### 02.11 SITE PHOTOS



# Design Evolution



#### **MASTER PLAN + BVN ENGAGEMENT** 03.01

#### MASTER PLAN

The brief and siting for the project was laid out within the Master Plan work developed by MGS Architects and the college between 2019-2020.

### Pymble Ladies' College Master Plan Final Report

#### **BVN ENGAGEMENT**

Following an EOI process and a design-based RFT in 2020, BVN was selected by the college as the architects for the Grey House Precinct.

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BVN's scheme was located on the Master Plan selected site with an emphasis on "The Outdoor Room" at the centre of the precinct. This space was envisaged to be a large, flexible outdoor space where all the frontages of the various disciplines were to address - creating a social and engaging place where users can spill out from the indoor spaces.

The Outdoor Room, and the two masses of the building that bound it, is sailed over with a large canopy which would provide the college with an all-weather gathering space; identified within the Master Plan report as a type of space lacking on the extensive campus.

The Grey House Walk access from Pymble Avenue engages with this space, using the terraces and stair circulation within to traverse the steep topography and the screen colour chosen to relate to the heritage buildings on the site.

The key principles of the scheme were identified as follows:

#### **CREATING PLACE**

- The Outdoor Room
- Connected to the College Heart
- Clear identity
- Shared and activated ground plane building on the school's outdoor space and landscape
- Respectful to its context; heritage and landscape

#### **RATIONAL + FLEXIBLE**

- A loose fit building
- Adapting to inevitable change
- Install and not construct
- Building for the future
- Simplified construction methodology

#### **SUSTAINABILITY**

- The building as landscape
- The building as teacher
- A focus on building systems and planning rationale
- Connection to Country

#### **JOYFUL + INSPIRED**

- A building that is exciting
- Engaged learning environments
- Diversity of spaces
- Empowering the girls to make choices and change their learning environments
- Bringing the landscape into the building with space to 'run free'



#### SUITABILITY OF THE SITE + ALTERNATIVES CONSIDERED 03.02

The College Master Plan has made consideration into the location of the project site through three key principles. These include:

#### **BIODIVERSITY VALUE**

The college Master Plan sets out clear principles in relation to ecology; to protect, enhance and promote the biodiversity values of the collage.

The proposed project site lies within an area of "low" biodiversity value, and therefore is expected to have reduced impact on ecological values of the college. The trees in this area are predominantly of "low significance" as identified in the Arborist Report.

#### **COLLEGE PRECINCTS**

The Master Plan breaks down the College into three distinct precincts; the Ovals Precinct, the Teaching Precinct, and the Co-Curricular Precinct.

The zoning of clear precincts look to assist in a clear wayfinding strategy and travel distances between lessons for the students and staff over the expansive college; and improve safety and timetabling issues currently on site.

Co-curricular activities to be assigned precincts for performing arts, dance, music; Robotics Hub and Sports which are time-tabled and additionally accessible to boarders after-hours.

#### **BUILDING CONDITION**

An assessment of the campus by the College has identified deficits in the delivery of key outcomes due to building condition. Notably, urgent and short to medium term refurbishment or replacement is required, predominately in the Middle, Upper and Senior Schools; specialty teaching spaces; boarding precinct; areas of the Junior School; and in-campus well-being precinct. The Master Plan notes the importance of heritage buildings and will consider sensitive refurbishment or adaptive reuse of these buildings, where appropriate.

The location of the Grey House Precinct has been chosen as there are currently temporary teaching spaces on its current site, which will allow the College a decanting strategy into upgrading buildings across the campus which are no longer meeting the College's teaching and learning requirements.



BIODIVERSITY VALUE (SOURCE: DRAGONFLY)



COLLEGE PRECINCTS (SOURCE: MGS ARCHITECTS)



COLLEGE BUILDING AGE + CONDITION (SOURCE: MGS ARCHITECTS)

28

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#### 03.03 DESIGN EVOLUTION

Throughout the design process following BVN engagement, extensive consultation and engagement with the college and their communties were conducted. These include:

- Project Control Group Meetings
- Project Usergroup Workshops
- Student Workshops
- Indigenous Working Group Workshops
- Neighbour Consultations
- Weekly Design team Meetings with Consultants

The scheme at RFT Phase (Scheme 1) and its internal program block and stack was tested with the various stakeholders, which led to a developed understanding of access requirements and functional relationships of each department. The stakeholders feedback resulted in the development of Scheme 2 at Concept Design.

Scheme 2, with larger departments such as Dance above ground, resulted in a large building mass, which created bulk and scale concerns in relation to neighbouring buildings and properties, as well as overshadowing to outdoor play spaces.

The design progressed into Scheme 3, which looked to embed the larger, learning spaces which do not require ample daylighting into the landscape, reducing scale and impact of the building, yet still providing the required access opportunities.

Scheme 3 was developed to the proposal outlined within this SSDA application.





MASSING STUDIES AT RFT PHASE

SCHEME 1 - AT RFT PHASE

SCHEME 2 - AT CONCEPT

SCHEME 3 - AT CONCEPT DEVELOPMENT

# Proposed Development



#### 04.01 DESIGN APPROACH

Our scheme is based upon a holistic approach to the complex layers of use, aspiration, need, character and history of the college and brief. It recognises the needs of the college and its desire to create a world-class educational facility whilst continuing to reinforce the unique environment of the college campus and its connection to the natural environment.

#### ARCHITECTURAL AND URBAN CONTEXT

The College site occupies a total area of approximately 20 hectares (ha) and exhibits street frontages to Avon Road to the north and west. The eastern site boundary directly adjoins the rear gardens of the dwelling houses and residential flat buildings in Pymble Avenue. The campus presents itself to the neighbouring street as a collection of school buildings and sports facilities set within a bushland setting.

The Grey House Precinct is situated at the periphery of the central Teaching Precinct of the College site, where it adjoins the main College to the north, the eastern site boundary, the Centenary Sports Precinct to the south-west and the Boarding Precinct to its west.



#### **HERITAGE**

The school site, with a number of historic as well as contemporary buildings, is set within a landscaped setting. The Pymble Ave Conservation Area is of heritage aesthetic significance due to its group of fine, predominantly Federation to mid to late twentieth century period homes, set within spectacular blue gum high forest streetscape.

Refer to the Heritage Report prepared by NBRS Architecture for more information.

#### SAFETY AND SECURITY

The site is situated well within the College campus, with the College having a 24-hour on-site security team and a network of CCTV surveillance across the campus. The scheme is designed with safety in mind, with extra consideration to areas which may require fall protection. Refer to the section on CPTED in this report.



#### SUSTAINABILITY

The proposal uses passive solar design principles to reduce heat load on the building, including sunshading devices and green-roof to reduce heat island effects. The building's floorplate has been minimised in depth with a central skylit atrium to provide natural light into the teaching spaces and has abundant external learning and play areas. Internal spaces are naturally ventilated with operable glazing. Rainwater is harvested and can be reused. The project is benchmarking a 5 star Green Star design. Refer to the ESD report prepared by Stantec for further information.

#### ACCESSIBILITY

A simple approach to the building's underlying design supports universal accessibility to all spaces. This includes no steps on the ground floor, providing the building's lift access to navigate the College's steep topography, wide circulation spaces and matching levels with the surrounding footpaths with feathered grading. The site has a significant fall across it, hence landscape levels are managed to provide accessible pathways. Refer to the Access Report prepared by MGAC.

#### FORM, MASS AND HEIGHT

The proposal is a five level building with its lower levels embedded within the ground, due to the site's sloping topography. The building mass is articulated by a masonry component which has the visual appearance of grounding the lower levels, and a lighter, ceramic screen and glazed

facade to the upper levels. The sunshading screen creates depth and playfulness to the facade.

The mass of the building is also articulated further with planter beds that appear on the facade up the central Outdoor Room.

#### MATERIALS AND COLOUR

The base and solid elements of the project that engage with the ground plane are brick - robust, durable and reminiscent of the solidity of the heritage buildings on the site. Above this, simple shopfront style glazing and lightweight partition walls wrap the educational and administration spaces. Colours are chosen to align the building with the natural landscape elements and built heritage setting of the college.



#### EDUCATION MODEL

The framework for the learning vision for the Grey House Precinct is to create environments that encourage both students and teachers to interact differently with each space, maintaining flexibility for evolving pedagogy and technology and connecting to the unique surroundings of the college campus. The design addresses the unique needs and requirements of each of the programs key learning requirements and support units. The design provides flexible open plan learning environments that facilitate collaboration, curiosity, team teaching and connections between programs and floors.

#### LANDSCAPE

Natural landscape spaces suitable for play and discovery occur at the various ground planes and outdoor learning spaces. These are connected via planters located along the external circulation. Native plants have been chosen that are low maintenance and hardy, some of which are edible.

Refer to the Structural Engineering report prepared by TTW.

Power, communication, hydraulic and mechanical services are provided in accordance with the brief, using a lighttouch, easy maintenance approach through considered and accessible locations of plant equipment, which is all liftaccessible or on grade at ground level

Refer to the Building Services Report prepared by Stantec for Further information

The project envisages the use of the existing College's central waste management facilities. No additional servicing bays are required given the servicing demand for the ELC is expected to be minor and would be catered for by the multiple existing loading docks and service bays within the the College.

A high level of amenity is provided for the various users of the facility through the provision of differing types and scales of space - covered, uncovered, protected, tiered or open. The landscape design provides areas of shade and the massing of the building provides terraces that engage with the surrounding topography and educational uses. Places of gathering, discovery, learning and play are provided throughout all levels of the landscape.

Our holistic design approach balances these elements and the connections between them, creating a joyful and sustainble design outcome for Pymble Ladies College.

Refer to the Landscape Architecture Report prepared by OCULUS.

### **STRUCTURE**

A concrete structure is utlised. This enables the long-span spaces for areas like the Dance Studios with conventional spans for the floors above these. The concrete structure is incorporated logically into the design of the Homebases to minimise columns within the open-plan learning spaces.

### SERVICES

#### **OPERATIONS**

#### AMENITY

#### 04.02 **BUILT FORM + MASS**

The built form of the proposal responds to the existing school and neighbouring buildings, the college's master plan vision, the functional and operational requirements of the college and its communities.



#### FORM

The proposal is a five level building with its lower levels embedded within the ground, due to the site's sloping topography.

In contrast, the upper levels form an L-shaped plan addressing the building's main entrance towards the College heart to its north, and legible as a simple volume to neighbouring properties to the south. The upper volume is setback to align with the existing PE Centre to its southwest, a 19.5m setback to the boundary line. The lower levels, which are to be heavily landscaped, are setback 12m from the boundary line.

The form is articulated by a masonry finish for the levels which engage with the ground, compared to the lighter, screen and glazed elements of the upper volume. The Outdoor Room, which spans across the five levels of the building, is articulated on the facade with a subtle, sweeping curve gesture and the opening up of the facade fins to allow the atrium terrace planting to spill onto the facade.



#### MASS

Due to the steep slope of the site and embedding the lower levels of building within the landscape, the building is legible as a five level building from the east and three storey building from the west.

The building mass is articulated by:

- · The masonry facade to the lower levels which engage with the ground plane and a lighter, ceramic screen and glazed facade to the upper levels
- · The lower levels are expressed as terracing landscaped planes that follow the slope of site
- The ceramic screen extending over the central Outdoor Room, breaks up the building mass into two smaller wings
- The subtle curve gesture in facade of upper volume to articulate the main entry points
- A two storey mass responding to the scale of the historic Goodlet House to the north of site, articulated with solar panels and extensive green roof



#### BULK

The building presents a 62m long elevation to neighbouring properties to the south. The elevation is relieved by the central Outdoor Room which breaks up the bulk of the building.

The bulk of the building is further reduced by introducing a masonry facade to the lower levels which engage with the ground plane and a lighter, ceramic screen and glazed facade to the upper levels. The lower levels are expressed as part of landscape that terraces down to follow the landscape.

The building is approximately 21m tall, measured at the lowest point of the project site to the east. The surrounding College facilities to the west of the project are approximately 10-12m tall, which includes the Jeanette Buckham PE Centre and the Aquatic and Fitness Centre. These buildings however start at 8.5m above the lowest point of the Grey House Precinct, therefore the proposed building, from most angles, appear to be between 3-4m higher than these buillings.



#### HEIGHT

Together they form a collection of facilities that form the Co-Curricular Precinct of the College campus.

### 04.03 MASSING + FORM IN CONTEXT



### 04.04 BUILDING SETBACKS

The Grey House Precinct is not situated in proximity to any street frontages, instead being well setback within the college site.

The Grey House Precinct is situated near the southern site boundary, being a shared boundary with the residential properties on Pymble Avenue. The proposed built form has been setback a minimum of 12m from the boundary to the lower levels and tucked within the topography, with increased setbacks provided at upper levels to 19.5m to align to existing school buildings within this area.

Landscaping, including canopy tree planting, would be provided in the setback zone. The proposed setbacks are intended to integrate with the local context and respect neighbouring amenity.



## 04.05 ELEVATIONS



NORTH ELEVATION



SOUTH ELEVATION









BVN / PLCGHP / ISSUE B / OCTOBER 2021

## 04.06 ELEVATIONS



EAST ELEVATION









36





BVN / PLCGHP / ISSUE B / OCTOBER 2021

#### 04.07 KEY DESIGN STRATEGIES





**EMBED INTO GROUND** Utilising the steep topography, embed the larger floorplates into ground to reduce bulk and scale.



**TERRACED GROUNDPLANES** Creation of laandscape terraces to provide various programs within building and direct ground access.



#### **POROUS SITE**

Creation of a porous ground plane and utilising the building's circulation to provide equitable access through the campus.





#### ACCESS TO OUTDOORS

Creating usuable and protected outdoor spaces for all levels of the building to spill out onto.



#### ARTICULATING FACADE

Articulation of building mass into various elements and carving away edges to reduce monolithic appearance.



#### CONNECTION TO NATURE

Providing landscape gardens throughout the precinct to create geniune connections to the landscape from internal environments, including courtyards and landscaped roofs on upper levels.



#### ALIGN SETBACK

The upper levels of the building to align with the existing college buildings, providing opportunity for separation to neighbouring properties along southern boundary.



#### PLANT SCREENING

Providing visual, acoustic and wind buffer to the southern boundary, whilst reinstating and connecting small patches of Sydney High Blue Gum Trees in this area of college.

### 04.08 ABORIGINAL CULTURE AND **HERITAGE**

Please refer to the Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared by Artefact.

#### **DESIGN FOR COUNTRY**

BVN approaches the Design for Country through an evolving framework that recognises the layers of use of the site. Critically, our approach is that caring for Country is necessary to maintain a sustainable presence and keep us all alive. In minimising energy-use we reduce the draw on the energy in Country. In current times, attempts have been made to slow down the draw but there is also a growing global awareness that this is not enough. We need to bring higher ambitions that seek to not just reverse the energy draw on Country but use architecture to collect energy and put it back into the greater system.

It identifies what is important, what should be considered, where the prompts for design are. It also reinforces why people of that Country are critical to guiding and teaching visitors about their Country. So much knowledge is in the original language, it describes concepts and relationships that English cannot fully convey. For this reason, an understanding of Country that comes through people and their language, establishes a genuine architectural origin right here within Country.

Sustainability is derived from a spiritual awareness and acknowledges that cultural sustenance and the greater wellbeing of people is also maintained by the psychological and physical conditions carried by Country.

The ACHAR report produced for the Pymble Ladies College Grey House Precinct site notes that the site does not have specific importance, however within the design for Country framework all sites require a thoughtful layered approach to design.

## ELEMENTS OF DESIGNING WITH COUNTRY

GANSW research to date suggests three essential elements of designing with Country: nature, people and design.

The interesting binary relationships across these three elements offer different design approaches:

1 – Architecture considers design and people (informed by nature). Architecture without people is just a sculptural object.

2-Passive design considers design and nature, and when used by people becomes environmental design.

3-Biophilic design considers the innate relationship between people and nature. Informed by design, this relationship could be understood as a genesis for Indigenous architecture.





#### A LAYERED APPROACH

We work with a layered approach to designing for Country.

#### LAYER 1:

Country research: to assemble an understanding of the geology, hydrology, flora and fauna and interdependence with Aboriginal people and culture. This layer is addressed in the ACHAR

#### LAYER 2:

Infrastructural research: to assemble and understand the planning instruments defining and controlling the built environment and reveal constraints and opportunities. This layer is addressed in the EIS and various policy and framework documents that have informed the design

#### LAYER 3:

Built environment research: to assemble and understand the built environment and context; collate material to enable a comparative analysis. This layer is addressed by the project brief, the surrounding built context and evolving masterplan of the precinct

#### LAYER 4:

Explored ideas: to explore and identify options that draw from all layers starting with Country as a place specific driver for the project. This layer is fundamentally addressed in the design of the project. Community fabric rather than be a 'statement building'. It is intended to be part of the local community for many decades - its design approach, materials, scale and colour are reflective of this idea.

#### ABORIGINAL HISTORY

Prior to European settlement the college was home to the Guringai people. Darkinjung and Guringai people's traditional lands were interleaved and they came together to access resources, so there is some debate as to the Traditional Custodians. The cose relationship of Darkinjung and Guringai people facilitated a close, cooperative relationship between the two clans and reciprocal sharing of land and resources.

The Cammeraigal people also traversed the Pymble College site as they would travel from grounds at Cowan Creek to the Parramatta River via Pymble - passing west through the land where Pymble Ladies' College now stands, through the Lane Cove Valley and North Ryde - referred to as the Cammeraigal walking track.

#### CULTURAL REPRESENTATION IN GHP

The Grey House Precinct design provides a proposal that is deeply embedded in its landscape and ecology, that celebrates its layered history and is age appropriate and responsive to the needs of the users.

Throughout the design process, consultation with staff, students and local community has demonstrated the strong focus on people, place and wellbeing that this facility will play. The Layered approach was applied to the design process of the GHP with initial formulation of a framework that sets out the project in relation to the Aboriginal Country it belongs to . Exploration of geology, flora and fauna, infrastructural research, built environment historical research and then an understanding of Aboriginal people and culture enables the creat a place specific design response.

Consultation with Uncle Laurie and some Indigenous students identified similiar brief elements that have been carried into the design including:

- Support the health and wellbeing of country through replanting an reforestation
- Access to nature throughout
- Yarning circles in the rooftop courtyards
- Native beehives
- Local native flora that indicates when fauna is available
- Educational plants and native foods (medicinal and relaxation within Health and Wellbeing)
- Engraving wayfinding throughout the building
- Local and recycled materials
- Planting plaques in landscape to educate
- Fallen trees re-used as play areas as equipment, opportunities for making and storeytelling
- Building pallete references landscape setting
- Light, bright and open breathable building







3VN / PLCGHP / ISSUE B / OCTOBER 2021

### 04.09 TREES + LANDSCAPING

Please refer to the Landscape Drawings and Design Report prepared by OCULUS for detailed information.

The landscape has been designed to create a vibrant and welcoming place for the College and its community, stitching the formal courtyards at the centre of campus, to the bushland setting at its peripheries.

The landscape has spaces to gather, to play, to sit and to climb. Natural materials including sandstone have been used to create these different places. Native plant species endemic to the area have been chosen and include trees and understorey.

The planting scheme has been developed to tie into the existing established framework.

#### **TREE REMOVAL + REPLACEMENT**

The proposed development requires the removal of 29 trees; most of which have been identified by the Ecological (Arborist) as exotic species and hold little biodiversity value.

The project proposes a 1-to-1 tree replacement with planting that would support and reinstate the Sydney Blue Gum High forest and its understoreys.



EXTRACTS FROM LANDSCAPE DESIGN REPORT (SOURCE: OCULUS)



#### Tree Replacement

PLC has an exisiting and well considered tree planting and replacement strategy. Over the past 12 months alone, it has introduced an additional 50 trees to the campus, carrying on it's long stewardship of the site and respect of the existing

In addition to the above, the school is undertaking landscape master planning process with a long term view to integrate tree planting strategies with a detailed landscape overlay, ensuring the campus retains elements of it's historical landscape character, while embracing opportunities to develop modern learning environments with physical connection to their natural surrounds.

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### 04.10 FACADE

#### FACADE DESIGN PRINCIPLES

The facade design principles are aligned to help deliver the overall project principles. They provide for:

- Sustainability
- Response to heritage
- Privacy and security
- Character and identity
- Maintenance

#### FACADE DESIGN

The facade is arranged into four main elements:

- A brick base to the lower levels engaged with the ground plane. These levels are to provide visual grounding of the building, forming landscaped terraces as the building moves up the topography. The brick base contrasts with the lighter facade elements of the upper level. It is further punctuated with a series of glazed openings/doors into the OSHC and Dance spaces, assisting with the programs within these spaces to flow from inside to outside.
- 2. The weather-line of the building is made up of a rainscreen made of non-combustible aluminium cladding panels and thermally broken glazing system. This combination allows the controlled entry of natural light, balancing this with a strong thermal performance to suit the ESD requirements.
- 3. The sunshading protection to glazing and cladding areas is in the form of ceramic fins which spans floor to floor. These sit on angled brackets, which are then fixed to the structural slab. The system serves several functions; it creates depth to the facade providing architectual legibility, solar protection and visual privacy. The fins are angled, where required, to provide solar protection and visual privacy in front of glazing, which also gives the facade a lyrical gesture; a play of shadows.
- 4. Large picture windows with aluminium shrouds providing relief to the sunshading fins. The glazed DGUs here is proposed to contain a layer of Interlayer mesh, providing solar and glare protection to the internal spaces. The profile of shrouds are subtlely curved on plan, a gesture responding to the brick arches openings and collonades of the historic College buildings.
- 5. An anti-climb tensile wire system to the outdoor room at the centre of the building, providing fall protection to the upper outdoor spaces of the building, as well as providing a lifeline for planting to climb or droop down. At the base of the tensile wires is a planter containing climbing plants.













### 04.11 FACADE DETAILS





FACADE DETAIL AXONOMETRIC

/ PLCGHP / ISSUE B / OCTOBER 2021

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## 04.12 MATERIALS





#### **KEY - MATERIAL PALETTE**

Frameless glazing with aluminium hood Ceramic shading fins with insulated rainscreen Aluminium framed glazing Planter bed Brick cladding Interlayer glazing

## 04.13 MATERIALS



Concrete framing provides legibility to structure, increases building flexibility and building as teacher

### LEGEND

01. OUTDOOR CIRCULATION VERANDAH

02. JUNIOR SCHOOL

03. HEALTH AND WELLBEING

Glazing layer of the facade, attached to the frame, let's light in acting as the permeable skin while the blades provide shade from hottest highest sun

Picture windows frame views out, while locating functions within and articulating the facade
Laminated mesh glazing to provide shading to minimise glare & visual privacy to learning environments

Output
Output</td

# 04.14 FACILITIES WITHIN BUILDING

The Grey House Precinct project looks to provide contemporary and flexible learning environments and associated spaces to cater for the Junior School, Dance, Out of Hours Care (OSHC), a new Early Learning Centre, and the Health and Wellbeing Centre. The following is provided for each of the departments::

#### JUNIOR SCHOOL & STEM

- 16 Home Bases (flexible teaching space) and its associated spaces (Focused Learning Spaces, Breakout)
- STEM Lab
- Staff Space
- Amenities, Storage and Lockers
- Covered outdoor learning spaces (COLA)

#### DANCE

- 6 Dance Studios; 2 of which is able to operate as a "Blackbox" studio
- Foyer + Breakout
- Staff Space
- Meeting Room
- Amenities, Storage and Lockers
- Covered and uncovered outdoor areas

#### OUT OF SCHOOL HOURS (OSHC)

- Indoor Play Space for 150 Junior School students (includes Hall, Dining, Craft, Movie and Study Rooms)
- Staff Space for 10 staff
- Meeting Room
- Amenities, Storage and Lockers
- Covered and uncovered outdoor play spaces

#### ELC

- Indoor Play Space for 90 students
- Staff Space to accommodate 22 staff
- Meeting Room
- Amenities, Storage and Lockers
- Covered and uncovered outdoor play spaces exclusive to ELC

#### HEALTH + WELLBEING

- Pychological facilities and staff amenities for College's Health services (physical and mental health).
- Visits from 150 students per week, supported by;
- 2 nurses,
- 1 x doctor
- 6 psychologists
- Reception and waiting room,
- 4 medical consulting rooms,
- 4 consulting rooms and
- 2 general use health services spaces.







LEVEL 00

LEVEL 01



ELC Playground Staff Spaces

STEM Lab

Dance Studios

Early Learning Centre

Health + Wellbeing

Out of School Hours Care (OSHC)

Junior School Learning Spaces

Covered Outdoor Learning

- Amenities

PROPOSED DEVELOPMENT





#### 04.15 EDUCATIONAL PRINCIPLES

The learning vision for PLC is for a world class education that prepares the students for real-world challenges and imbues them with the confidence to strive for a better world and the courage to make a difference.

Grey House Precinct's unique variation of programs of early learning, after school care, junior school, dance and health and wellbeing offers opportunity create environments that place student at the centre of their learning and college experience.

The framework for the learning vision for the Grey House Precinct is to create environments that encourage both students and teachers to interact differently with each space, maintaining flexibility for evolving pedagogy and technology and connecting to the unique surroundings of the college campus.

The design addresses the unique needs and requirements of each of the programs key learning requirements and support units. The design provides flexible open plan learning environments that facilitate collaboration, curiosity, team teaching and connections between programs and floors.

#### GREY HOUSE PRECINCT PRINCIPLES

- 1. A world class education that prepares the students for real-world challenges and imbues them with the confidence to strive for a better world and the courage to make a difference.
- 2. Create a diversity of learning settings in open plan learning neighbourhoods
- 3. Embracing with reggio Emelia approach in early learning and beyond
- 4. Pastoral Care create safe spaces of retreat and reflection for students health and wellbeing
- 5. Connecting to the unique natural surroundings of the college campus
- 6. Maintain flexibility for evolving pedagogy and technology over time

#### **OPEN PLAN LEARNING NEIGHBOURHOODS**

The learning spaces in Grey House Precinct use a learning community or neighbourhood model. Where the equivalent of four home bases are put together to create a shared space with a diverse range of settings. This typology creates stimulating collaborative and cross-disciplinary exchange supported and surrounded by quiet retreat spaces, playful nooks and presentation spaces. Wet area break-out space or 'maker space' labs create places for testing and making. Open learning area containing a diverse range of settings for sitting, standing and playing.

#### **REGGIO EMILIA APPROACH**

- Student centred Student can construct their own learning
- Learning through exploration and interaction with place
- Curiosity students environment is also their teacher
- Experiential is a place to make, explore and investigate.
- Collaboration Learning through interaction with their communities
- Guided a place to learn with an expert.
- Independent is a place to learn by myself.

#### STUDENT HEALTH & WELLBEING

Pastoral care is a key principle of PLC and at the centre of the students experience of the college. Grey House Precinct creates informal and formal spaces for the health and wellbeing of students. The design facilitates formal consult rooms to see school doctors, nurses, and mental health specialists. While also creating places for retreat, reflection, and connection to the natural environment throughout the building.



2021 OCTOBER ~ ш / ISSUE PLCGHP 3VN

#### 04.16 ENVIRONMENTAL AMENITY

#### NATURAL DAYLIGHT

The proposed block and stack locate programs that do not require extensive daylight, such as plant areas, Dance performance studios and areas of Out of School Hours Care (OSHC), into areas of the building where daylight is limited. This allows areas which students and staff occupy in longer duration and on a regular basis opportunities to more natural daylight, e.g. general learning spaces.

The building's floorplate is broken down into two smaller floorplates with the incorporation of a central Outdoor Room, a skylight-lit outdoor learning area and circulation space. This allows daylight to penetrate into the deeper areas of the floorplate. Breakout spaces, amenities and circulation areas have been pushed towards the internal of the floorplates, giving learning spaces and areas where users will occupy in longer duration, priority to areas closer to external facade.

Facade screening in the form of external sunshading fins and interlayer mesh screen within large "picture windows" allow larger window openings to bring daylight into the floorplate without excess solar heat gains.

#### VENTILATION

The proposed building has been designed to be naturally ventilated, with operable glazing to all teaching spaces. Assisting the flow of air are user-controlled ceiling fans. The proposed ventilation system includes visual indicators to let users know that the external conditions suit natural ventilation.

#### ACCESS TO LANDSCAPE

The terraced groundplanes allow learning spaces on three levels, Levels 0, 1 and 2, direct access to outdoor areas with geniune landscaping.

The upper levels, Levels 3 and 4, have access to the Outdoor Room and courtyard spaces. These spaces are proposed to be filled with native plant species within fixed planter beds that climbs and traverses the system of tensile wires.

Additionally, the solar panel roof is landscaped with extensive green roof underfoot to prevent heat island effect, and provide a green aspect for the users of the Health and Wellbeing department to look onto.

All teaching spaces open on to covered outdoor learning areas (COLA) and to the external covered circulation, which has a mix of planters and seats along the edge overlooking

the courtyard. Planters are also provided at the base of the main stairs and the screen surrounding the court.

#### ACOUSTIC SEPARATION

The proposal looks to provide acoustic barriers to areas which face out onto the neighbouring properties along the southern boundary, such as the Early Learning Centre's playground and the outdoor terrace to Junior School learning spaces.

Landscape screening and buffer zone is also proposed within the 12m setback zone to provide further acoustic and visual privacy to neighbouring properties. The playground space is also to setback from the boundary line by 3m, providing a maintenance accessway which is to be out-of-bounds to students within this zone.

More active outdoor learning and playground spaces have been located away from the boundary line.

#### FUTURE FLEXIBILITY

Through architectural design, the College integrates flexibility and adaptability, allowing indoor and outdoor spaces to be used for a variety of purposes by a variety of user-groups with diverse needs.

The building has been designed to be a loose-fit shell - i.e. the concrete structure as simple as possible, with the internal walls to be lightweight and in modulation and kit-of-parts, where possible. This inherent flexibility would allow the College to readapt spaces as the teaching and learning needs of the College evolves over time.





#### 04.17 ENVIRONMENTALLY SUSTAINABLE DESIGN PRINCIPLES





BVN / PLCGHP / ISSUE B / OCTOBER 2021

The scheme incorporates a number of ESD principles in its design and operation. These include:

- Target to exceed NCC 2019 Section J minimum requirements
- Benchmarking a 5 star Green Star Design, representing Australian Excellence in developments
- Passive design elements including sunscreening
- High performance buillng envelope for thermal comfort, natural lighting and reduced energy use for couling and heating
- Reduced water consumption through the selection of high WELS rated fittings
- Rainwater storage and reuse for irrigation
- Assisted natural ventilation through operable windows and ceiling fans
- High efficiency light fittings and light fitting placement to • reduce light pollution
- Readily accessible external spaces for teaching and play areas
- External covered circulation
- Incorporation of soft landscape elements
- Assessment of the projected impacts of climate change on the project
- Incorporation of photovoltaic cells on roofs (approx. 70kW) • and solar hot water system
- Incoporation of extensive green roofs under photovoltaic cells on roof to reduce heat island effect
- Incoporation of green roofs over conditioned spaces to reduce heat island effect
- Use of low VOC materials •
- Operational / management strategies to minimise energy use including display of relevant performance data and operational policies

For a detailed description of the ESD strategies and how these are implemented please refer to the report prepared by Stantec.



OUTDOOR LEARNING SPACES WITH BREEZEWAYS



PHOTOVOLTAIC PANELS RAISED OVER EXTENSIVE GREEN ROOF FOR COOLING

