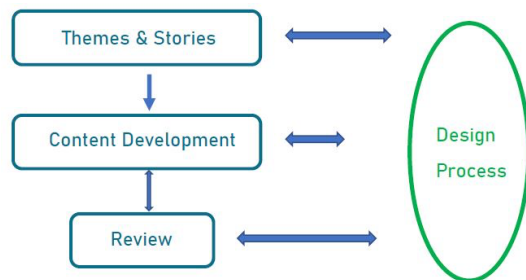
Heritage Now have been engaged to lead the conversation between the discussion between local Aboriginal community and St Philip's Christian College and the Design team to address with the aim to incorporate Aboriginal input into the design of the State significant development and address the Designing with Country principles and framework.

The Designing with Country Guidelines sets out cultural design principles for engaging Aboriginal community and includes three guiding principles:

1. Connecting with Country and acknowledging the diversity in cultures across NSW
2. Support education
3. Reconciling the truths of history

Heritage Now have developed a strategy that is undertaken in three phases: Phase 1 – Identify themes and stories which would be appropriate to interpret within the project design.

Phase 2 & 3 – Includes meeting between key Aboriginal stakeholder and meetings between both key Aboriginal stakeholders and key members of the project team. A range of themes and stories that are appropriate to interpret within the development setting as well as spaces and options available for the installation of such interpretation would be discussed.



Locations for interpretations have been identified for areas subject to the new development during meetings.

Areas identified include: the remnant forest in the northern portion of the site, the vegetated area along Black creek which runs along the eastern boarder of the site and the form of an oxbow in the central and southern portion of the site.

Additional options for locations of interpretation will be discussed with the Aboriginal representation during ongoing meetings during the developed design phase.

Role	Person	Organisation
Aboriginal Stakeholder	Tara Dever	Mindaribba Local Aboriginal Land Council
Aboriginal Stakeholder	Tracey Skene	Culturally Aware
Aboriginal Stakeholder	Paul Boyd	Didge Ngunawal Clan
Architect	Justin Pearson	SHAC
Architect	Emma Fox	SHAC
Architect (landscape)	Tim Buykx	Moir Landscape Architecture
Architect (landscape)	Annabel Lydon	Moir Landscape Architecture
Heritage consultant	Tessa Boer-Mah	Heritage Now
Heritage consultant	Crystal Phillips	Heritage Now
Planner	Rebecca Johnston	Barr Property and Planning
School representative	Matt Connett	St Philip's Christian College
School representative	Debbie Boehme	St Philip's Christian College
School representative	Millie and Payton	Junior Aboriginal Executive Group

*List of Designing with Country Meeting Attendees*



### 5.2.2

### SITE SPECIFIC MOTIFS

#### SITE MOTIF: WATER - BLACK CREEK FLOODPLAIN

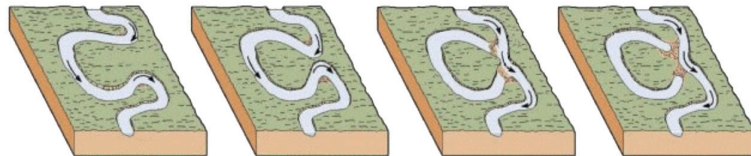


**FUNDAMENTAL TO THE ANCIENT CULTURE OF THE REGION, WATER IS THE FOUNDATION OF CESSNOCK AND THE DIVERSE LOCAL INDUSTRIES.**

#### MACRO

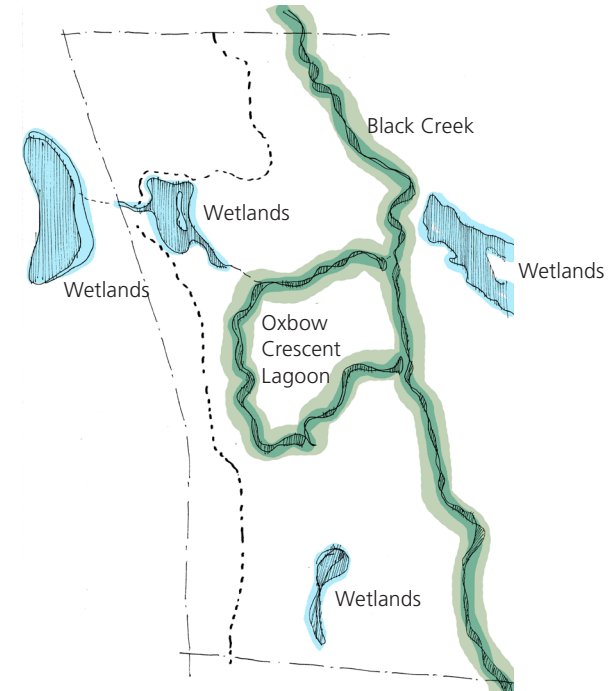
- Intimately tied to the history of the locality, Black Creek rises up in the foothills of Broken Back Range and meanders across the floodplain below, until joining Coquun (the Hunter River) near Branxton and continuing onward through the ancient river valley of the Wonnarua.
- Black Creek and its tributaries sustained the local biodiversity for millennia, and in turn the Aboriginal groups who harvested this landscape.
- Seasonal flooding inundates the floodplain, nourishing its systems, until eventually filtering back into the Creek and beyond.
- The existence of the Creek, the fresh water it provided and the arable land it supported, attracted the first Europeans and their wide range of agricultural and industrial pursuits.
- The water supply was crucial to the Coal mining boom which ignited the prevailing industry of the region at the turn of the 20th century.
- The Wine Country and associated agri-tourism continues to benefit from the availability of water in the region.

## SITE MOTIF: WATER - THE COLLEGE GROUNDS



### MICRO

- The essential characteristic of the site was and remains, its water supply. The site is bestowed with an Oxbow Crescent Lagoon - a detached meander of the creek which provides a significant landscape feature on the Campus. A natural lagoon occupies the southern part of the site, while a man-made detention pond has been excavated adjacent the main campus. Two large bodies of water on neighbouring blocks are part of the immediate Black Creek catchment.



- Access to the Riparian corridor presents a unique learning environment that enables the biological, geographical, cultural and spiritual qualities

### EDUCATIONAL OPPORTUNITIES

- |             |           |
|-------------|-----------|
| ▪ SENSING   | ▪ SHAPING |
| ▪ IMAGINING | ▪ CARING  |



## SITE MOTIF: HARVEST - CESSNOCK AND THE LOWER HUNTER



### MACRO

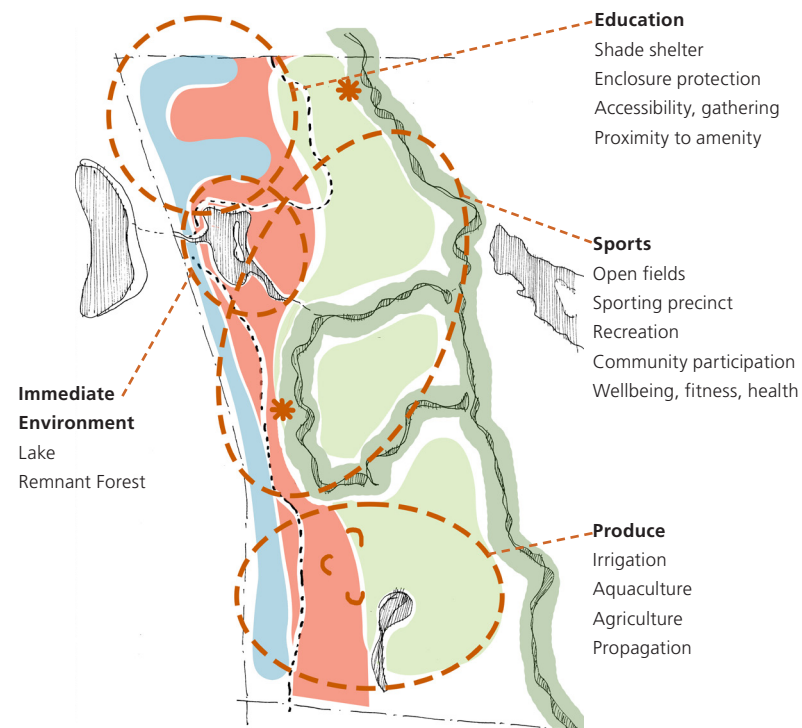
- Sustainably cultivating the Black Creek valley has endured as a cultural practice of the Wonnarua for millenia.
- European settlement developed due to the prolific natural resources of timber and coal and the rich soil.
- Today the Region is defined by a thriving wine industry, agri-tourism and mining.

## SITE MOTIF: HARVEST - THE COLLEGE GROUNDS



### MICRO

- Sustainable land practices were innate within the indigenous culture of the Wonnarua - people of the hills and plains.
- Evidence of aboriginal habitation and their reverence for this plentiful area is seen in the Scar Tree, located on the north-east corner of the site. This practice 'marked' the place as an abundant food source for others. A Grinding mortar adjacent the Oxbow Lagoon is another reminder of the site's abundance.



- The SPCC Cessnock campus is comprised of three zones traversing the linear site - EDUCATION, SPORTS, PRODUCE.
- Cultivating a generation of youth, through education, physical wellbeing and spiritual nourishment, the integrated campus manifests an ethos of Harvest.



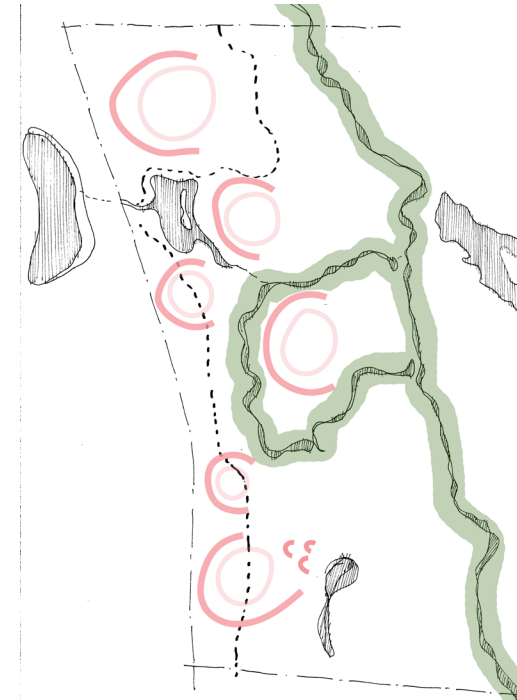
## SITE MOTIF: GATHERING - THE COLLEGE CAMPUS



### MACRO

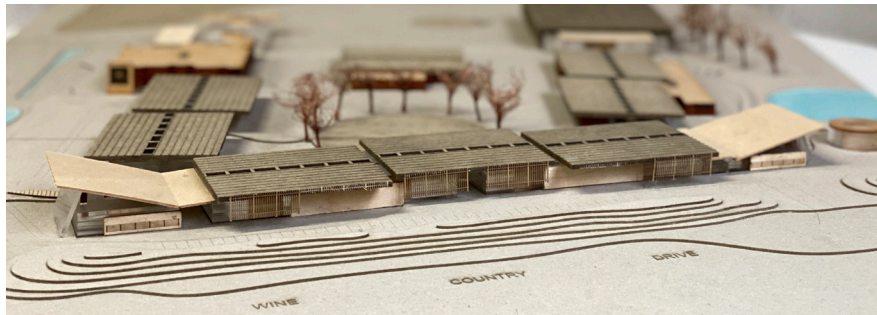
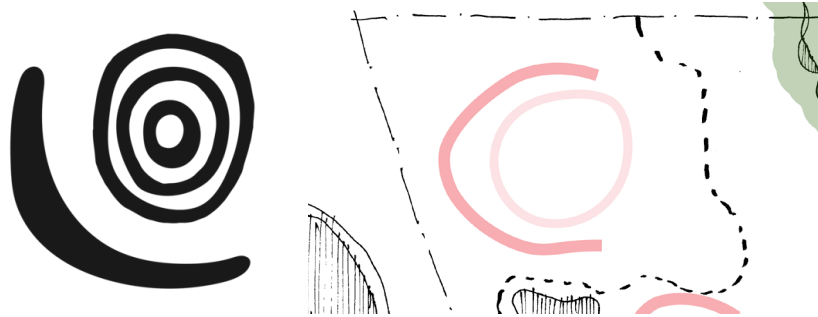
The earliest known history of the College site, as a place of community, is revealed through the footprint of an indigenous camp, surviving alongside the southern lagoon.

The outline of the group of Gunyahs, the Mortar pit and Scar tree all indicate the area was a prolific place of gathering.



Today, the site is a local landmark, largely due to the College's strong service to the community and its distinct street presence. Arranged in a linear fashion across the western edge of the site, the College is best described as a chain of precincts, each with their own identity, but united as a campus through careful landscape considerations and wayfinding.

## SITE MOTIF: COMMUNITY - THE COLLEGE CRESCENT



### MICRO - THE COLLEGE CRESCENT

It is crucial the ground figure plan responds to the latent environmental constraints, while promoting the underlying ethos of the school.

Influenced by the Aboriginal symbol for gathering and the Oxbow meander of Black Creek, a crescent of buildings has been intuitively assembled on the main education precinct, to also consider the prevailing aspect and landscape features of the site.



Amalgamating pre-existing structures with the new buildings into a crescent like formation, a central open space is created, which promotes gathering and in turn manifests a sense of community. The Crescent shelters the internal site from the intense westerly winds, sun and busy roadway beyond - while enabling the central space to open up to the north-easterly aspect.



## GENIUS LOCI



## THE INNATE 'SPIRIT OF PLACE' - NOURISHMENT

Across its known history and far beyond, the site of SPCC Cessnock has been a place of harvest for its communities.

The first people of the area are known to have managed the estuarine landscape as part of their sustainable cultural practice for thousands of years.

From the outset of European Settlement, generations of pioneers farmed the site, producing dairy and crops to support the expanding locality.

In more recent times, the site has become a place of education with St Philip's nurturing future generations through academic, sporting and spiritual enrichment.

As such we consider the inherent 'Spirit of Place' (Genius Loci) - the intangible essence of the surrounds - to be that of nourishment.

An Aboriginal artwork of the fish has been chosen to depict the metaphor of Nourishment.

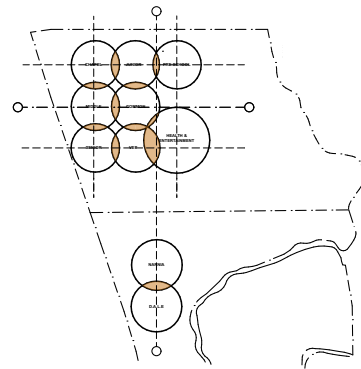
Simultaneously, it acknowledges the Wonnarua Land on which the School is established and has deep resonance as the Ichthys - an important identification symbol in Christianity and associates with the miracle of the loaves and fishes.

## 5.3 KEY DIAGRAMS

### 5.3.1 DESIGN PRINCIPLES - SITE



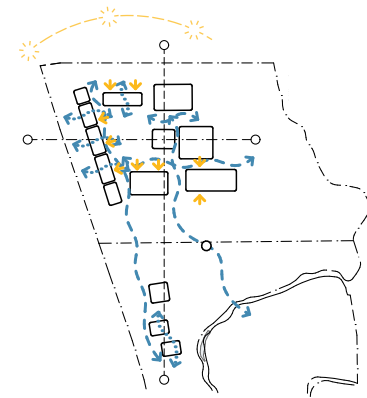
50m SUPERGRID



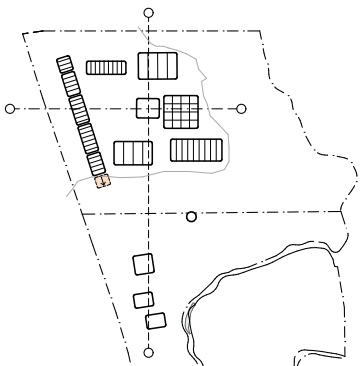
PROVINCES



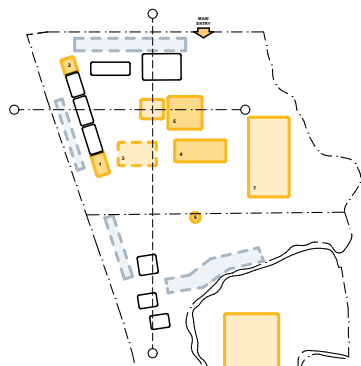
SITE CIRCULATION



LIGHT + VENTILATION



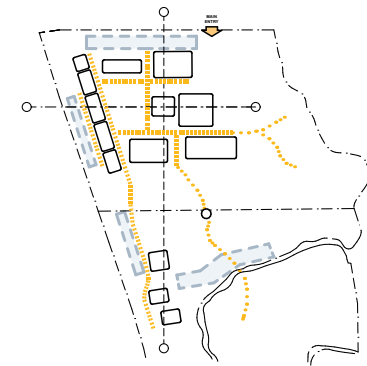
EFFICIENCY + AFFORDABILITY



COMMUNITY ACCESS



GREEN SPACE + PLAY SPACE

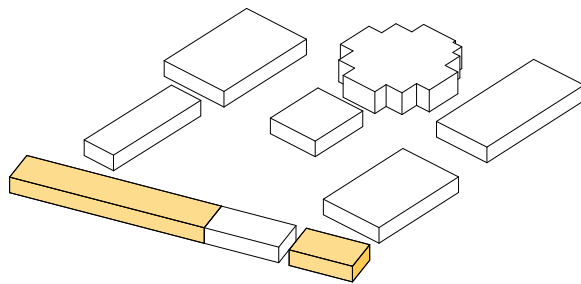


SITE PEDESTRIAN CIRCULATION



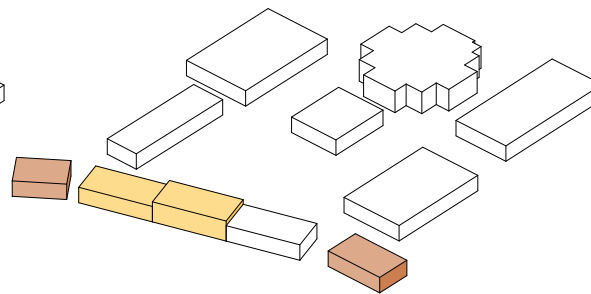
### 5.3.2 EXPLORATION OF FORM

The following diagrams illustrate the reasoned evolution of the Masterplan form, contingent in the educational design principles and urban design strategy, creating a school that is specific to its site and community.



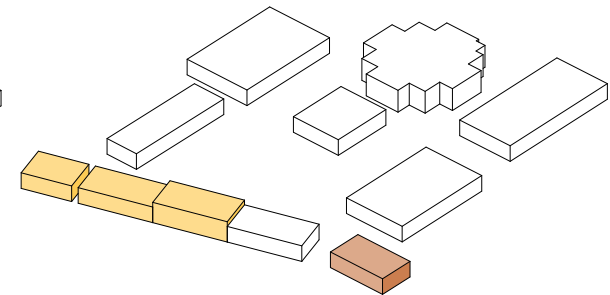
A Western form arrangement:

1. Protects heart of campus from harsh westerly sun and winds



B Western form arrangement:  
- both ends detached and rotated  
- roof height differential applied

1. Protects heart of campus from harsh westerly sun and winds
2. Allows visual access into campus
3. Reduces bulk and scale
4. Opportunity to engage streetscape approach from both ends of form



C Western form arrangement:  
- southern end only rotated  
- roof height differential maintained

1. Protects heart of campus from harsh westerly sun and winds
2. Allows visual access into campus
3. Reduces bulk and scale
4. Streetscape approach from southern end addressed through rotation of form.
5. Streetscape approach from northern end addressed through articulation of form, due to site constraints.

## 5.4 ARRIVAL & APPROACH STUDY

### 5.4.1 ARRIVAL + APPROACH - MACRO DESIGN PRINCIPLES



#### ARRIVAL BY BUS

Two main entrances:

- Lomas Lane (existing)
  - Wine Country Drive (proposed)
- A. Main Bus Entry, turning Bus Bay, bus layback, queuing and marshalling. Adjacent Junior + Middle Schools Administration + Playground.
  - B. Second Bus Bay - adjacent Main Entry, Senior School Entry, DALE + Narnia.
  - C. Overflow Bus Bay on service road - adjacent Outdoor Chapel + Sport Precincts.

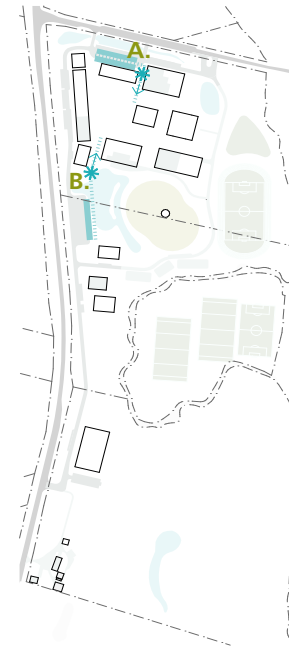


#### ARRIVAL BY CAR

Two main entry approaches:

- Lomas Lane (existing)
  - Wine Country Drive (proposed)
- A. Lomas Lane: existing Kiss + Drop Zone for the whole of school becomes for Junior School.
  - B. New Wine Country Drive Entry/Approach for main deliveries + Senior School Activities

Traffic queuing lengths occur on site rather than on Lomas Lane (refer to traffic engineer report).



#### KISS + DROP ZONES

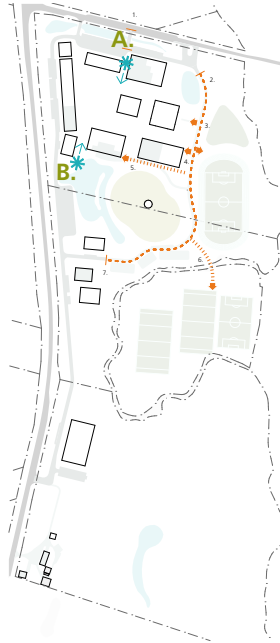
SPCC has a split campus system.

- A. Junior + Middle School drop off
- B. Main Entry + Senior School drop

The two can operate independently or in sync via ring road connector.W

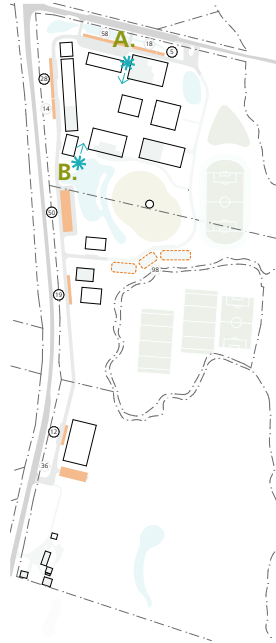
#### LEGEND

- SITE BOUNDARY
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- ▬ MAIN ROADS
- ▬ ON-SITE ROADS
- ▬ WATER BODIES
- ▬ BUS ACCESS
- ▬ BUS BAYS / QUEUING
- ▬ CAR ACCESS
- ▬ ROAD LINK / RING ROAD
- ▬ UNFORMED ROADS
- ▬ DELIVER/MAINT. ACCESS
- ▬ FORMED PARKING
- ▬ UNFORMED PARKING
- ▬ KISS + DROP ZONES
- ⊗ ENTRANCES
- ⊗ PARKING
- ⊗ EX. UNFORMED PARKING
- ⊗ PROPOSED PARKING



### SECONDARY ROADS SYSTEM

1. Bridge link at Entry A utilised only after peak traffic time loads are over
2. Locked boom gate/restricted access
3. Service to rear of theatre
4. Service to rear of Sports Centre
5. Service to rear of TAS/VET
6. Maintenance access to Sports Fields
7. Locked boom gates/restricted access
8. Locked boom gates/restricted access for maintenance
9. Locked boom gates/restricted access for Agriculture services.



### ON-SITE PARKING DISTRIBUTION

- Evenly distributed around campus
- Services split site accordingly to Junior/Middle/Senior Schools
- Localised parking at outer functional areas
- Overflow parking for sports events or extra curricula school events is controlled via boom gates



### TOTAL MANAGED SOLUTION

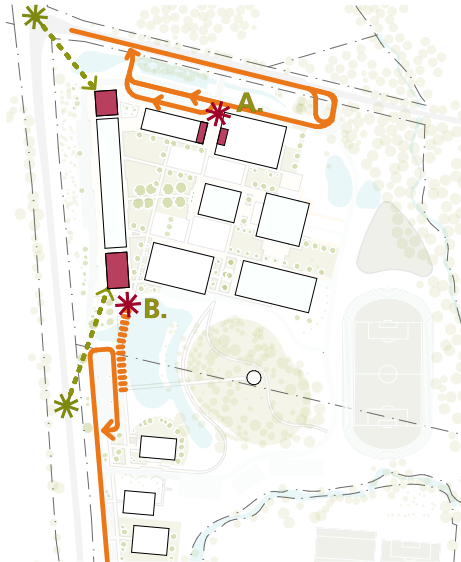
- Two main control points
- Clear wayfinding to 3 school provinces
- Restricted controlled access to Service + Sports Zones

### LEGEND

- SITE BOUNDARY
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- ▬ MAIN ROADS
- ▬ ON-SITE ROADS
- ▬ WATER BODIES
- ▬ BUS ACCESS
- ▬ BUS BAYS / QUEUING
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- ▬ ROAD LINK / RING ROAD
- ▬ UNFORMED ROADS
- ▬ DELIVER/MAINT. ACCESS
- ▬ FORMED PARKING
- ▬ UNFORMED PARKING
- ▬ KISS + DROP ZONES
- ★ ENTRANCES
- ⊗ PARKING
- ⊗ EX. UNFORMED PARKING
- ⊗ PROPOSED PARKING

## 5.4.2

## ARRIVAL + APPROACH - MICRO DESIGN PRINCIPLES



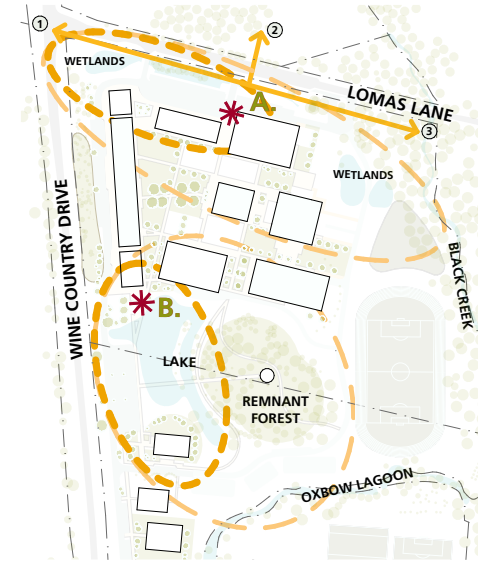
### CAMPUS ARRIVAL

- Clear road entrances + drop off zones from approach to site
- Hierarchy + opacity of forms signals public Reception points
- Indigenous + English way finding signage systems



### SECURE LINE: CONTROL POINTS

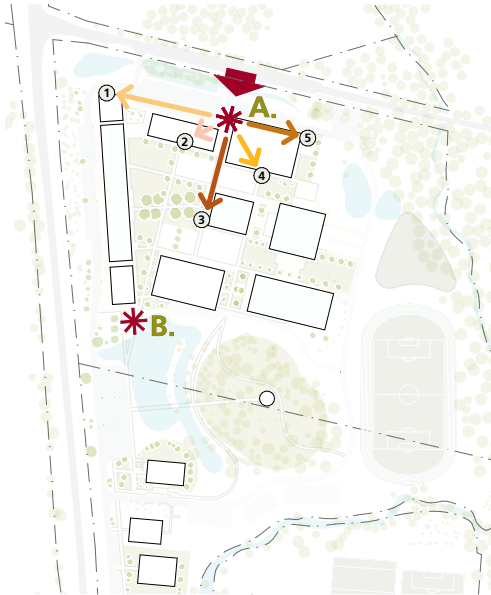
- Whole of main Education Campus is secured at 2 points A + B.
- From here two public approaches can be controlled to:
  1. The Performing Arts Theatre
  2. The Sports Hall
- The SPCC Community is 'known', so internal access is preferred over external separate access.



### SENSE OF PLACE: SITE APPRECIATION

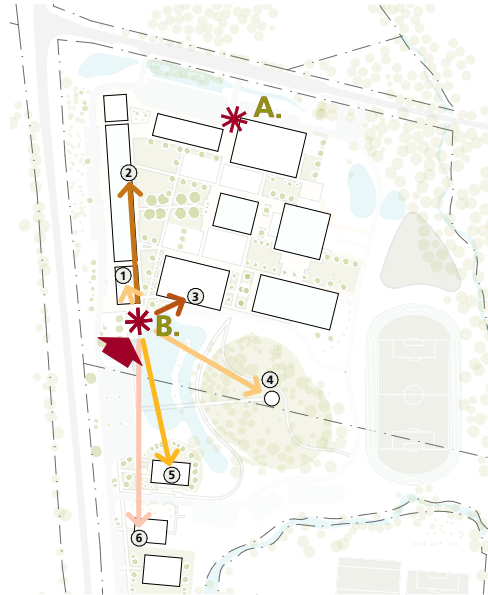
- The Rural and Bushland setting is evident immediately at each entry
  - A. Entry Point A: is approached over wetlands and is bookended by two wetland ponds with Black Creek beyond.  
Native gardens, endemic parrots and views to vines + cattle is enjoyed from here.  
3 significant vistas from Entry A.
  - B. Entry Point B: turns the visitors attention away from Wine Country Drive, to the Dominant Landscape features of the Lake and Remnant Forest + Oxbow Lagoon.
- Acoustic barrier planted mounds shield from road noise





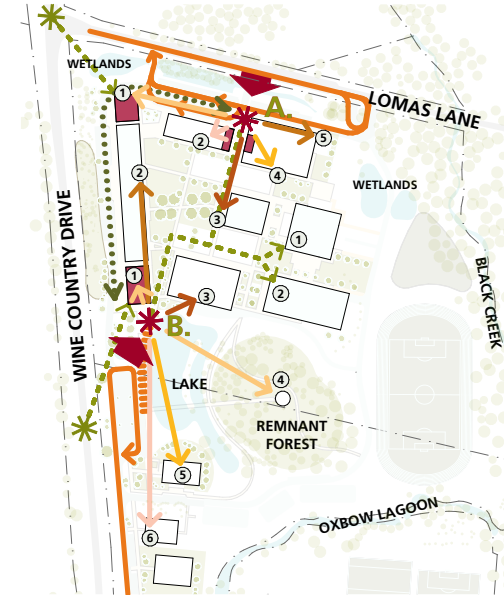
### WAY FINDING: ENTRY A

1. Library + Community Gathering Places
2. Middle School - Administration
3. Playgrounds for Junior + Middle Schools
4. Junior School - Administration
5. Prep School - Entry + Administration



### WAY FINDING: ENTRY B

1. Main Administration
2. Senior School Administration
3. VET Exhibition Space + TAS
4. Outdoor Gathering Space + Remnant Forest + Oxbow Lagoon
5. Narnia
6. DALE

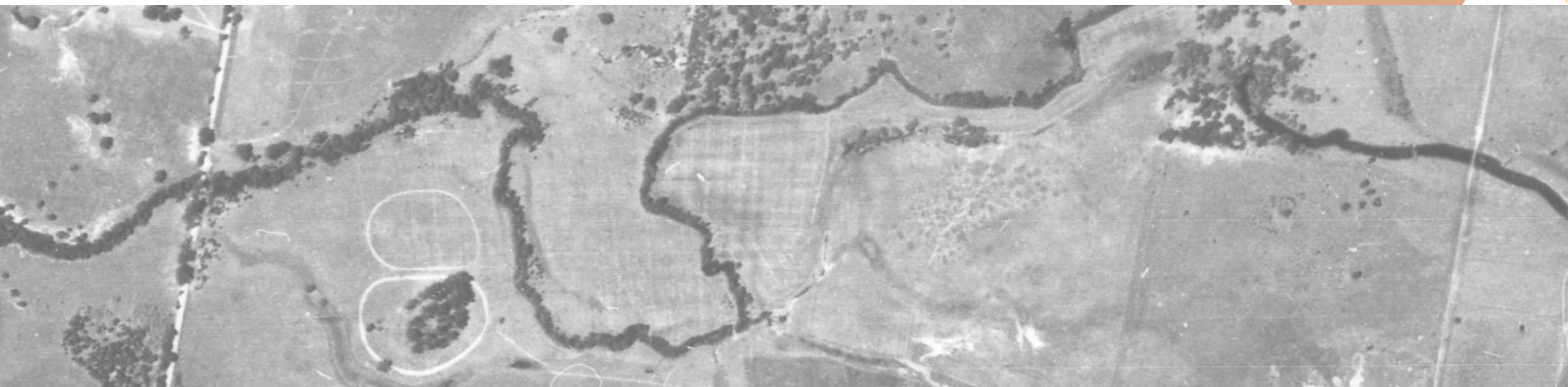
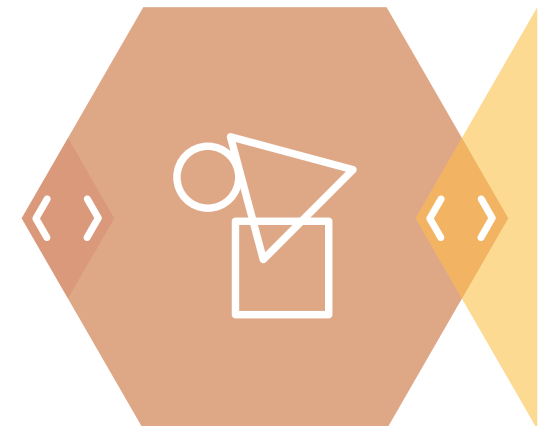


### ARRIVAL, ENTRY HIERARCHY

- Entry A + B can operate independently or in-sync
- All elements of the Main Campus are controlled by 2 clear entry points
- A generous public forecourt/cafe/outdoor plaza is sited at Entry B

## 6. Planning

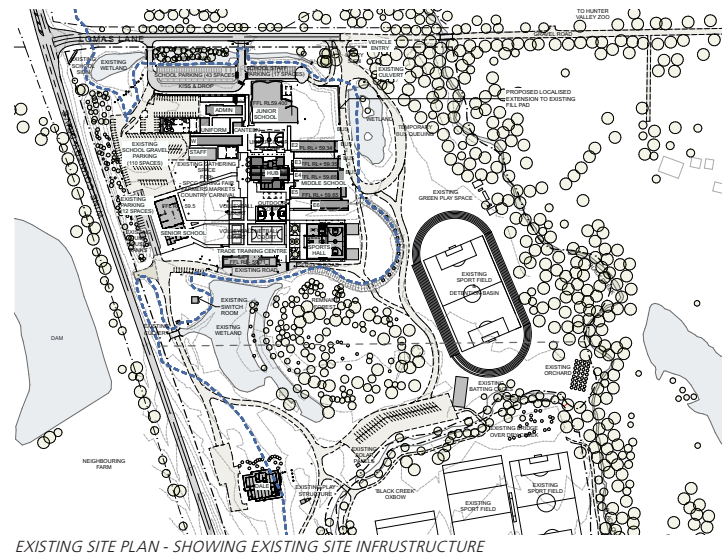
SHAPING OF PROJECT THUS FAR



## 6.1 ASSEST UTILISATION

Existing infrastructure is utilised as part of the masterplan for the St Philip's Cessnock site. All permanent buildings including the Junior School, The Hub, Trade training Centre are adapted into the design with some changes to internal layouts and extension of building footprints.

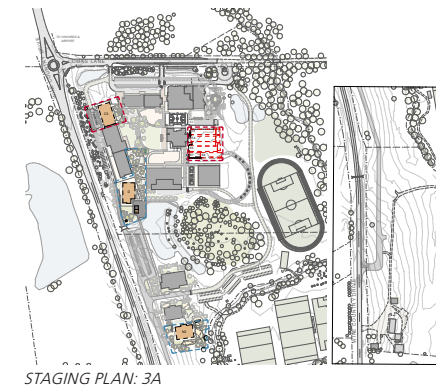
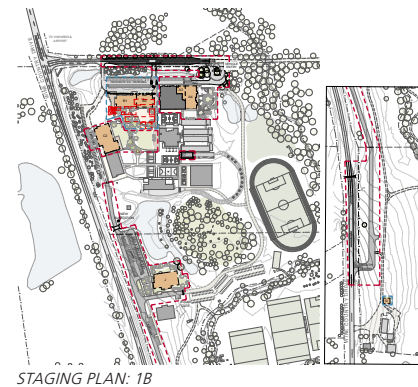
Non-permanent demountable structures will be utilised until appropriate teaching facilities are constructed.



## 6.2 DEMOLITION

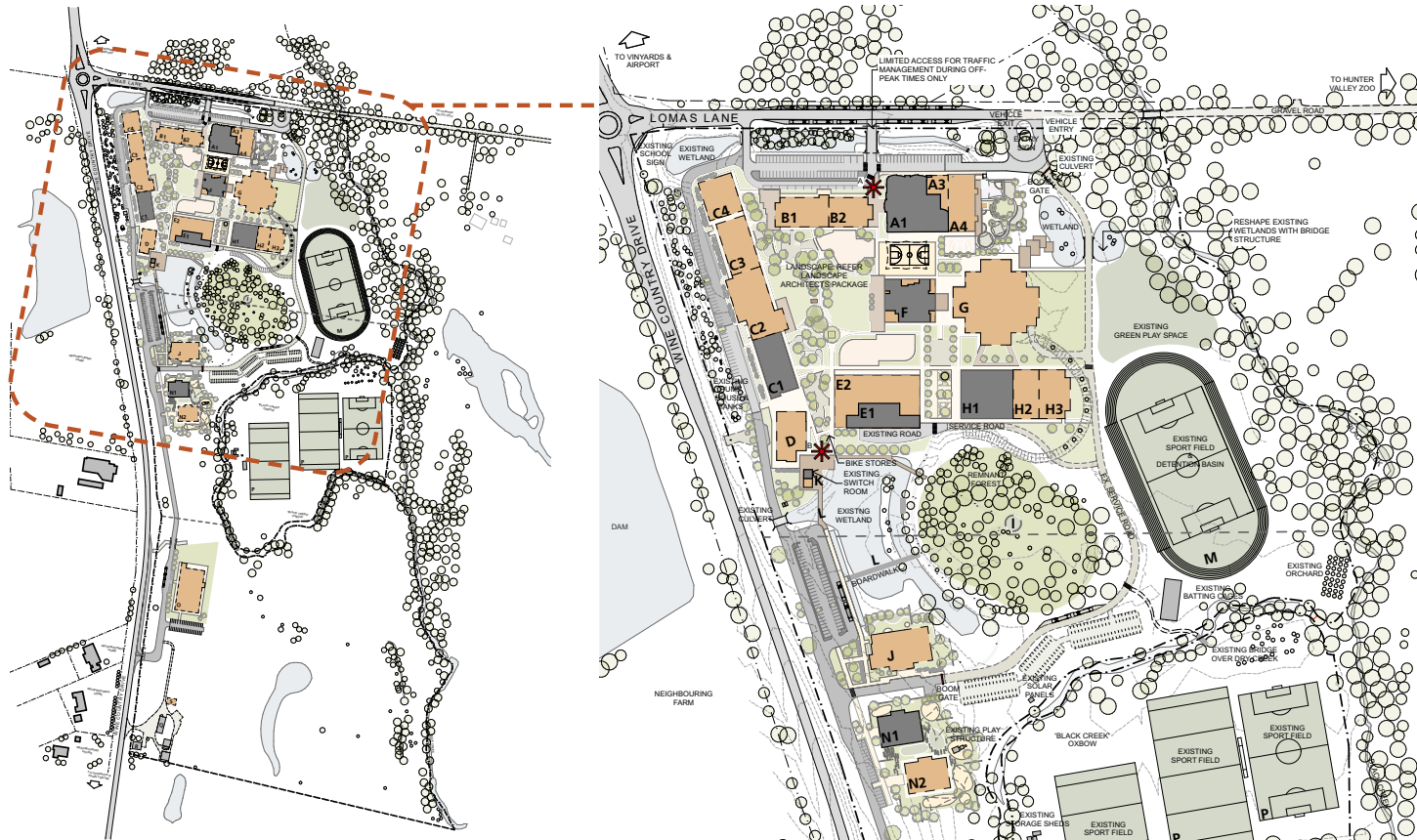
Demolition of existing demountable structures will occur over the proposed site staging period. These buildings will be utilised as teaching compartments until the new built forms are constructed during stage 1 & 3 shown below.

The proposed location of the built forms will minimise the physical intervention onsite and protect the existing established vegetation.



## 6.3 SITE PLANS

### SITE PLAN - NORTH



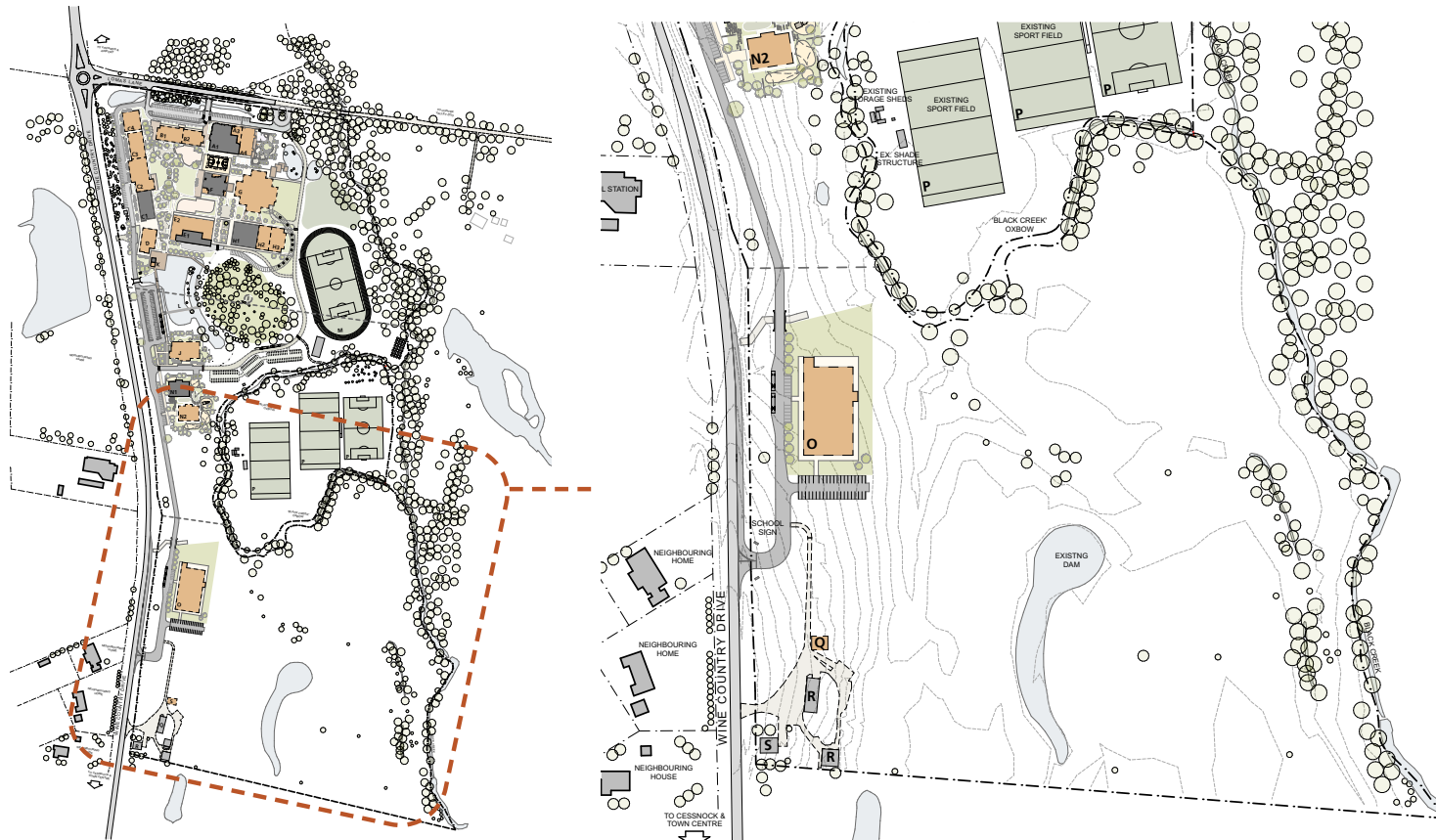
SOURCE: APPENDIX B - ARCHITECTURAL DRAWINGS. INDICATIVE ONLY.

### LEGEND

- A - Junior School **A3 & A4**
- B - Middle School **B1 & B2**
- C - Senior School + Library  
**C2, C3, & C4**
- D - Admin & Welcome  
Centre
- E - Trade Training Centre **E2**
- F - Canteen / Cafe Hub
- G - Performing Arts Centre
- H - Sports Hall **H2 & H3**
- I - Outdoor Chapel
- J - Narnia
- K - Cafe
- L - Boardwalks
- M - Sports Field & Running Track
- N - D.A.L.E **N2**
- O - Aquatic Centre
- P - Existing Sports Fields
- Q - Waste Management Depot
- R - Existing Sheds
- S - Existing House



## SITE PLAN - SOUTH

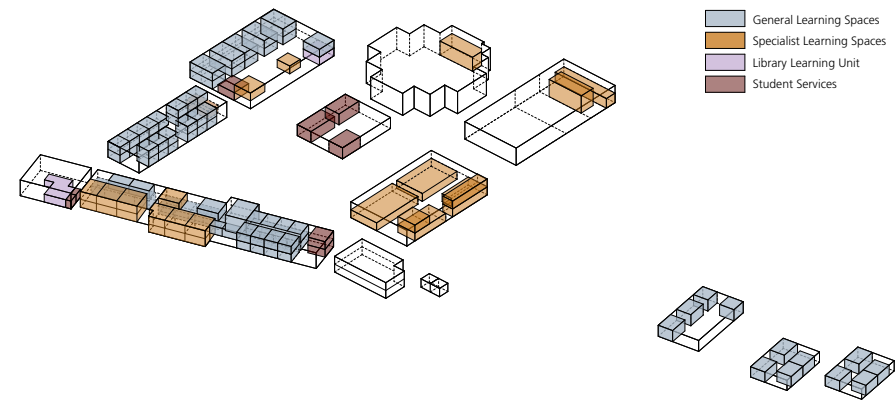
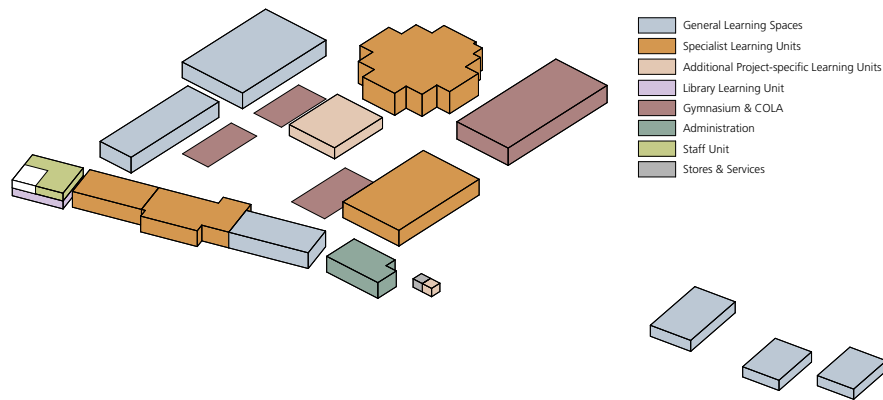


SOURCE: APPENDIX B - ARCHITECTURAL DRAWINGS. INDICATIVE ONLY.

## LEGEND

- A - Junior School **A3 & A4**
- B - Middle School **B1 & B2**
- C - Senior School + Library  
**C2, C3, & C4**
- D - Admin & Welcome Centre**
- E - Trade Training Centre **E2**
- F - Canteen / Cafe Hub**
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- N - D.A.L.E **N2**
- O - Aquatic Centre**
- P - Existing Sports Fields
- Q - Waste Management Depot**
- R - Existing Sheds
- S - Existing House

## 6.4 BLOCK AND STACK - AXONOMETRICS

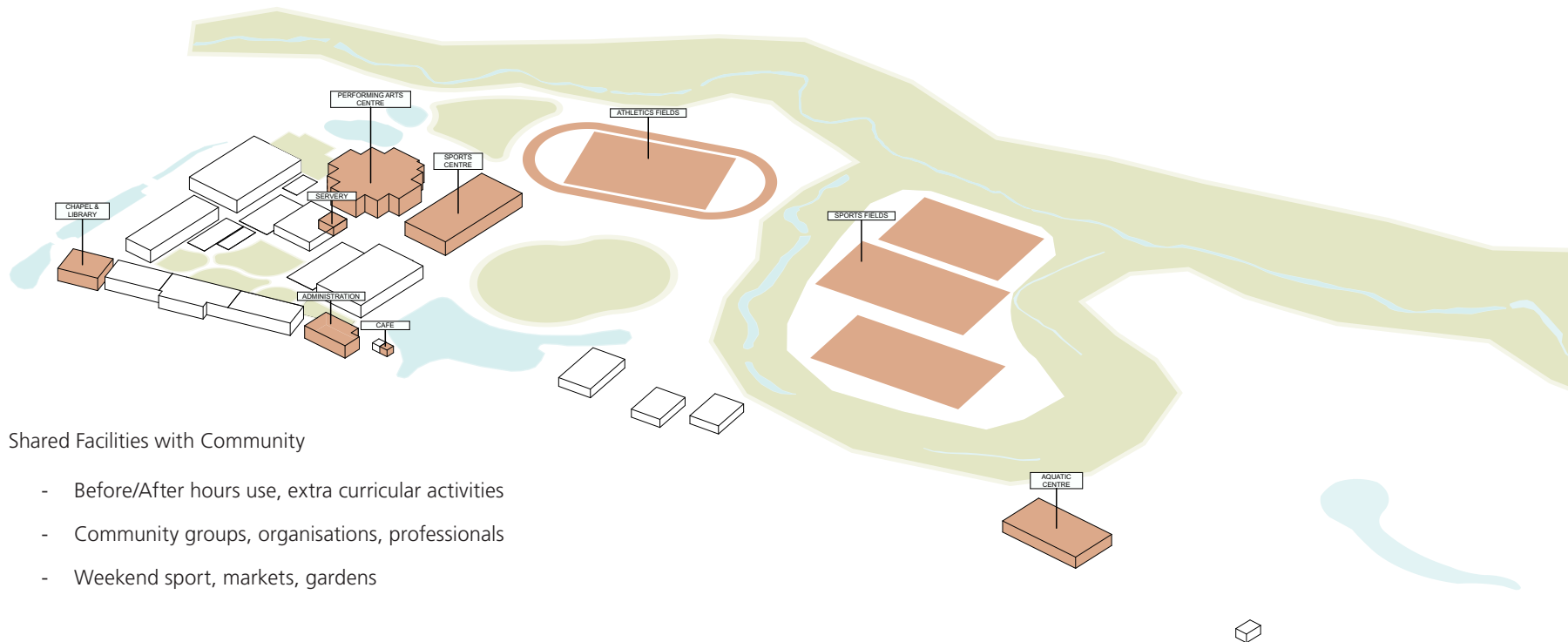


### Learning Unit / Facilities

- Administration/Staff and Library/Chapel co-located and positioned for community access.
- Sports Hall located adjacent to sports fields and positioned for community access.
- Specialist Performing Arts Theatre located for community access.
- Specialist Learning facilities located on the periphery for noise control and access to service and deliveries

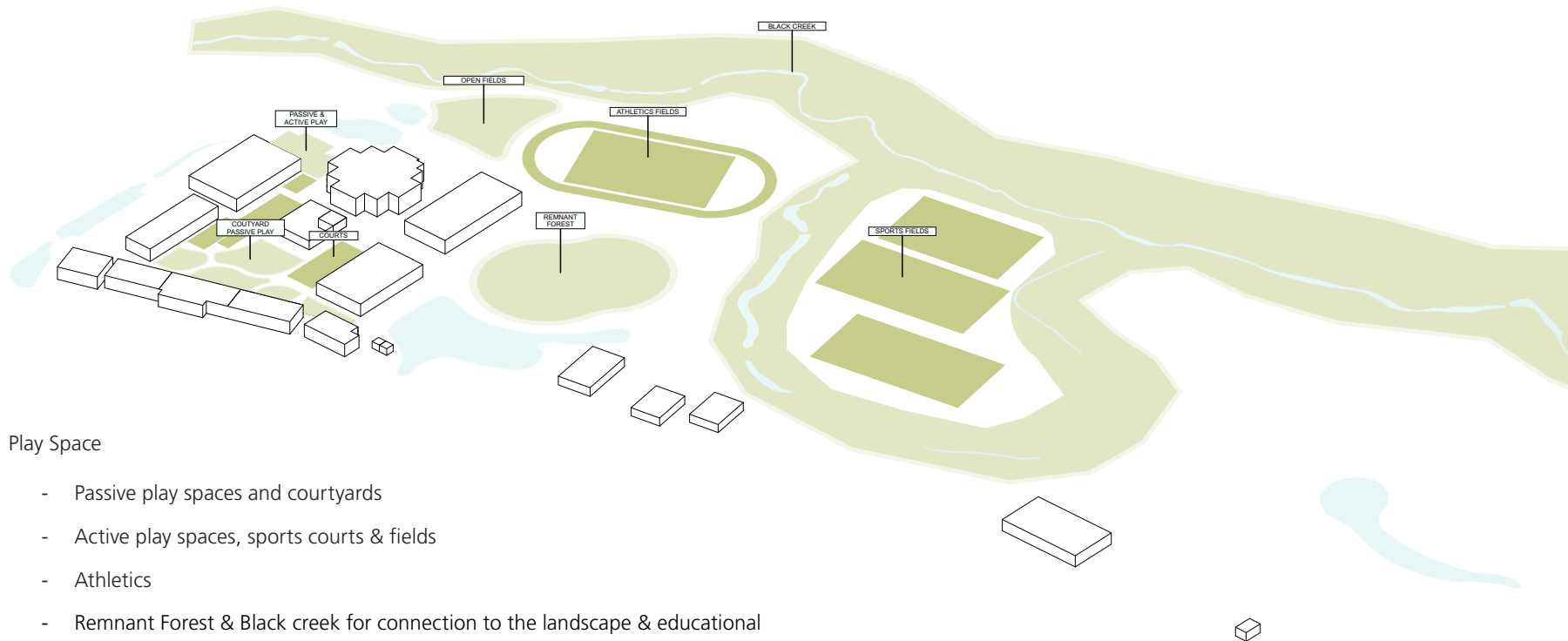
### Proposed Learning Spaces:

- General Learning Areas (GLA)
- Specialist Learning Spaces (SLS)
- Students Services
- Library Learning Unit



#### Shared Facilities with Community

- Before/After hours use, extra curricular activities
- Community groups, organisations, professionals
- Weekend sport, markets, gardens



#### Play Space

- Passive play spaces and courtyards
- Active play spaces, sports courts & fields
- Athletics
- Remnant Forest & Black creek for connection to the landscape & educational purposes



## 6.5 BRIEF DEVELOPMENT: PEDAGOGY AND SPACE

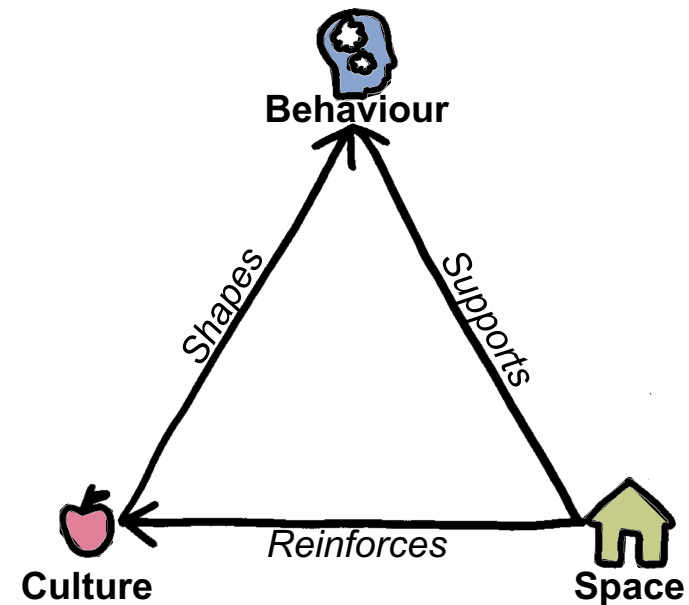
### CULTURE, SPACE & LEARNING

It is evident that the school's culture and approach to wellbeing, positive education and the focus on developing learners' character strengths and growth mindset determines their educational model. Their model includes using explicit and inquiry modes of teaching that are differentiated in various ways to ensure all students can succeed.

Therefore the physical spaces of the school needs to reinforce the school's culture by:

- Inspiring curiosity and creativity
- Acting as a third teacher that is owned by all learners rather than just the teachers and staff
- Allowing for easy and safe investigation
- Requiring self management & inviting self direction
- Reflecting diversity in needs, cultures, personalities, and strengths

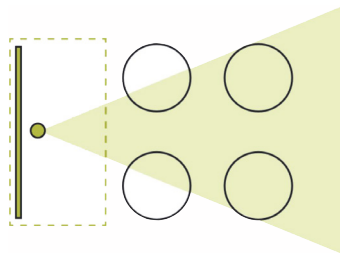
The physical space should also support the school's educational model by providing appropriate environments for the activities involved in explicit teaching and the inquiry cycle.



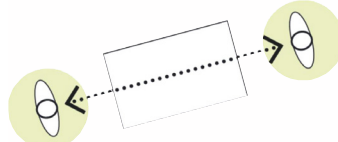
## 6.7 TYPICAL FURNITURE LAYOUT

SHAC have developed typical furniture layouts that support the following contemporary learning settings:

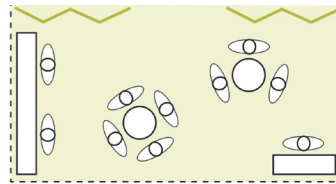
### LEARNING SETTINGS



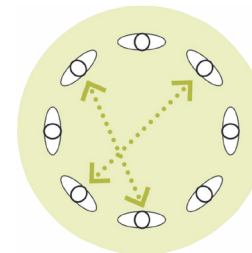
- Deliver Explicit Instruction
- Deliver Demonstrations
- Group Discussions
- Share Information
- Present Student Projects



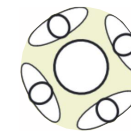
- One-on-one / few demonstrations & discussions
- Skills Practice & Assessment
- Reflection
- Remediation / Acceleration



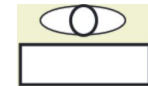
- Research
- Collaboration & Group Work
- Making & Experimenting
- Applying Knowledge & Skills



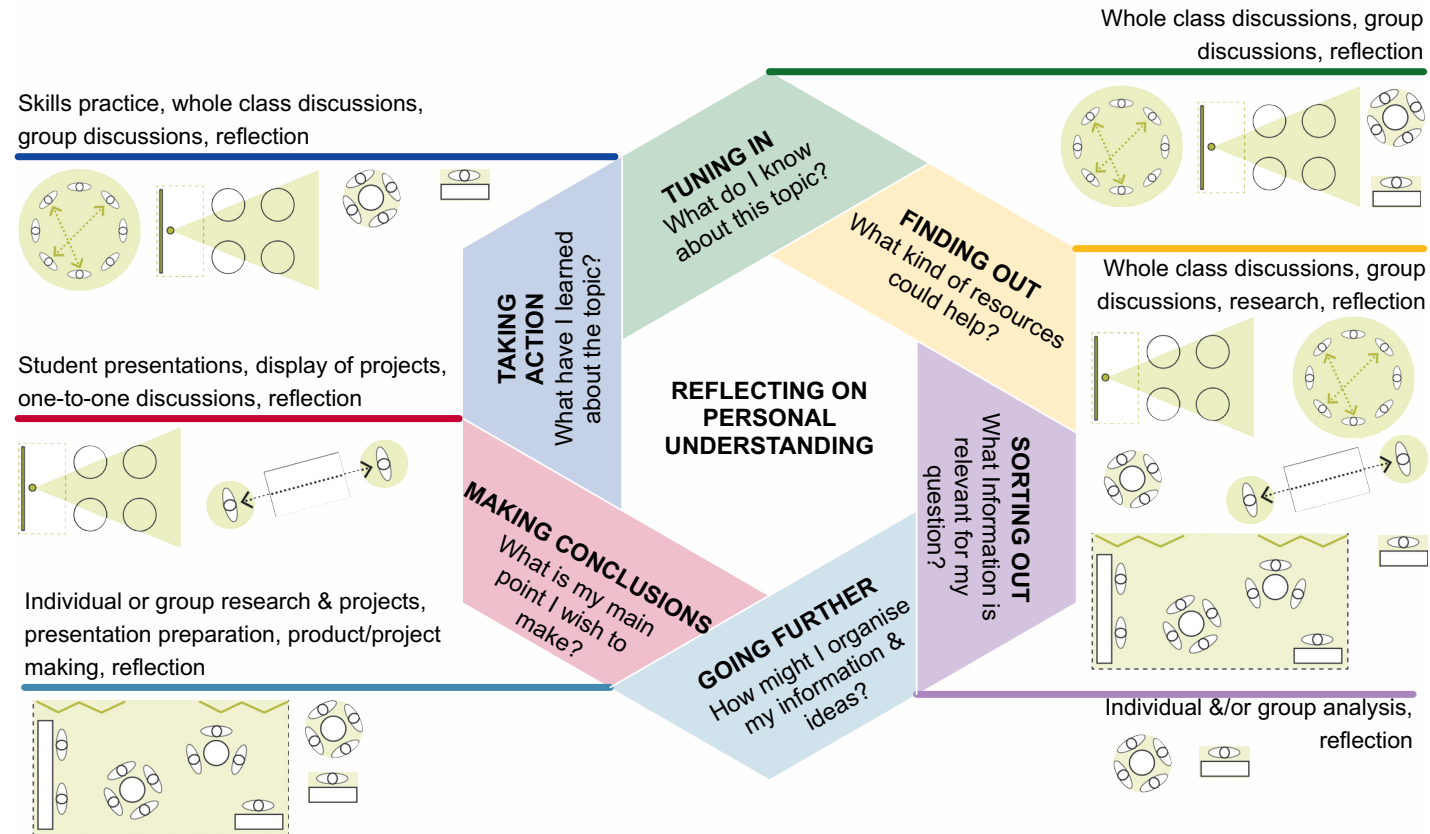
- Group Discussions & Debates
- Decision Making
- Sharing Information



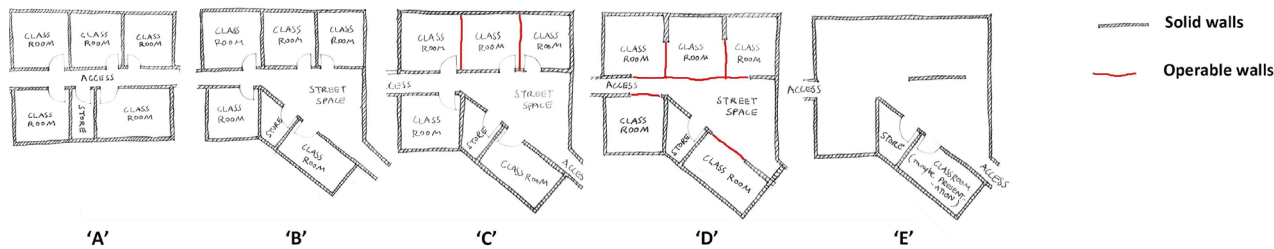
- Research
- Analysis
- Small Group Discussions
- Collaboration & Group Work
- Reflection



## LEARNING BEHAVIOUR & LEARNING SETTINGS

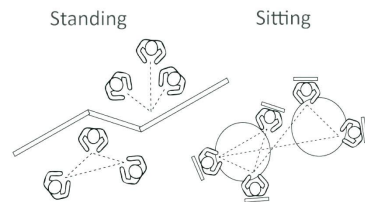


As evident from the diagram above a variety of learning settings is required for the various processes involved in the inquiry cycle.

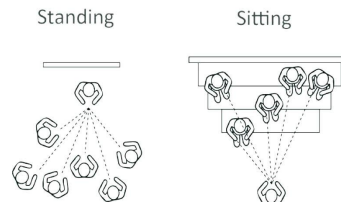


## FUNDAMENTAL SPATIAL SETTINGS FOR LEARNING

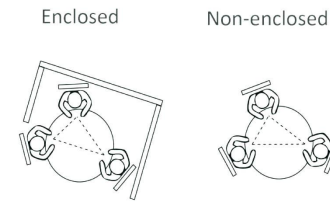
### Collaborative / Shared Learning



### Presentation / Performance



### Meeting / Withdrawal / Small Group



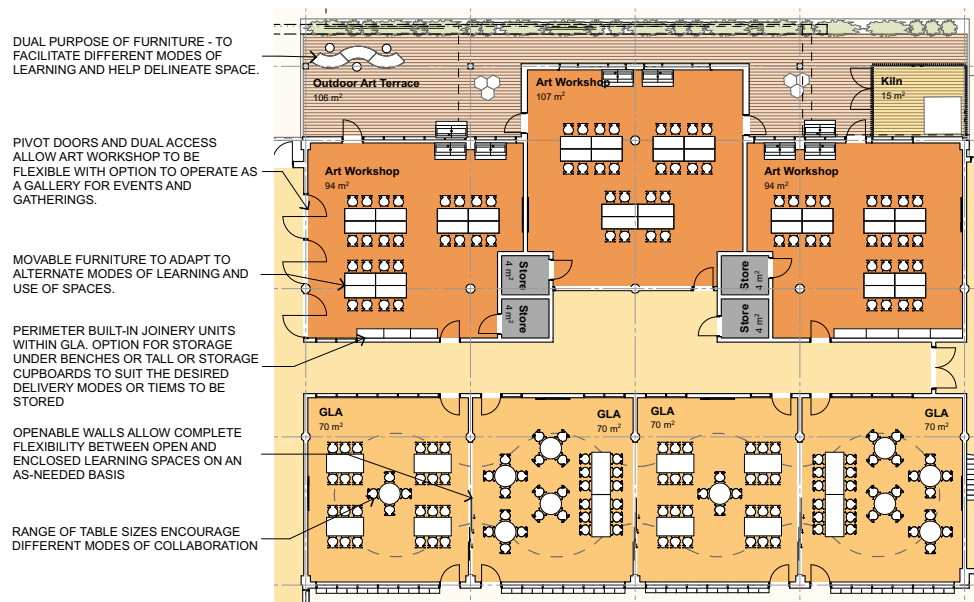
#### SOURCES

Dovey, K., & Fisher, K. 2014. Designing for adaption: The school as socio-spatial assemblage. *The Journal of Architecture* 19(1), 43-63  
 Cleveland, B. *Aspirations for new learning spaces: Making the 'complex' possible*. Presentation 2018, page 34.

In response to the agreed pedagogical framework, SHAC have developed a coherent Concept Design strategy. Discussions with the principal and other teachers have confirmed that the learning spaces should support a contemporary, future focused model. The education rationale adopts a Type C and Type D spatial setting. By employing techniques such as operable walls, the facility stays flexible and can adapt on a 'per needs' basis. Students are provided with flexible and efficient use of space, fostering the independence, autonomy and choice of the students throughout the learning process of explanation, demonstration and practice by ensuring access to a range of modes including small nooks, study spaces, larger spaces and breakout zones.

In Cessnock's rural setting, outdoor learning and alfresco areas are a valued teaching setting. By allowing students to maintain connection to the surrounding landscape, students foster psychosocial and environmental benefits, demonstrate active engagement in learning as well as partake in informed learning opportunities.



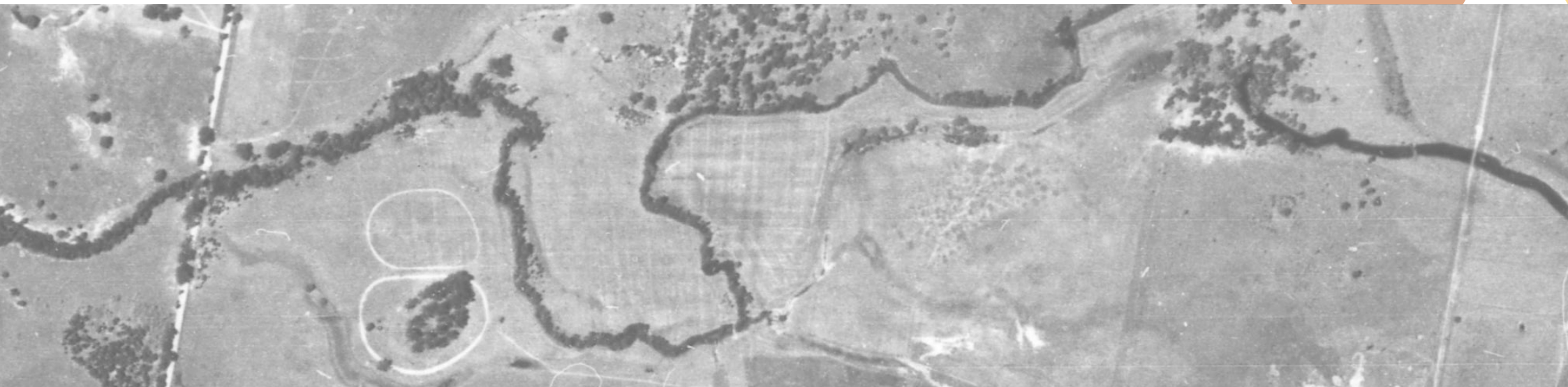
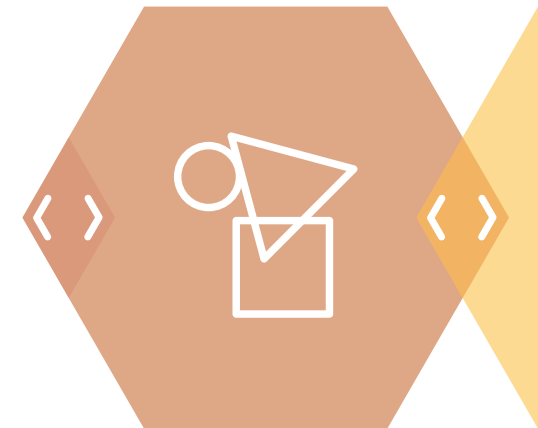


Typical Furniture layouts have been provided as part of the detailed floor plans for each of the buildings. Refer to the architectural drawings set as part of the SSD submission. These potential furniture layouts are provided for pricing purposes and to prompt further discussion amongst key stakeholders. Further detailed consultation and workshops are required during future design phases in order to more accurately ascertain the school specific furniture requirements within each space, as part of the works.

General Learning Areas (GLA) are directly adjacent another GLA and Shared Learning Space with Practical Activities Area, as per EFSG Learning and Support Unit Relationship recommendations. The sample furniture layout in each GLA is able to accommodate a broad range of teaching & learning methodologies, by offering small, medium and large group arrangements. Due to the large, open plan space proposed, it is flexible and adaptable to any future teaching & learning methodologies, contributing to the Whole of Life; being a sustainable, value-for-money and efficient asset that will remain fit-for-purpose in a wealth of different arrangements.

Each GLA is large enough to accommodate a full size GLA Store Room integrated within the space itself, as either full height cupboards or under bench storage, which can have a multi-purpose use as additional work and bench space, storage or display space.

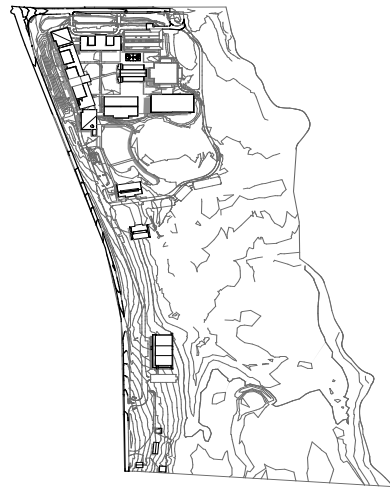
## 7. Amenity, Health & Safety



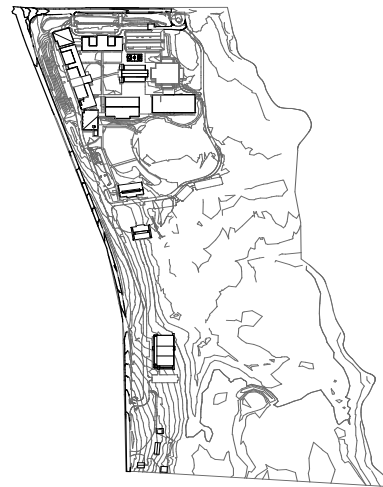
## 7.1

### SHADOW DIAGRAMS

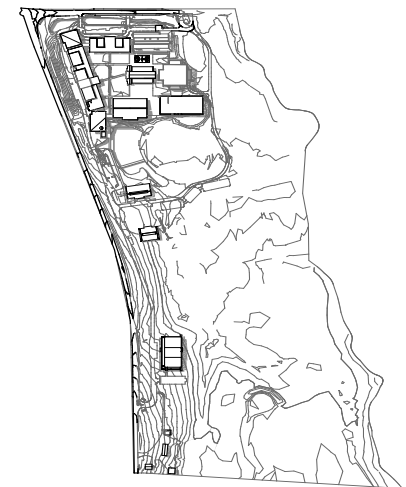
Shadow Diagrams have been prepared for the proposed development. These diagrams demonstrate that the shadow impacts of the proposed development to neighbors have no adverse impacts throughout the year due to the sites rural context.



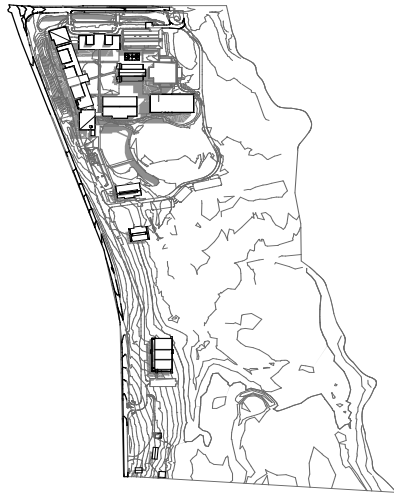
21 Mar 9am



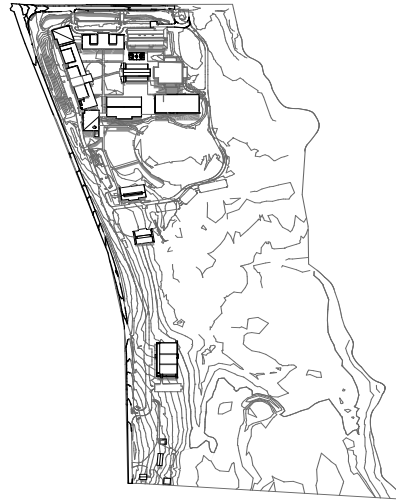
21 Mar 12pm



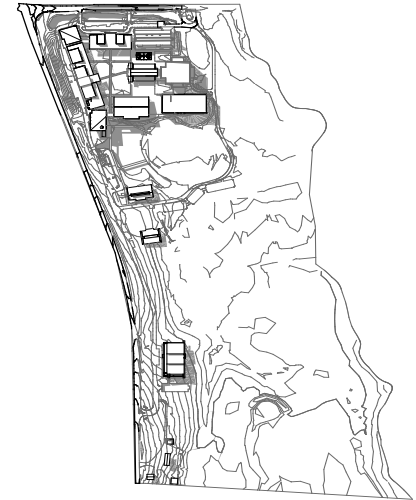
21 Mar 3pm



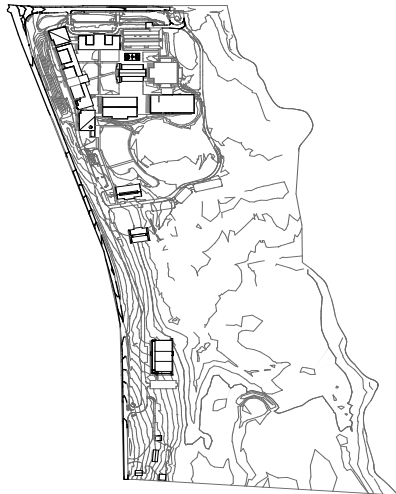
○ 21 Jun 9am



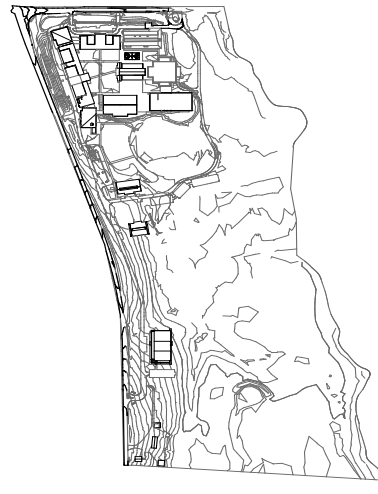
○ 21 Jun 12pm



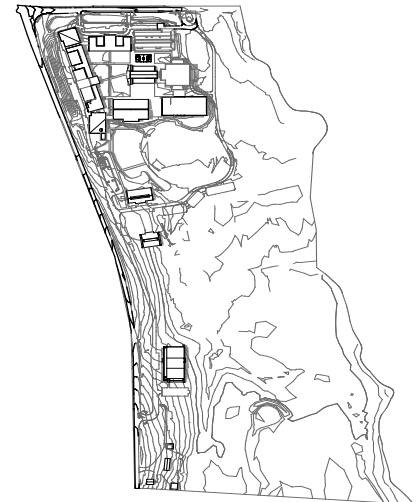
○ 21 Jun 3pm



○ 21 Dec 9am



○ 21 Dec 12pm










○ 21 Decm 3pm



## 7.2 ACCESS & SECURITY STRATEGY

After hours community access to Sports Hall, Canteen, Library, Chapel, Performing Arts, Admin, Sports Fields to be available and operational requirements created.



-  SITE ACCESS POINTS
-  SECURED POINTS OF ENTRY
-  BOUNDARY / SECURITY FENCE
-  BOOM GATE
-  BUS PICK-UP/DROP-OFF
-  CAR PICK-UP/DROP-OFF
-  CAR SPACE

## ACCESS

There are two clear road entrances and drop off zones from approach to site: one existing from Lomas Lane; and the second proposed off Wine Country Drive. SPCC's split campus system directs Junior and Middle School students through Entry Point A off Lomas Lane, and Senior School students through the main Entry Point B, past their respective Administration Buildings and into the heart of the school.

The hierarchy and opacity of forms signals public reception points that are reinforced with a yellow entrance portico to ensure clear wayfinding. Moving past the Administration points the two entrances can be linked through clear wayfinding, central courtyard circulation and landscaping.

Secondary public access points and parking on the site are controlled and located towards the Northern and Southern side of the site for access and service to the rear of the Theatre, Sports Centre, TAS/VET, and Sports Fields to cater for public access, sporting events, extra curricula school events and after hours school use.

Secondary vehicle access into the site runs along the Southern service road to provide vehicle access for the Aquatic Centre, separated from students, teachers and general public access.

## SECURITY

According to the EFSG, "major problems affecting schools, with enormous cost, are arson, theft and vandalism. The impact of these activities is not only measured in financial terms but also in the effect on student learning outcomes, interruptions to operations and emotional trauma experienced by student, teachers and parents."

The security risk for all projects must be minimised. Preventative measures in the project design have been delivered. For example, security fencing; a high palisade steel fence designed to prevent climbing, is provided along key road frontages and in between buildings. The buildings forming the barrier to the site where possible, allowing other site boundaries which face Wine Country Drive, the swales and berms to be post and rail in keeping with the rural context and to enhance the school aesthetically.

To minimise the likelihood of break-ins and their effects, Safety in Design and Crime Prevention Through Environmental Design principles are implemented in the planning.

### 7.3

#### CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

Crime Prevention Through Environmental Design (CPTED) guidelines have been outlined by the Crime Prevention & the Assessment of Development Application report published in 2001 by the former Department of Urban Affairs & Planning, (now the Department of Planning, Industry and Environment).

CPTED seeks to influence the design of buildings & places to:

- increase the perception of risk to criminals by increasing the possibility of detection, challenge & capture
- increase the effort required to commit crime by increasing the time, energy, or resources which need to be expended
- reduce the potential rewards of crime by minimising, removing or concealing 'crime benefits'
- remove conditions that create confusion about required norms of behaviour

CPTED is a strategy that focuses on the built environment to reduce or prevent the incidents of crimes. CPTED for St Philip's Christian College Cessnock aims to create the reality (or perception) that the cost of committing crimes are greater than the likely benefits by implementing the following strategies:

-

- **Territorial Re-Enforcement:** The landscape berms, ponds, swale fringe, and fencing act as actual and symbolic boundary markers, helping to delineate space from shared public space to private school land. The yellow Entry portal structures, provide thresholds into the secure school areas. Meanwhile artwork and facade treatment, express ownership and pride, consequently putting others on alert that they are coming into an area that is owned and cared for.
- **Natural Surveillance:** Window outlook to every direction of the site, outdoor and centralised circulation spines and optically permeable fencing/facade design increases the perception of human presence and/or maximised visibility.
- **Access Control:** Natural access control is achieved through the swale feature lining the boundary of the site. Other design measures including pathway configuration, bridges locations and lockable gates assist by providing controlled access points. Signage, colour and lighting further help with orientation and direction.
- **Space/Activity management:** The judicious placement of Administration and Library offices ensures casual supervision throughout the school during school operating hours. Additionally, the U-shaped orientation of the building ensures interior open spaces are promoted with activities more contained.

## 7.4 SAFETY IN DESIGN REPORT

The risk appetite within the project can be characterised as medium due to flooding/drainage, and traffic concerns. The project has a preference for safe options. This risk appetite is suitable for a project within an educational context, which places an emphasis on quality and reduced long term establishment and operational costs.

Prior to commencement of work, a preliminary risk assessment that identifies the nature and severity of the risks, will be considered by SHAC and recorded in the project "Safety by Design Register" and "Project Risk Register". Risk assessments will include requirements that contractors comply with the National Construction Code of Australia.

To allow for the identification of risks in a consistent and cohesive manner, risks will be identified and assessed for consequence, then ranked as either low, medium or high risks. Mitigation strategies for key risks will be developed and recorded in the Project Risk Register. The Project Risk Register will be re-assessed at various stages of the project to identify new risks and record risk treatments and mitigation measures.

A detailed project Risk Register is has been developed for this project, and will form the basis of monitoring, tracking and prioritising project risks throughout the life of the project.





## 7.5 SERVICE REQUIREMENTS

Services have been strategically spread throughout the campus and designed to have minimal visual impact on the campus aesthetic. As this is an existing school some services were unable to be moved or relocated.

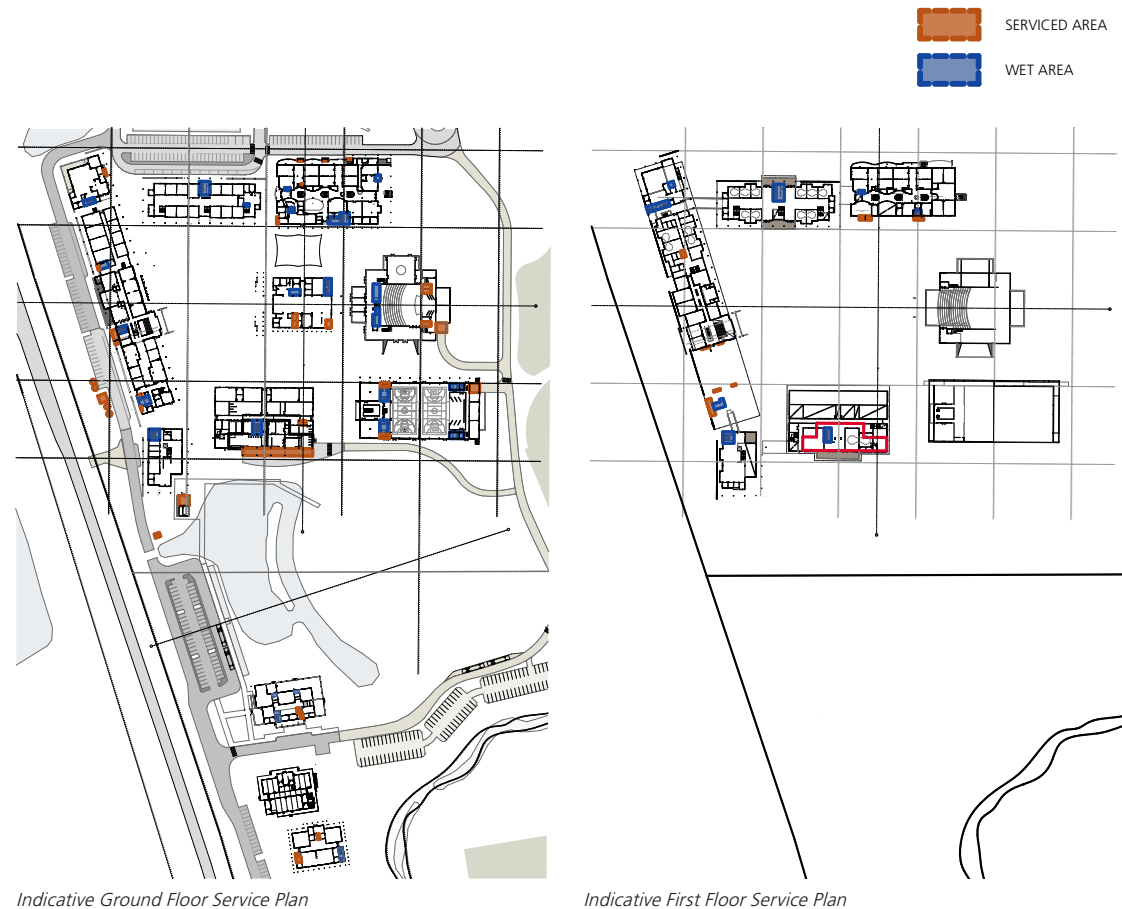
A bulk waste depot is located at the southern end of the site in the “service area” away from the main school. The proposed waste depot is screened by timber battens.

There is an existing substation located adjacent to the proposed welcome café. Due to the proposed infrastructure onsite, a second substation will be constructed neighbouring the existing structure.

Loading docks and loading areas are scattered around the perimeter of the site for deliveries.

Services have been strategically placed and collocated where possible, on the external walls of proposed buildings to ensure ease of accessibility for tradespeople and maintenance.

Wet areas, including showers, toilets and cleaners are consolidated into blocks where possible across the two floors for efficiency both in construction and future maintenance.



## 7.6 SIGNAGE AND WAYFINDING

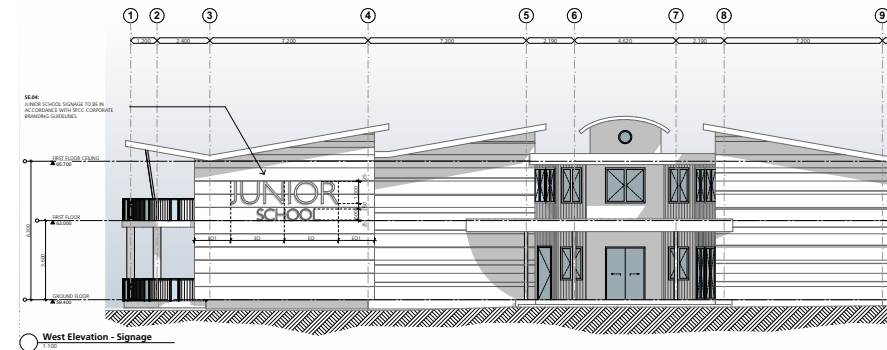
A wayfinding strategy is to be provided for the project in accordance with St Philip's Christian College corporate branding guidelines and DoE EFSG which outlines wayfinding and safety signage requirements. The following signage types will form part of the school's wayfinding and identify.

*Entry Signage* – St Philip's Christian College feature signs will be located on the most North building readable from Wine Country Drive, and at the south entry access point. These feature signs will adopt St Philip's Christian College crest logo.

*Directional Signage* – Maps and markers will be placed throughout the campus providing directions to key locations.

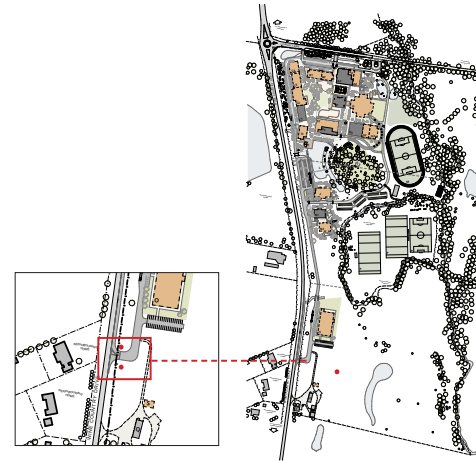
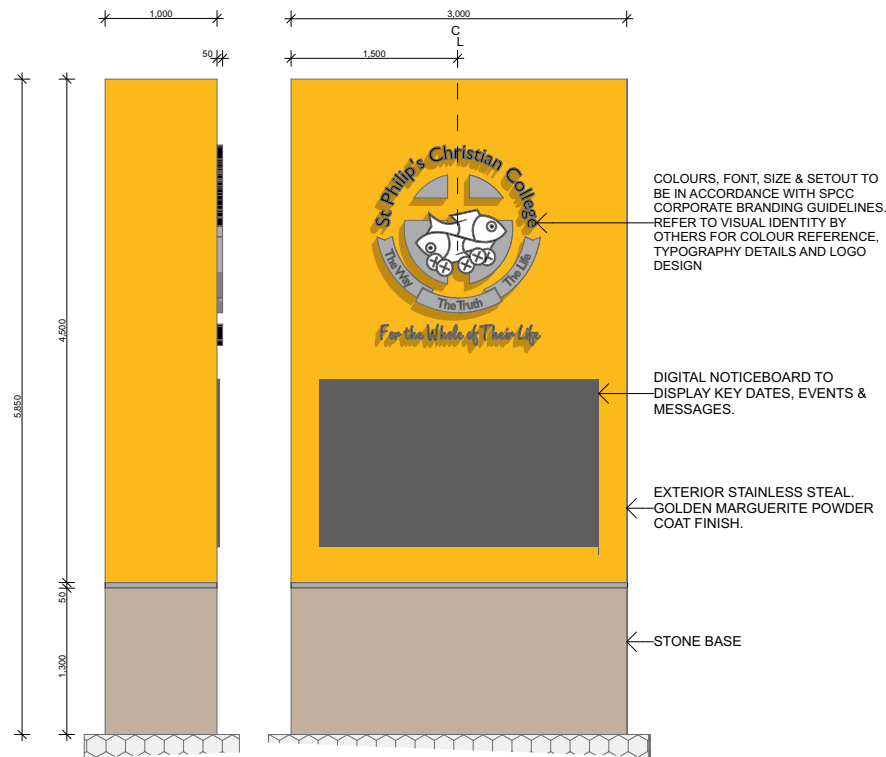
*Building Identification Signage* – Buildings will be labelled with their associated building name.

# JUNIOR SCHOOL



indicative image of building identification signage

## MAIN SITE SIGN: SOUTH ENTRY



Refer to EFSG for all signage standards.  
Refer to EFSG + BCA for all individual room and statutory signage.

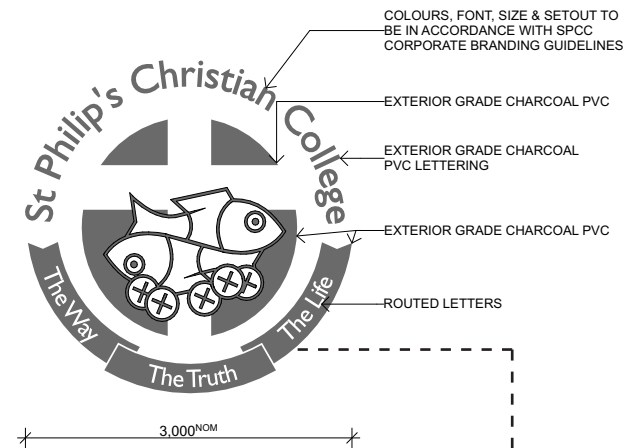


INDICATIVE IMAGE OF SOUTH ENTRY

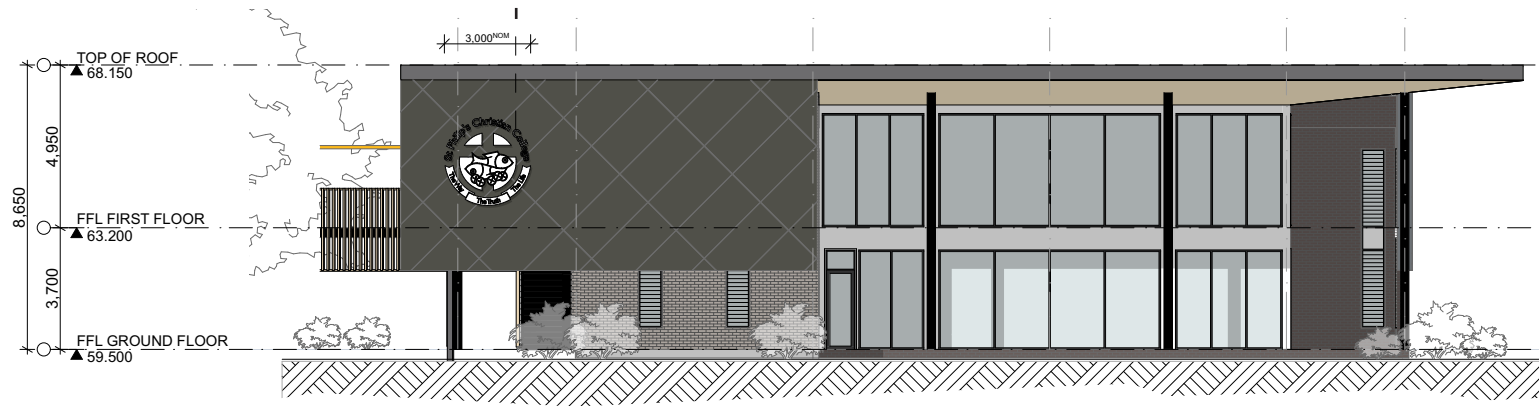


VIEW OF SOUTH ENTRY OFF WINE COUNTRY DRIVE TRAVELLING NORTH

## MAIN SITE SIGN: SCHOOL CREST LOGO

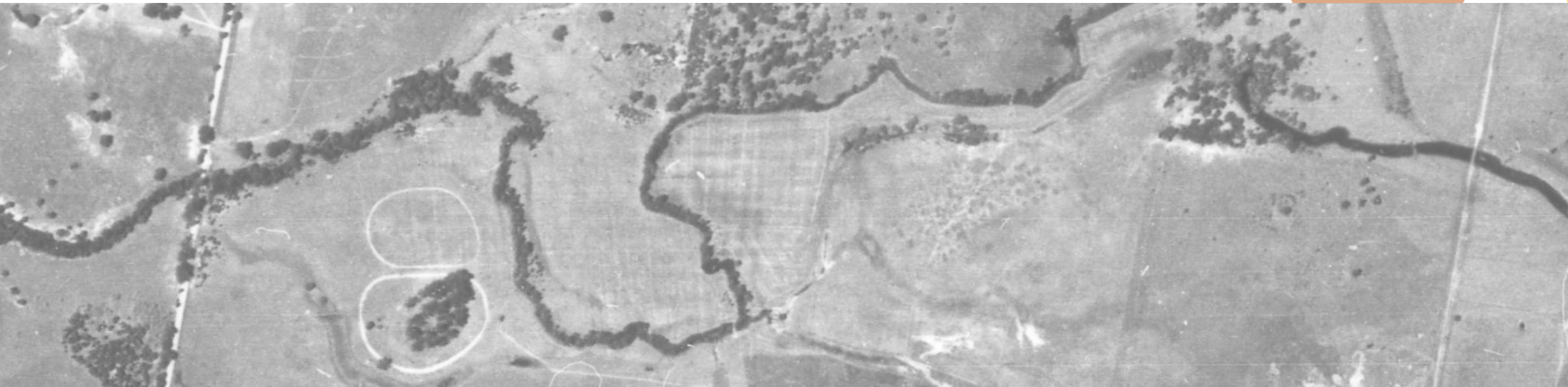
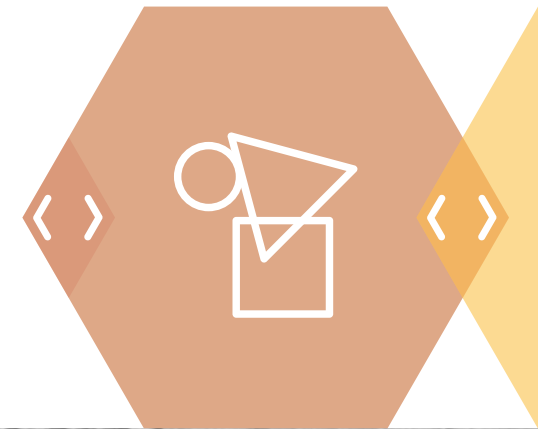


VIEW OF LIBRARY/CHAPEL FROM CORNER OF WINE COUNTRY





## 8. Built Form, Materiality & Landscape



## 8.1 ENVELOPE CONCEPT - FORM, SCALE & MATERIAL

The below images depict Cessnock's & Nulkaba's existing rural built form and scale. There is a predominant multi-level typology used in the towns-built landscape including Cessnock airport, neighboring farmsteads, existing site infrastructure and the oversized/mega Agricultural elements in the landscape. SPCC Cessnock has been designed in two-storey modules positioned across the site to reflect the local civic and agricultural vernacular and to ensure efficient circulation distance between learning areas.



HIERARCHY OF FORM | TALL | VERTICAL | CLUSTERS | NATURE | LONG ELEMENTS | WALL | REPETITION | METAL FINISHES | PRAGMATIC | ROBUST | REFLECTIVE | INSULATED



## 8.2 REFERENCE PRECEDENTS



1. SPCC SENIOR BUILDING - SHAC Architects | 2. SPCC ACTIVATE CENTRE - SHAC Architects | 3. ST ANDREWS ANGLICAN COLLEGE - Wilson Architects | 4 & 5. YORK HOUSE SENIOR SCHOOL - Acton Ostry Architects | 6 & 7 ST MARY OF THE CROSS PRIMARY - Baldasso Cortese Architects | 8 & 9 EDISON HIGH SCHOOL - Darden Architects.

### 8.3 INDICATIVE ELEVATIONS

Indicative elevations illustrate overall form, mass and materiality. Colour variation across the facade is representative only, and will be developed in future project phases, such as documentation.



SOURCE: SHAC. INDICATIVE ONLY.



## 8.4 MATERIAL STUDY

### 8.4.1 EXISTING CONTEXT



Cessnock's rich history is reflected in the town's architecture, whereby buildings have been erected out of local necessity, climate, industry and environment. The proposed buildings of the SPCC Cessnock masterplan adopt elements of Australia's vernacular architecture found in the town including encasing verandas and overhangs, utilising both their spatial and performative qualities.

The rich history extends to the Wonnarua people.. Colour pallets, totems, murals, artworks and native landscaping techniques will communicate indigenous culture within both the town and school community though consultation and engagement.

The chosen colour palette reflects the remnant forest on site, with greys, browns and glimpses of yellow wattle, and the native grasses in the sunlight. It creates a rhythm of colour and texture across the street facade to Wine Country Drive, creating pride of place and street presence within the community

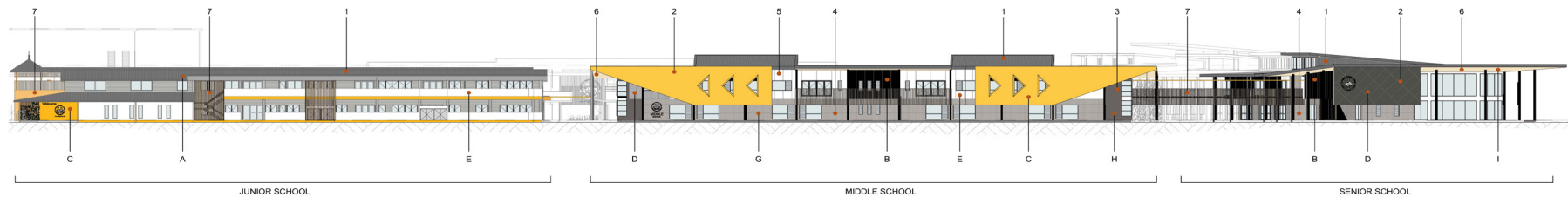


WEE WAA & SURROUNDING CONTEXT IMAGES

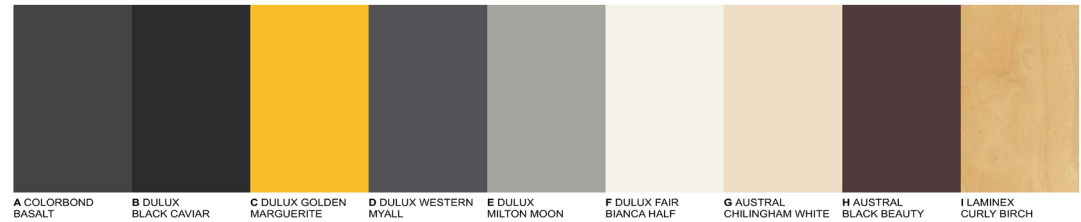
## 8.4.2 PROPOSED MATERIAL TONES AND PALETTE

The following materials align with the proposed concept design principles, while ensuring a robust, low maintenance solution. The themes unite the natural environment and indigenous history, informing the landscape design, way finding approach and material palette. The palette is deliberately neutral, with scattered accents of colour to ensure that the landscape, entrance and way finding become the main focus. Further investigation of façade and wall systems to comply with BCA will occur once the ECI Contractor is appointed, therefore definitive materiality is yet to be confirmed.

INDICATIVE MATERIAL PROFILES



INDICATIVE COLOUR/MATERIAL PALETTE



## 8.5 KEY PERSPECTIVES



CONCEPT DESIGN VISION - VIEW OF LIBRARY/CHAPEL FROM WINE COUNTRY DRIVE





CONCEPT DESIGN VISION - VIEW FROM ENTRY POINT A TO JUNIOR AND MIDDLE SCHOOL





CONCEPT DESIGN VISION - VIEW OF ENTRY B TO WELCOME CAFE, ADMIN AND CENTRAL COURTYARD

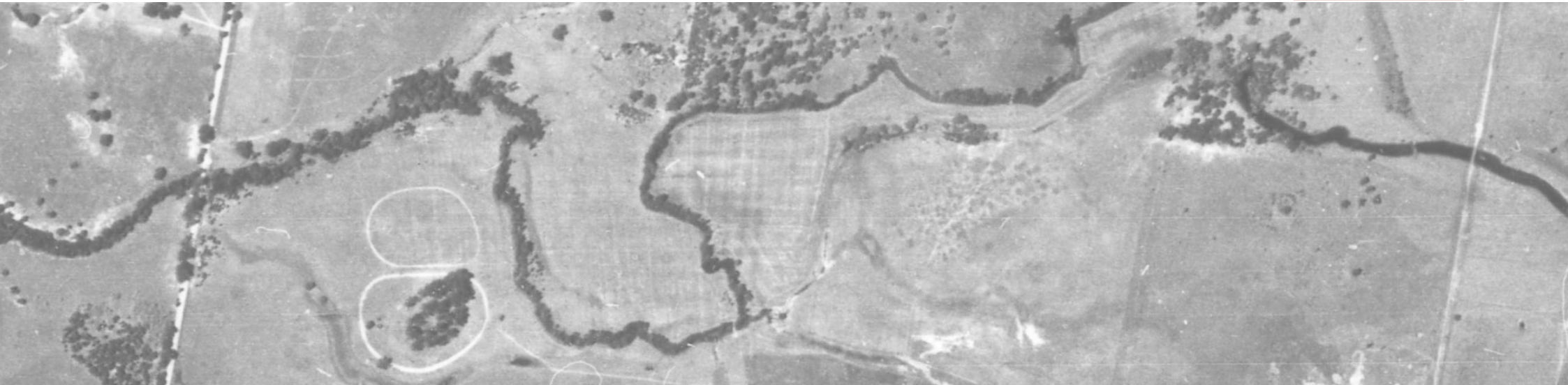
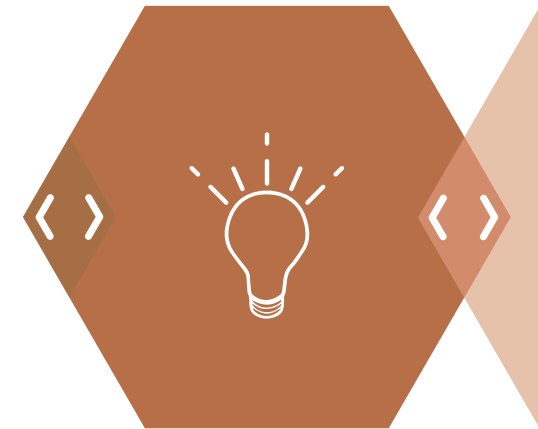


CONCEPT DESIGN VISION - VIEW TO ADMIN AND WELCOME CAFE



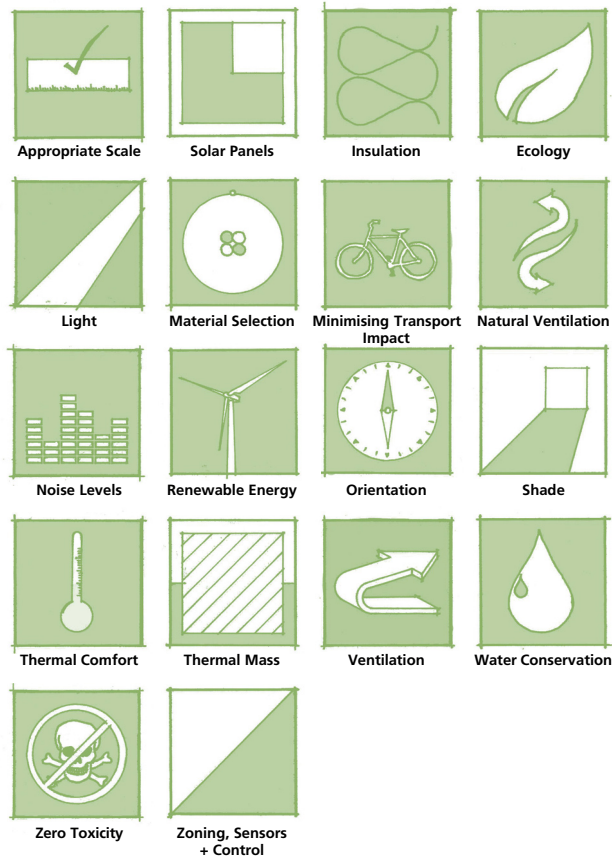
## 9. Sustainability & Environmental Amenity

MECHANICAL AND ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)  
ENVIRONMENTAL AMENITY  
STEENSEN AND VARMING CESSNOCK CAMPUS AUDIT



## 9.1 MECHANICAL AND ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

### SHAC'S ESD PRINCIPLES



The proposed project aims to address the ESD principles and their incorporation into the design and ongoing operation of the project through the EFSG sustainability requirements and the certified Green Star rating. The ESD Principles include:

- The Precautionary Principle
- Inter-generational Equity
- Conservation of Biological Diversity and Ecological Integrity
- Improved Valuation, Pricing, and Incentive Mechanisms

According to the EFSG, all new building and upgrade projects must comply with the measures, targets and minimum standards of the Government Resource Efficiency Policy. Development and operation of projects for their Whole of Life as identified by the EFSG including:

- Responsible use of energy, water, and resources in the construction, operation, refurbishment, maintenance, management and their ultimate disposal
- Protect and support biological and ecological diversity
- Restrict the flow of pollutants into our natural environment

Mandatory Measures under the EFSG + NSW Resource Efficiency Policy include:

- Energy Conservation
- Sustainable Materials
- Waste Management
- Sustainability Benchmarking
- Water Conservation
- Ecological Conservation
- Climate Change Adaptation

A sustainability framework and roadmap development has been completed for the site by environment design consultant Steensen and Varming (See Section 9.3 of report). ESD consultant currently not appointed.



Note: The following compilation of ESD principles will progress with the project. The responses to these strategies are in their early stages considering the current phase of the design process.

### 1. Energy Conservation

- Lighting - Integration of both natural and artificial lighting to maximise natural daylight in all habitable spaces, reduce energy usage, improve indoor amenity, and create a pleasant environment.
- HVAC Controls - Incorporate timed or sensor feedback functions for all lighting and HVAC systems to reduce energy consumption.
- Energy Efficient Appliances & Equipment - Specify efficient electrical equipment that exceeds the market average Energy Star rating.
- Renewable Energy Generation - Integrate PV solar power to offset energy consumption costs.

### 2. Water Conservation

- Water Efficient Appliances - Specify efficient water using appliances that exceeds the average WELS star rating by product type.
- Roof Water Harvesting & Tank Storage - Incorporation of rainwater tanks for various uses, including toilet flushing, irrigation, fire systems, etc.
- Stormwater Management - Incorporate strategies to minimise stormwater pollution to waterways and offsite environments.

The Sustainability in Design Matrix incorporates "DG02: Ecologically Sustainable Development" of the EFSG and Green Star's "Design & As Built Submission Guidelines" (version 1.2), and has been adapted by SHAC and is presented in this document as follows:



### 3. Sustainable Materials

- Sustainable Timber - Specify timbers that are either recycled, composite, or sustainably sourced.
- Low VOC - Specify all surface coatings, sealants, adhesives, carpets, carpet underlays, and engineered wood products to be low-VOC and low-formaldehyde emitting.
- Minimised Pesticides - Integrate physical and design interventions for pest control.

### 4. Ecological Conservation

- Biological Diversity - Conserve the existing biological diversity of genetic materials, species, and ecosystems on the site.
- Environmental Conservation Learning - Incorporate built and landscape design strategies to demonstrate human connections to nature and the operational cycles of sun, wind, rain, and the four seasons.
- Biophilic + Cultural Design - Integrate biophilic design strategies to increase direct and indirect connectivity to nature, while incorporating Indigenous culture.
- Sustainable Agriculture - Incorporate design interventions that compliment principles of sustainable agriculture in both built and landscaped forms.

### 5. Waste Management

- Re-Used + Recycled Materials - Consider the re-use and recycling of materials during construction, operation, and end of life.
- Waste Storage Area - Incorporate a waste storage area to allow the separation and storage of multiple waste streams, including general rubbish, co-mingled recycling, paper, cardboard, secure waste, and green waste.

## 6. Climate Change Adaptation

- Sea Level Rise - Consider long term changes to coastal processes including erosion and accretion.
- Rainfall Events and Flooding - Consider long term changes to frequency, intensity, and duration of rain and flood (including associated landslides and erosion).
- Drought and Extreme Heat - Consider long term changes to frequency, intensity, and duration
- Gales and Extreme Wind - Consider long term changes to wind direction, speed, frequency, and atmospheric salt.
- Storms and Cyclones - Consider increased frequency and intensity of snow, hail, dust, and lightning storms, storm surges, storm tides, cyclones, and hurricanes.
- Soil Composition - Consider long term changes to moisture, pH, salinity, ground stability, and groundwater level
- Bush Fire Risk - Consider current or future bushfire risk, including long term changes to frequency, intensity, and duration.
- Pandemics - Smaller class sizes to be considered, along with separation of public and private spaces. Material selection to consider increased cleaning requirements.
- Food Supply - Integration of sustainable agricultural design strategies considering changes to population, density, and a changing climate.

The Sustainability in Design Matrix incorporates “**DG02: Ecologically Sustainable Development**” of the EFSG and Green Star’s “**Design & As Built Submission Guidelines**” (version 1.2), and has been adapted by SHAC and is presented in this document as follows:



## 7. Management

- Adaption + Resilience - Develop a project-specific Climate Adaption Plan and integrate findings into the building design and construction.
- Metering + Monitoring - Provisions for a metering system to monitor building energy and water consumption, integrating a monitoring strategy and system to capture, process, and present consumption trend data.
- Operational & Construction Environmental Management - Provisions for an Environmental Management Plan (EMP) and an Operational Waste Management Plan (OWMP). Inclusion and promotion of support practices for site workers through on-site, off-site, and on-line education programs, in addition to planning, implementation, and auditing against the EMP during the construction process, is also recommended.

## 8. Indoor Environment Quality

- Acoustic Comfort - Consider internal noise levels, reverberation rates, and acoustic separation requirements of spaces and organise according to their requirements.
- Lighting & Visual Comfort - Consider lighting requirements, glare reduction, surface illuminance, daylighting provisions, colour perception, fixture locations, control points, and line of sights to quality internal or external views.
- Indoor Pollutants - Reduce internal air pollutant levels through meeting stipulated low VOC and formaldehyde limits.
- Thermal Comfort - Incorporate interventions to achieve thermal comfort, including thermal mass, passive and active ventilation, HVAC systems, etc.
- Indoor Air Quality - Incorporate natural or mechanical ventilation systems to mitigate outdoor pollutant entry, maintain indoor pollutant levels to an acceptable standard, and exhaust nominated pollutant levels from specialised spaces (including print rooms, kitchens, etc.). Outdoor air provisions and contaminant monitoring to also be included.

## 9. Transport

- Sustainable Transport - Implement design and operational measures that reduces greenhouse gas emissions from transport, decreases mental and social impacts of commuting, and encourages the uptake of healthier active transport options.

## 10. Emissions

- Stormwater - Incorporate interventions that minimise peak storm water outflows from the site and reduce pollutants entering the public sewer infrastructure or other water bodies.
- Light Pollution - Incorporate interventions to minimise light pollution, including fixture and fitting selection, lighting location and orientation, timed or sensor-based controls, etc.
- Microbial Control - Implement systems to minimise impacts associated with harmful microbes in building cooling systems, including integration of naturally ventilated or waterless heat rejection systems that include measured for Legionella control and risk management.
- Refrigerant Impacts - Consider practices to minimise environmental impacts of refrigeration and air conditioning equipment.

## 11. Innovation

- Innovative Technology or process - Consider incorporating technologies or processes that are considered innovative in Australia or the world.
- Market Transformation - Consider potential sustainability initiatives that could substantially contribute to the broader market transformation towards sustainable development in Australia or in the world.
- Global Sustainability - Potential for adaptation of an approved Global Green Building Rating tool that addresses a sustainability issues that are currently outside the scope of the Green Star rating tool.
- Innovation Challenges - Potential to incorporate various social, economic, and environmental innovation challenges outlined by Green Star. Some challenges include renewable power, carbon positivity, building air tightness, community benefits, culture and history, local procurement, universal design, and a Reconciliation Action Plan.

The Sustainability in Design Matrix incorporates “**DG02: Ecologically Sustainable Development**” of the EFSG and Green Star’s “**Design & As Built Submission Guidelines**” (version 1.2), and has been adapted by SHAC and is presented in this document as follows:



## 9.2 ENVIRONMENTAL AMENITY

Environmental design has been achieved in accordance with the Government Architects NSW (GANSW) Environmental Design in School Manual. The project team provide the following discussion outlining how the project has included a strong focus on passive, biophilic and environmental design.

**Air** – Natural ventilation is incorporated into the design of building design and utilises methods to passively cool and ventilate the spaces. Cross ventilation throughout learning spaces has been adopted using operable and openable windows on multiple sides of buildings, both low and high levels designed to capture prevailing winds and promote the flow of air through the spaces. A passive controlled variable refrigerant flow system will be introduced to reduce humidity within learning spaces and minimise mold growth and remove the source of pollutants.

**Comfort** – Good learning spaces need to be comfortable for all occupants including staff, students, and visitors. To ensure this is achieved, this project has adopted the following design solutions: Passive solar Design and shading through optimized glazing and window shading allowing heat gain in winter and blocking heat entering the building through the summer period. Thermal mass absorption through material selection. Natural shading devices in the landscape and vegetation placed around the building including trellises. Ceiling fans throughout learning spaces.

**Light** – Building design has ensured access to natural daylight aiming to reduce the need for artificial lighting. The installation of LED lighting throughout facilities will assist in the minimisation of lighting energy and reduce heat loads.

**Noise** – A strategy to minimise acoustic levels throughout the buildings have been considered and will be implemented through the developed design stages including building solutions, materials choices and treatment to the structure and interior furnishings.

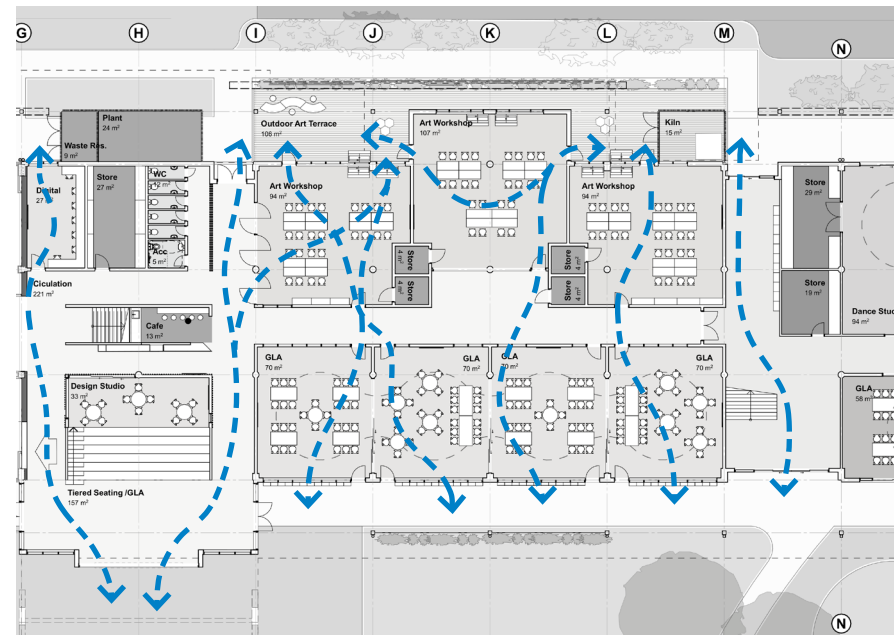
**Water** – Existing rainwater capture and storage tanks are installed onsite. Additional rainwater capture and storage systems will be considered for installation to provide educational support around water efficiency. The landscape design strategy has a strong focus on water sensitive urban design through external landscaping.

**Energy** – Energy efficiency design has been considered throughout the project design process. The building envelope comprises a combination of design elements used to help reduce the consumption of energy. Photovoltaic energy system array is proposed to produce renewable energy and reduce the sites electricity consumption for the grid.

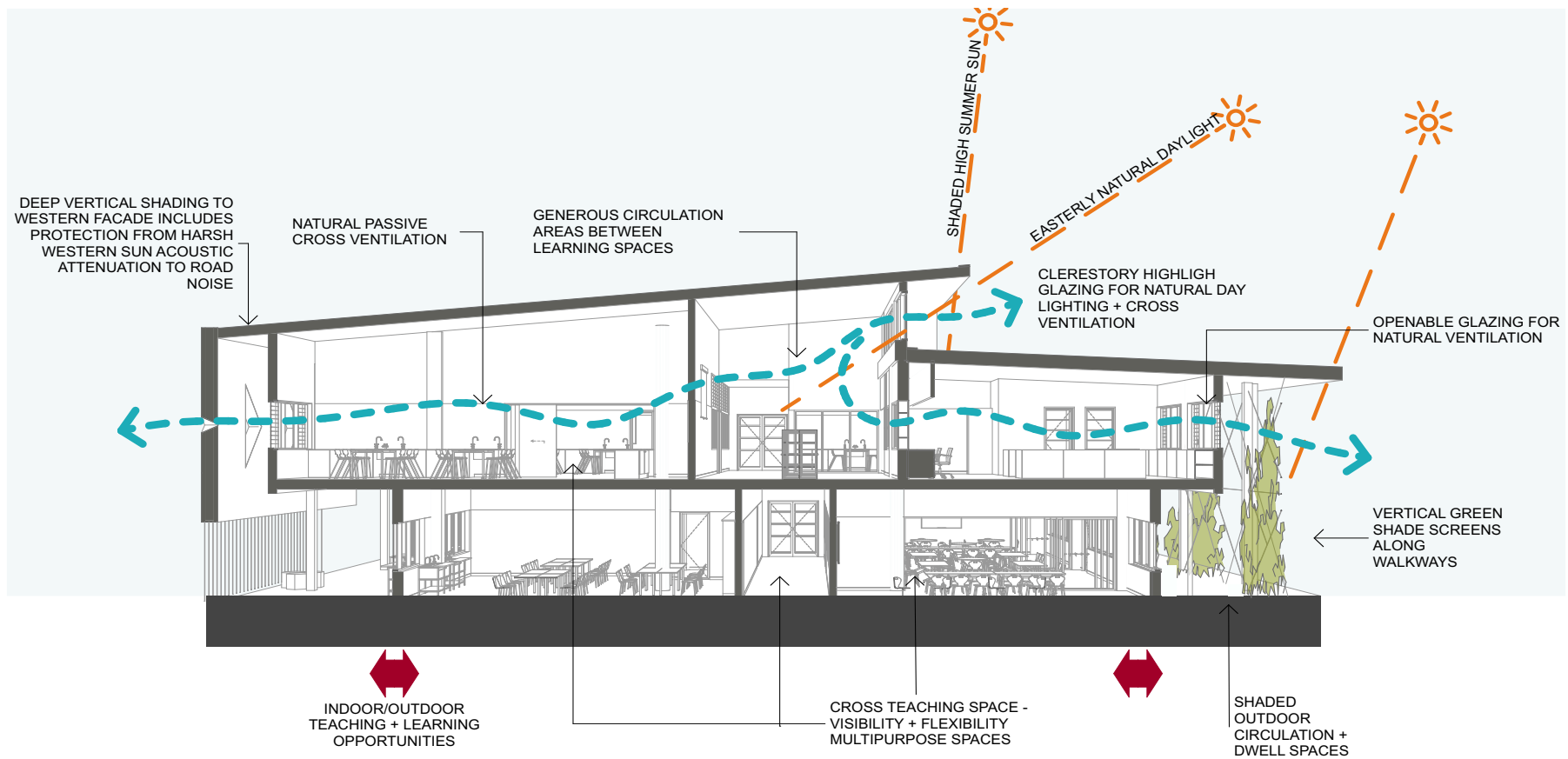


**Landscape** – The proposed landscape strategy for the site will introduce native vegetation including Tuckeroo, Crepe Myrtle, Watergum, Ornamental Pear, and shrub and groundcover planting. The landscape will play an important part in the education of students around local biodiversity and natural systems.

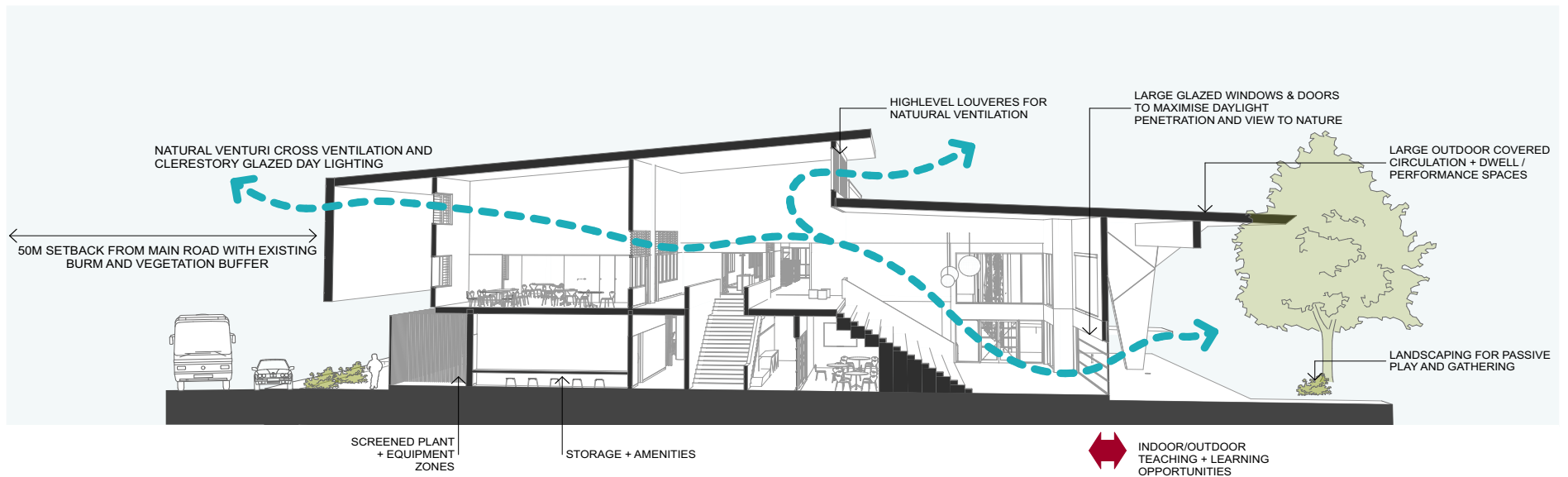
**Materials** – The proposed building will be constructed using durable, robust materials that are locally sourced. Measures will be taken to maximise the expected lifespan of the installed fixtures and finishes and will assist in project longevity. The flexible design of the spaces within the building aims to minimise the need potential need to be demolished or rebuilt in the future.



*Indicative Diagram of Cross Ventilation in Typical Learning Space*



West - east sectional diagram



*West - east sectional diagram*

### 9.3

## GREEN STAR - DESIGN & AS BUILT

The proposed development has been assessed against Green Star, an accredited ESD rating system developed by the Green Building Council of Australia (GBCA), which is now the nation's leading authority on sustainable buildings and communities. The Green Star system is internationally recognised to assess sustainable outcomes through the life cycle of the built environment. The Green Star system incorporates ESD principles across nine major categories:



Currently the proposed project is targeting the certified 4 Star Green Star rating – Australian Best Practice.



### Green Star Score Card

Category	Points Targeted	Points Available
Management	8	14
Indoor Environment Quality	14	17
Energy	4	22
Transport	0	7
Water	5	12
Materials	4	12
Land Use & Ecology	1	6
Emissions	4	5
Innovation	8	10
<b>Total</b>	<b>49</b>	<b>110</b>

The assessment completed indicates a 4 Star Green Star rating – Australian Best Practice will be achieved with a score of 49. We expect that additional points will be available during later developed design stages.



## 9.4

### STEENSEN VARMING AUDIT - ST PHILIP'S CHRISTIAN COLLEGE CESSNOCK

A sustainability framework and roadmap development have been completed for the site by environment design consultant Steensen and Varming to inform the design, development, and management of the St Philip's Christian College project. The framework provides detailed sustainability guidance, facilities management, future design teams and contractors to implement sustainability across all elements of the masterplan process and aims to identify long term development strategies for the campus including:

- Upgrades to existing facilities
- -New developments
- -Operations and management procedures
- -Sustainable Procurement and Purchasing Policy
- -Education and Communit

A structured approach to developing a complete range of goals for the community and precinct was established by Steensen & Varming. The icons below identify the high-level categories to be addressed by the process and highlight some key vision statements for each category.

1.		Education / Community	Promote community and sustainability education, inclusivity, acknowledgement of heritage.
2.		Site / Location	Plan for the site to form accessible hubs for study, play and community engagement.
3.		Transport	Pedestrian and cyclist promotion, promotion of efficient vehicles and car sharing.
4.		Ecology / Environment	Maintain existing and create new habitats sensitive to native species, protection of land resources and manage flood risk
5.		Energy	Improve energy performance of buildings and infrastructure, use of renewable energy generation and possible storage.
6.		Water	Water efficient use, collection and recycling initiatives.
7.		Materials / Waste	Aim for zero waste to landfill, and apply the use of local, sustainably sourced and low-emitting materials.
8.		Air Quality / Emissions	Provide clean air for all areas, both internally and externally, through VOC reduction, pollution minimisation, air quality control.
9.		Connectivity / Smart Technology	Integrate wireless connectivity throughout the precinct, and improve efficiency of operations through applied technology and data analytics.
10.		Health / Wellbeing	Provide healthy and active environments for all users throughout the precinct.
11.		Aesthetics	Produce interesting and recognizable designs and create interest through beauty and connection to nature.
12.		Security	Provide safe spaces through thoughtful integration of design and technology

Each building onsite underwent an assessment both external and internally to review the conditions of the landscape, infrastructure, building fabric, mechanical plant, equipment and broader strategies and policies.

The assessment reviewed building characteristics, building finishes, internal finishes, typical room facades and glazing, roof, insulation, air quality, air conditioning, renewable energy, water systems and lighting. Each buildings received a rating to help identify their condition relative to the other buildings onsite.

## 8.1 Building 1 – Junior School



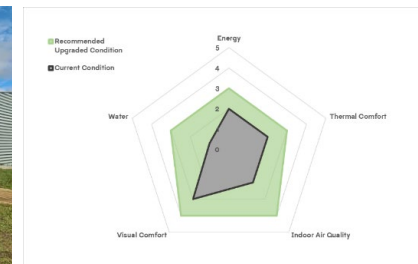
Building 1	
<b>Building Name</b>	1 - Junior School
<b>Building Function</b>	Multi activity centre, performance, classrooms etc.
<b>Building Age</b>	2012
<b>Common Building Characteristics</b>	Rectangular space with a pitched roof reaching approx. 10 meters height at the top. Multi-purpose hall on level 1, storage etc. on ground floor. Fully glazed façades towards East and West. No glazing towards North or South. Windows on facades open at high-level, also openable louvres at pitch. HVAC systems in classroom and performance centre.
<b>HVAC Equipment (Cooling &amp; Heating)</b>	Current: Substantial Future: Substantial
<b>Current Building Performance</b>	Energy - 2.4/5 Indoor Environmental Quality - 2.8/5 Water - 1.3/5
<b>Recommended Physical / Operational Works</b>	Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems. Upgrade equipment to high-efficiency / low power consuming equipment.
<b>Achievable Building Performance</b>	Energy - 3.3/5 Indoor Environmental Quality - 3.9/5 Water - 3.3/5

## 8.7 Building 7 – Sports Centre



Building 7	
Building Name	7 - Sports Centre
Building Function	Student sport hall
Building Age	2018
Common Building Characteristics	Basketball court with ceiling fans on the top, natural ventilated spaces with hydraulic blinds. Gym with fluorescent lights on the east façade with vertical openings and internal blinds. Upper-level classroom with centralised systems, fluorescent lights and acoustic boards.
HVAC Equipment (Cooling & Heating)	Current: Limited Future: Substantial
Current Building Performance	Energy - 2.1/5 Indoor Environmental Quality - 2.5/5 Water - 1.7/5
Recommended Physical / Operational Works	Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems.
Achievable Building Performance	Energy - 2.9/5 Indoor Environmental Quality - 3.8/5 Water - 3.7/5

## 8.8 Building 8 – Trade Training Centre



Building 8	
Building Name	8 - Trade Training Centre
Building Function	Workshops
Building Age	2012
Common Building Characteristics	Workshops with ceiling fans, openable skylights, AC system in the control room. Insulation overhangs
HVAC Equipment (Cooling & Heating)	Current: Limited Future: Substantial
Current Building Performance	Energy - 1.7/5 Indoor Environmental Quality - 2.3/5 Water - 1.3/5
Recommended Physical / Operational Works	Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems.
Achievable Building Performance	Energy - 2.9/5 Indoor Environmental Quality - 3.5/5 Water - 3.3/5

## 8.9 Building 9 – The Hub



Building 9	
Building Name	9 - The Hub
Building Function	Classroom
Building Age	2012
Common Building Characteristics	Aluminium windows and horizontal openings at the lower levels. Centralised AC systems in the large classroom. Skylights on the upper levels.
HVAC Equipment (Cooling & Heating)	Current: High Future: High
Current Building Performance	Energy - 2.5/5 Indoor Environmental Quality - 2.9/5 Water - 1.7/5
Recommended Physical / Operational Works	Improved air-tightness / improved controllability of openings. Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems. Upgrade equipment to high-efficiency / low power consuming equipment.
Achievable Building Performance	Energy - 3.4/5 Indoor Environmental Quality - 3.5/5 Water - 2.7/5

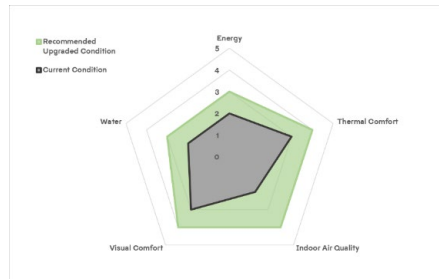
## 8.12 Building 12 – Senior School (New)



Building 12	
Building Name	12 - Senior School
Building Function	Classroom
Building Age	_ Under construction
Common Building Characteristics	Classroom with HVAC systems on lower ground, ceiling fans. Higher levels, ceiling fans, large window areas on higher levels with horizontal openings and low VLT levels.
HVAC Equipment (Cooling & Heating)	Current: None Future: Substantial
Current Building Performance	Energy - 2.6/5 Indoor Environmental Quality - 3.0/5 Water - 2.0/5
Recommended Physical / Operational Works	Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems. Upgrade equipment to high-efficiency / low power consuming equipment.
Achievable Building Performance	Energy - 3.5/5 Indoor Environmental Quality - 4.1/5 Water - 3.7/5



### 8.13 Building 12 – Narnia



Building 13	
Building Name	13 - Narnia
Building Function	Classroom facilities
Building Age	2012
Common Building Characteristics	Classrooms with fluorescent lights and skylights with black covers on upper levels, large overhangs on side and split AC systems.
HVAC Equipment (Cooling & Heating)	Current: None Future: Substantial
Current Building Performance	Energy - 2.1/5 Indoor Environmental Quality - 2.6/5 Water - 1.7/5
Recommended Physical / Operational Works	Improved utilization of natural ventilation through better openings at low and high level. Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems.
Achievable Building Performance	Energy - 3.0/5 Indoor Environmental Quality - 4.0/5 Water - 2.7/5

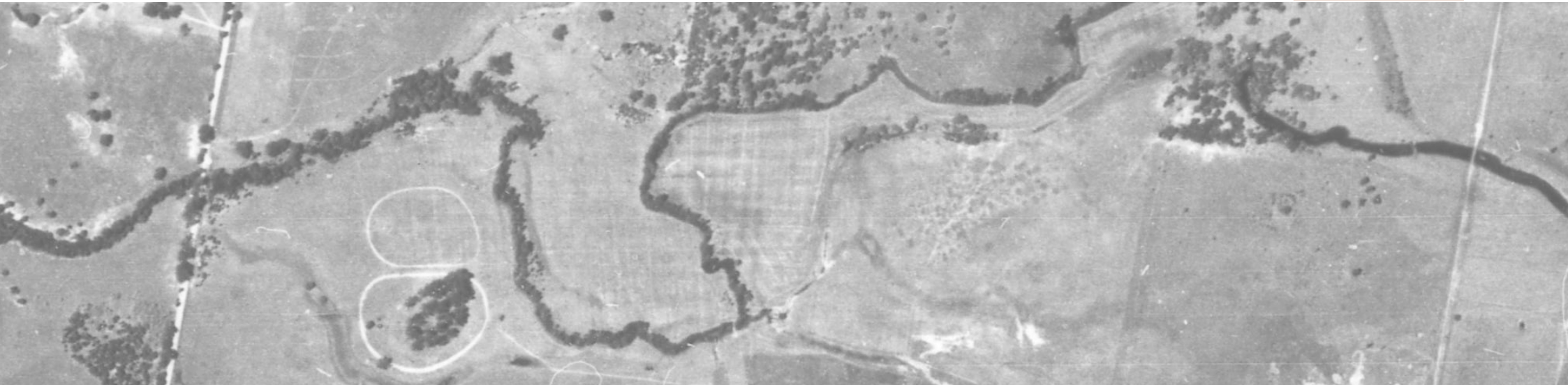
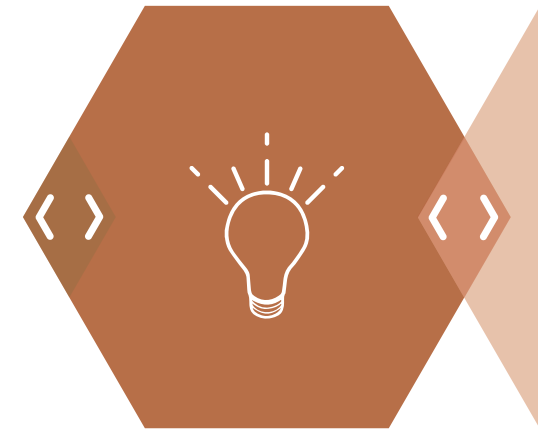
### 8.14 Building 12 – Dale



Building 14	
Building Name	14 - DALE
Building Function	Classroom
Building Age	2012
Common Building Characteristics	Large overhang areas. Classroom with split systems, fluorescent lights, horizontally-openable skylights with hydraulic controls.
HVAC Equipment (Cooling & Heating)	Current: None Future: Substantial
Current Building Performance	Energy - 1.8/5 Indoor Environmental Quality - 2.6/5 Water - 1.3/5
Recommended Physical / Operational Works	Improved utilization of natural ventilation through better openings at low and high level. Upgrade lighting to high-efficiency LED's including control. Upgrade A/C plant to high-efficiency and low-refrigerant impact systems. Upgrade equipment to high-efficiency / low power consuming equipment.
Achievable Building Performance	Energy - 2.9/5 Indoor Environmental Quality - 3.5/5

# 11. STAKEHOLDER CONSULTATIONS & DESIGN VALIDATION

STAKEHOLDER WORKSHOPS, ENGAGEMENTS AND ADVISORY MEETINGS. GOVERNMENT AGENCY PRESENTATIONS & FEEDBACK.



## 11.2 RESPONSE TO GANSW SDRP

### 11.2.1 SESSION 01 FEEDBACK

4347 SPCC CESSNOCK  
DESIGN RESPONSE TO SDRP ADVICE

GANSW ADVICE & RECOMMENDATIONS	DESIGN RESPONSE
<b>SDRP - Session 01 - 21.07.21 (first review)</b>	
<b>CONNECTING WITH COUNTRY (CwC)</b>	
1 Articulate a meaningful approach to the connection to Country and how this will inform the architectural and landscape design strategy: for example, using landscape, materials, plant selection, art installations/murals, naming, wayfinding devices, play equipment, paving, colour, texture and so on.	<p>A reconciliation process is underway between the School and the Mindaribba LALC due to an historical issue. It is hoped that once this is resolved the Designing With Country Consultation process can be developed for future engagements with all the RAPS.</p> <p>It is intended that 'reporting back' methods will be detailed during and future engagements to ensure the appropriate methods are undertaken and to maximise the effectiveness of the community's involvement and inputs. SHAC are committed to continuing these engagements in all project phases.</p> <p>An updated Aboriginal Cultural Heritage Assessment Report (ACHAR) has identified PADS along Black Creek and the Oxbow Lagoon. In conjunction with the artefacts identified in the original 2009 ACHAR, they will be referred to the RAPS for their thoughts on interpretive opportunities.</p>
2 Demonstrate how the meaning of Wonnarua 'land of hills and plains' has informed the landscape strategy and a deep connection with Country. Explore how this might inform the school's pedagogical approach.	<p>The use of natural systems and the presentation of these natural systems within the heart of the school brings forward the seasonal cycles and connection to the landscape. The landscape and architectural design provide for both enclosed spaces (places of refuge) as well as visual connections to the natural eucalypt bushland and the surrounding hills of the Brokenback Range. The school is situated on an active flood plain that contains evidence of ancient indigenous occupation – which will be respected and celebrated through the operation of the school. The sites of significance identified through the 'Designing on Country' process and the archaeological studies will be inked with a walking and interpretation trail. At each nominated location – informal opportunities will be provided for sitting and storytelling nestled 'within' the landscape. The school and the local Traditional Owners can work together to provide opportunities for knowledge transfer and 'yarning' to ensure that the emerging generations have an appreciation of the Wonnarua culture and traditions.</p> <p>The opportunities for engaging with the local traditional owners are continuing and 'designing on country' sessions with Registered Aboriginal Parties are on-going though the design and development process.</p>
3 Provide a strategy identifying how the Aboriginal artifacts identified in the 2009 Aboriginal Heritage Assessment will be addressed.	The design intent is to highlight these artefacts on a 'Walking Country' pathway across the site. We will be submitting this idea to the RAPS for consideration, and to progress further if appropriate or discuss alternate strategies for interpretation.
4 Refer to the draft Connecting with Country Framework on the GANSW website.	The framework has been referred to and has begun informing the design outcomes.

<b>SITE STRATEGY AND LANDSCAPE</b>	
5 The site strategy and wayfinding within the campus appears confusing, perhaps due to the uncertainty of access from Wine Country Drive. Strengthen the clarity and legibility of access and circulation through the site. <ul style="list-style-type: none"> <li>a. Consider the wayfinding opportunities presented by the different character precincts.</li> <li>b. Establish a hierarchy of elements including: parking, access, entrances, public and private uses and paths throughout the site.</li> <li>c. Provide an access and circulation strategy for options with and without access from Wine Country Drive.</li> </ul>	<p>A series of diagrams have been prepared, which aim to simply explain the access and circulation of pedestrians and cars across the site.</p> <p>a. Pedestrian way-finding is integrated into the landscape design and site layout with a number of design devices employed to deliver intuitive site navigation. The central Spiritual and Learning precinct is easy to navigate using the primary path, marked by the north/south harbour and the secondary pathways to access individual areas and buildings. The Environmental precinct is dominated by the water body and the existing native forest. The way finding through this area is defined by the path alignment and the views created through the landscape to key destinations including the central 'Celebration Space' and connections to the Spiritual and Learning space.</p> <p>Way finding through the recreation precinct is aided by the introduction of the strong linear planting adjacent to the service road that will provide both physical access and visual connection through the precinct.</p> <p>b. The Hierarchy of elements within the site layout are primarily related to the built form and access. The architectural design and building function defines the key destinations for both the public and for members of the school community and other elements of the site plan are subservient to the primary function of the school buildings. Car parking, pedestrian entry points, and pathways through the site are designed to complement the function of the school and deliver clear spatial definition. The hierarchy of these elements within the site plan is related to the sequence of use and the arrival/departure process. Car parking is important but is held to be peripheral to the site and is visually screened from Wine Country Drive with planting. Pedestrian entry points are key features and are defined by specific elements ( e.g. the harbour for the North South route through the Spiritual and Learning Precinct and the boardwalks through the Environmental precinct). The hierarchy of elements is reflective of the hierarchy in access requirements.</p> <p>c. The Wine Country Drive access has been confirmed, and the masterplan updated to facilitate the new entry.</p>
6 The quantum of car-parking and its location in relation to the flood planning levels appears to be driving the site strategy. Explore opportunities to: <ul style="list-style-type: none"> <li>a. reduce the quantum of car-parking on-site,</li> <li>b. review the quantum of car-parking that needs to be provided above the 1in 100 year flood level, and</li> </ul>	<p>The quantum of car parking above the flood level is required under the traffic report.</p> <p>a. the locality is rural and semi-rural and is heavily reliant on car travel, due to poor public transport services and the distancessome of the cohort and staff travel to site.</p> <p>b. Landscape strategies which mitigate the visual impact of the parking areas, have been implemented, which are also mindful of CPTED guidelines.</p>

## 11.2.2 SESSION 01 FEEDBACK

GANSW ADVICE & RECOMMENDATIONS	DESIGN RESPONSE
7 Explore how different approaches to topography, massing, program, materiality and planting might differentiate the landscape character of the four precincts A to D. Provide detail of the water sensitive design strategies and demonstrate how natural systems have informed the school's pedagogical approach.	<p>The topography through the school has been manipulated to provide a variety of functions and outcomes. The main body of the school (built form and landscape) mainly associated with the Spiritual and Learning Precinct is set above the flood line – necessitating an elevated 'fill pad' as a minimum level. Above this through the central area of the school areas of raised topography are introduced to provide wide terraced informal seating and higher places in the school landscape as points of prospect. Adjacent to the higher areas an integrated into the topography are lower areas associated with the Water Sensitive Urban Design Features (the 'Blue/Green Link'). This thread of landscape and water treatment runs north/south through the central 'College Green' area. The alignment is dictated by the hydraulic and drainage requirements of the school design. The Environmental Precinct largely consists of existing vegetation and existing water bodies. Only small interventions are proposed to provide improved access and amenity through the precinct. The existing landscape character and vegetation are maintained as existing to reinforce the informal and natural elements of the precinct.</p> <p>The Recreation Precinct is provided with additional tree planting and shade to improve amenity for participants and spectators of the Recreation facilities. Additional side-line tree planting will provide shaded spectator areas and the main connecting access ways (the service road and pathways) will be identified in the landscape with avenue planting.</p> <p>The existing waterways and water bodies have been used in the WSUD system to enhance water quality through the site in combination with the newly proposed Blue/Green Thread through the Learning Precinct. Natural processes for biological treatment of pollutants and nutrient reduction will be evident for the school to use as tools and experiences for education and learning.</p>
8 Given the diversity of recreation spaces, open campus and shared communal use facilities provide a CPTED analysis of the scheme and incorporate recommendations to mitigate opportunities for concealment and demonstrate how surveillance will be managed.	A CPTED analysis of the masterplan is underway. Fencing and lighting are the initial considerations, in conjunction with the Landscape design.

ARCHITECTURE		
9	Provide revised external perspectives demonstrating how the two end buildings at the north and south of the Senior School connect with the external landscape.	Amended façade designs for the two buildings have been prepared which incorporate additional glazing to aid in addressing the streetscape and connecting further with the landscape. External perspectives have been updated in line with the amended façade designs.
10	Develop the treatment and expression of the built form addressing the north-west corner of the site to demonstrate how it accentuates its prominent corner location.	The external facades have been amended to include greater visibility from the Wine Country Drive and assist in engagement with the school grounds. The roof form of both buildings open up to their respective corner locations to address and engage with the streetscapes.
11	Integrate the landscape design with the built form, with particular consideration of the landscape character, material and spatial quality of the interstitial spaces, edges and interface with car-parking.	<p>Landscape has been designed to respond to the internal building uses and extend the learning opportunities and social interaction into the exterior spaces. Landscape character in the central school spaces (the College Green, central walkway/arcade and other spaces between the buildings) is more formal in response to the rectilinear arrangement of the architectural design. The planting selection and arrangement in close proximity to the buildings seeks to provide seasonally appropriate passive shade and solar access - which creates a blended mix of deciduous and evergreen plantings. Edges and interfaces are marked with a range of landscape design devices including tree planting, WSUD Swales to provide ecological and hydraulic benefits and level changes allowing for passive seating, viewing and opportunities for prospect. Car parks south of the main school complex (Administration Building) are screened from Wine Country Drive through informal planting. The planting and landscape character for the screening is similar to the planting on the existing berm to the north. The new car park to the north of the Junior School is shaded with proposed trees to the north side which will be an extension of the existing Lomas Lane landscape character.</p>
12	Explore how the rural context and the characteristics of the four precincts A-D might inform the architectural expression (scale, materiality, aesthetics) of the built form, particularly the presentation to Wine Country Drive, and consider the visual impact of the built form on the surrounding context.	<p>A- Spiritual &amp; Learning Precinct - the new buildings within this established, exposed north-western area are influenced by the existing palette and forms within the original school buildings. They also follow the existing presentation to Wine Country Drive.</p> <p>B- Environmental - no buildings within this zone</p> <p>C- Recreational - smaller scale, functional buildings.</p> <p>D- Agricultural - buildings follow a rural vernacular and are low density within the open landscape of the precinct.</p>
SUSTAINABILITY AND CLIMATE CHANGE		
13	Aiming for a net-zero building is strongly encouraged to reach NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPI, Net Zero Plan, Stage 1: 2020-2030' for further information.	<p>Steensen Varming have prepared an ESD audit of the Campus which clarifies where improvements can be made on each of the existing buildings.</p> <p>The future buildings that complete the Masterplan are intended to be designed to reach NSW's Net Zero emissions goal by 2050.</p>



## 11.2.3 SESSION 02 FEEDBACK

4347 SPCC CESSNOCK  
DESIGN RESPONSE TO SDRP ADVICE

GANSW ADVICE & RECOMMENDATIONS		DESIGN RESPONSE
SDRP - Session 02 - 13.10.21 (second review)		
CONNECTING WITH COUNTRY (CwC)		
1	Provide a stronger response to the Masterplan Motif: Harvest through the landscape approach and teaching opportunities with the Indigenous cultural artefacts throughout the site, including the scar tree and grinding mortar.	The RAPS, Designers and School Reps including the Student AECG met on site to walk the site together. A cultural pathway across the site which reveals the artefacts has been accepted as an appropriate approach by the RAPS. Relevant plantings alongside the scar tree grove, grinding mortar and creekside riparian zone have been implemented as a result of consultation.
2	The intent to identify place and pathway names as part of the Indigenous Cultural and Heritage approach is commended, but there is opportunity for further consultation with Indigenous stakeholders to deepen this connection and to inform both the landscape strategy and architectural response.	Further consultation has occurred and resulted in appropriate places across the site being selected to partake in dance and storytelling. Key totems have been suggested by the RAPS to be incorporated into the architecture through art and landscape installations.
SITE STRATEGY AND LANDSCAPE		
3	<p>Explore opportunities for the landscape characters of each precinct to strengthen the clarity and legibility of access and circulation through the site.</p> <p>a. Consider how the 'Blue green thread' might become a more organic and natural wayfinding element throughout the campus, connecting both entries to the Junior and Senior Schools, and the rest of the campus. The character of the thread might change to reflect the varied characters of each landscape precinct.</p> <p>b. Given the 'Water Motif' is an essential characteristic of the site, strengthen opportunities for WSUD and enhancement of the ecological significance of the site's water bodies, including the Riparian corridor, wetlands, Black Creek and the Oxbow Crescent Lagoon.</p> <p>c. Accentuate the entries to the Junior and Senior School through a landscape and architectural response, so that they are clearly identifiable as the principle campus access point.</p>	<p>a. The location of the Blue/Green Thread is determined by the hydraulic and drainage systems in the school grounds. The drainage flows from the central College Green space is required to discharge into the existing series of water bodies. The first to the north at the corner of Wine Country Drive and Lomas Lane, and the second to the water body south of the Administration centre. For engineering and hydraulic reasons – the discharge points of the Blue/Green Thread cannot be altered. Clear and unambiguous circulation and wayfinding through the Spiritual and Learning precinct is provided by the linking Arbor and the design proposals of the surrounding precincts and landscape areas provide intuitive and clear routes for access.</p> <p>b. The use of WSUD in this scheme is an important part of the overall approach to the landscape design. The use of a WSUD feature in the centre of the main landscape space in the school indicates the importance of water in the landscape. The retention and improvements proposed to the existing water bodies to reduce nutrient loads and improve the health of Black Creek and the Oxbow are central elements to the scheme. To bring these natural processes to the attention of the school community access to the water is provided in the design through boardwalks, paths, walkways, and water side access platforms.</p> <p>c. The entries to both the junior and senior schools are articulated in the landscape through a combination of the architectural design and the use of the linking arbour. The entry points into the school are primarily through the Administration buildings, where visiting parents, service providers etc are required to sign-in before entering the school. For students, where security controls are less – the entry points through and beneath the arbour mark the threshold into the Spiritual and Learning Precinct. The expression of the Arbor beyond the façade of the Junior Admin building provides the northern entrance with prominence and the southern (senior) entry is associated with the significant sized entry plaza, the proposed café and the viewing deck over the water's edge. The linking arbour into the heart of the school leads visitors through to the Spiritual and Learning Precinct. In both instances the principal campus entry points are clearly identifiable.</p>

4	The Masterplan Motif: Community, represented by use of the Aboriginal crescent symbol for gathering, is not clearly reflected in the proposed orthogonal site strategy, which has both a north-south orientation, and an alignment to Wine Country Drive. Explore an alternative orientation for the Library / Chapel building at the north-west corner, and the Administration building at the southern campus entry to better reflect the crescent motif, address key corners and reduce the extensive building elevation to Wine Country Drive.	<p>The Administration building (D) has been repositioned to address Wine Country Drive and the southern Entry driveway approach into the Campus. The building is rotated to align with the existing Trade Training Centre building (E) and the Substation building that needs to be maintained, the entry axis from the wetland boardwalk (carpark pedestrian route) is strengthened, creating a long vista into the central area of the campus.</p> <p>A processional approach along the boardwalk to the school is created by directing the pedestrian across the wetland footbridge, passed the Café (joined to Substation) to the Administration forecourt. At this point, three pathways converge that lead into various areas of the school. The main axis takes you through a yellow threshold structure signifying entry into the centre of the campus.</p> <p>While the position of Library-Chapel is maintained as per the original masterplan, the facade to the north and west is peeled back to reveal the glass facade of the main internal space. This gesture addresses the corner position overlooking the pond and the Wine Country Drive/Lomas Lane intersection.</p>
5	Concern is raised that the location of on-grade car-parking at the southern campus entry point will congest the entry experience and compromise initial vistas of the wetland. Reconsider opportunities to relocate the carpark elsewhere on-site and prioritise pedestrian amenity, given that the proximity to the central part of the campus is not considered fundamental.	<p>The required carparking of the Campus is significant and needs to be located above the 1in100 year flood line. There are limited locations where it can be located in order to provide reasonable travel distances for pedestrians from their cars. Care has been taken to reduce the visual impact of the carpark through landscaping. The pedestrian experience from the carpark into the school has been prioritised through an elevated walkway across the wetland, that provides a processional approach into the school.</p> <p><b>(Background to this is that no one walks to this school. The surrounding streetscape on which the Campus is positioned is not pedestrianised. It is an 80km/hr rural commuter road absent of footpaths.)</b></p>

## 11.2.4 SESSION 02 FEEDBACK

GANSW ADVICE & RECOMMENDATIONS	DESIGN RESPONSE
<p>6 In relation to access, the entries, wayfinding, landscape amenity, security, and so on, provide careful analysis to demonstrate:</p> <ul style="list-style-type: none"> <li>a. How interim conditions will be managed</li> <li>b. The architectural and landscape response during the interim.</li> </ul>	<p>The existing surrounding landscape will be retained and enhanced during the long development phases of the Cessnock campus. The internal landscape spaces will be developed as the adjacent buildings are developed and each new build will have an associated landscape. These development precincts have been illustrated in the staging diagrams. The design response for the development of the external spaces as articulated in the Landscape Design package will not change in the interim or as the scheme develops and the campus grows. The intent of the landscape architectural design is to provide long term robust and resilient outcomes. The development of the landscape will be undertaken in a sequential series of precincts, each adding additional value to the fit and function of the school.</p>
<b>ARCHITECTURE</b>	
<p>7 Review the western elevation which presents an extensive unvaried building length along Wine Country Drive.</p> <ul style="list-style-type: none"> <li>a. Consider reorienting the two end buildings, refer point 4.</li> <li>b. Introduce façade articulation to mitigate the visual bulk of the builtform and add richness and rhythm to the composition of the elevation.</li> <li>c. Review the architectural expression of the Library / Chapel to clearly reflect its use and internal layout.</li> <li>d. Explore opportunities to maximise the quantum and/or size of the façade perforations to maximise daylight while still ameliorating noise.</li> <li>e. Provide an elevation to Wine Country Drive illustrating points a-d.</li> </ul>	<p>The western elevation has been reviewed with the following outcomes:</p> <ul style="list-style-type: none"> <li>a. The Admin has been re-oriented, please refer to point 4 response above.</li> <li>b. The roof of the Tiered Learning Area in the new Senior Building has been expressed in colour and form to reflect its' heirarchy within the building.</li> <li>c. Architectural expression reviewed. The previous façade treatment has been peeled back to reveal the glazed main Chapel volume within.</li> <li>d. The building faces due west and this harsh aspect, combined with the noise from the road, led to the new Senior building's facade perforations, following the same system as in the existing (recently completed) Senior building of which feedback on amenity has been positive.</li> <li>e. Elevation amended and replaced in submission.</li> </ul>
<b>SUSTAINABILITY AND CLIMATE CHANGE</b>	
<p>17 8. The central open space in the Senior School buildings delivers light and natural ventilation to the adjoining spaces on level one, but not to the ground floor. Liaise with the sustainability consultant to explore how this central space might be developed to deliver light and ventilation to the ground floor also.</p>	<p>Noise and fire rating issues have restricted the central open space being connected over floors. There is considerable cross ventilation provided to each floor in the new Senior building.</p>

## 11.3 LIST OF CONSULTANT REPORTS

### **Environmental Impact Statement**

Barr Planning

### **Site Survey**

Marshall Scott

### **Architectural Drawings**

SHAC

### **Architectural Design Report**

SHAC

### **Landscape Design Report**

Moir Landscape Architecture

### **Landscape Plans**

Moir Landscape Architecture

### **Visual Impact Assessment**

Moir Landscape Architecture

### **Arborist Report**

Accurate Tree Assessments

### **Civil Engineering Drawings**

Northrop Consulting Engineers

### **Civil Engineering Plans - Road Works**

Northrop Consulting Engineers

### **Sediment and Erosion Control Plan**

Northrop Consulting Engineers

### **Traffic and Accessibility Impact Assessment**

Stantec

### **Flood Impact Assessment**

BMT

### **Stormwater Management Plan**

Northrop Consulting Engineers

### **Ecologically Sustainable Development Audit**

Steemsen Varming

### **Social Impact Assessment**

AIGIS Group

### **Aboriginal Cultural Heritage Assessment (ACHA)**

McCardle Cultural Heritage

### **Acoustic Assessment Report**

RAPT Consulting

### **Geotechnical Report**

RCA Australia

### **Statement of Heritage Impact**

Heritage Now

### **Waste Management Plan (Construction and Operation)**

MRA Consulting Group

### **Accessibility Assessment**

Lindsay Perry Access

### **Connecting with Country Engagement Strategy**

Heritage Now

