THE KING'S SCHOOL

CONCEPT AND STAGE 1 APPLICATION FOR THE REDEVELOPMENT OF THE KING'S SCHOOL

ARCHITECTURAL DESIGN STATEMENT



BVN

PURPOSE OF THE DOCUMENT

The report had been prepared in support of the State Significant Development Application for The King's School, SSDA No. SSD-48497708

This report has been prepared by BVN Architecture Pty Ltd with input from relevant other organisations and disciplines. It is to be read in conjunction with the architectural drawings, the EIS prepared by Urbis and accompanying appendices and reports.

VERSION CONTROL

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DRAFT	24.03.23	INFORMATION
DRAFT	21.07.23	REVIEW AND COMMENT
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Acknowledgment of Country.

We acknowledge the Burramattagal people, of the Dharug Nation. Who have always cared for the country that holds The King's School.

We pay our respects to your Country, ancestors and the community that maintains culture from the past, in the present and into the future.

INTRODUCTION

01

01.01 EXECUTIVE SUMMARY

PROJECT DESCRIPTION

This State Significant Development Application (SSDA) seeks consent for the staged redevelopment of The King's School, including:

Concept Proposal for the provision of new and upgraded facilities, including:

- Building envelope for a new Sports Pavilion within the western sports field precinct (subject to further detailed approval).
- Building envelope for a new Boarding House within the northern residential precinct to the north of the Doyle Sports Fields and adjacent building envelope for Staff Quarters (subject to further detailed approval).
- Building envelope for a new Day Boy House between Dalmas House and Burkitt House, including the associated relocation of Ryrie Road (subject to further detailed approval).
- Earthworks and the associated demolition of existing buildings and structures, and removal of trees and landscaping.
- Staged increase in staff and student numbers.
- Detailed Stage 1 works (as outlined below).

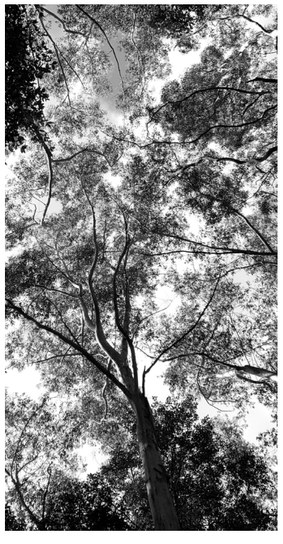
Detailed Stage 1 works including:

- Earthworks and the associated demolition and existing buildings and structures.
- Traffic upgrade works including the construction of a new vehicular entrance into the site from Masons Drive, new drop-off pick up facilities, internal access roads and increased car parking and bus parking.
- The construction of a new Staff Residence Building comprising residences for staff and their families within the Senior School Boarding Precinct.
- The construction of a new building for Science, Technology, Engineering, Arts and Maths (the 'STEAM building') within the Senior School and associated landscaping.
- The staged construction of new buildings required to upgrade the Preparatory School, including:
  - Construction of a new Performing Arts and Music Centre comprising a dedicated performance space and music practice rooms to the northwest of Horrocks Road.
  - Construction of a new General Learning Unit building comprising additional classrooms / general learning spaces adjacent to the existing dam.
  - Upgrades to pedestrian access throughout the school.
  - Staged increase in staff and student numbers.
- The removal and replacement of trees and associated landscaping.

THE KING'S SCHOOL - BACKGROUND

The King's School is Australia's oldest independent School, founded in 1831 . King's was established as a boys' school that would provide Australia with its next generation of leaders, through a community-centred ethos of humility and service.

The School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. The School is comprised of a Prep School to the West and a Senior School to the east. There are also a number of individual buildings throughout the site such as boarding facilities, heritage items, chapels, sports pitches and facilities and a series of staff and facilities residences.







EXTENT OF THIS REPORT

This report outlines the proposals for the BVN portion of works at the King's School

1. The SSDA scoping Masterplan
2. The Senior School STEAM Building
3. The Prep School General Learning Unit
4. The Prep School Performing Arts Building

This report should be read in conjunction with other supporting architectural design statements for the other developments as contained in the SSDA application.

1. The SSDA scoping Masterplan

The SSDA contains a number of individual developments. These are all captured with an SSDA scoping drawing. The scoping drawings are high level only. Further information for each component can be found in separate reports.

2. Senior School STEAM Building

As per the School's Strategic Plan (2019-2021) the intention within the Senior School is create four distinct academic clusters:

- STEA(M) - Science, Technology, Engineering, Art
- Global Thought Leadership- English, History, Languages, Philosophy, Biblical Studies
- Global Engagement - Geography, Economics, Business, Legal Studies, Cadets)
- Physical Engagement - PDHPE, Drama, Music

NB: Mathematics will support and engage all four clusters.

The King's School STEAM Precinct creates an innovative and challenging learning environment that models, teaches and drives creativity, innovation, initiative, thoughtful risk taking, diverse skill acquisition and inquiry. It encapsulates STEAM theories and practices including entrepreneurship, problem solving, design and critical thinking. The STEAM building is a major development within the STEAM precinct.

3. The Prep School General Learning Unit

A new general learning building which will be primarily for the Year 3-4 boys. the building is to be developed as a new 2 storey typology, with flexibility on pedagogy.

4. The Prep School Performing Arts Building

The Prep School has a renowned music department. New facilities are proposed to allow for future expansion and upgrade on their existing facilities. This comprises single tuition spaces as well as a small performance space for band rehearsal and Soiree evenings

DESIGN QUALITY

GANSW Design Guide for Schools and Better Placed, refers to the Education SEPP's seven key Design Quality Principles for designing schools to identify the following priorities;

- better fit
- better performance
- better for community
- better for people
- better working
- better value
- better look and feel

The development proposals have been designed to address these design quality priorities.

01.02 PROJECT VISION

The proposals have been developed and aligned to 3 main components; a previously commissioned Architectus Masterplan, Connecting with Country and the existing King's character and principles for the individual sites.





Architectus Masterplan

Architectus 2020 Masterplan identified a long term strategy for the School. Importantly it looked to unify the School through a series of precinct zones.

The First Phase of works, as part of this SSDA application look to align to the precinct areas and create a platform for future development

Connecting with Country

The design and client team have collaborated with Djinjama, who have enabled a thorough understanding of place through walking country, work-shopping the importance of country and outwardly engaging with the community.

The understandings of country is for entirety of the King's site, reaching to the bushland settings in the North, the built form of the School and through to Pennant Hills Road. The understanding of country informs design proposals for all individual projects as part of the SSDA application

Character & Principles

The King's School has a unique landscape of Natural and Built environments. Each part of the campus has unique opportunities associated to the immediate context. Each of the proposals analyses site character for each site and establishes a set of design principles associated to the brief of the buildings and the place they touch.

KING'S SITE WIDE DRIVERS

SITE SPECIFIC OPPORTUNITIES

01.03 GOVERNMENT ARCHITECT - STATE DESIGN REVIEW PANEL

The design team met with the Government Architect State Design Review Panel to present The King's School proposals on:

06/07/2022 - First Review

23/11/2022 - Second Review

01/02/2023 - Third Review

The proposal was commended as was the quality of the presentation and descriptions of the project.

There has been a high level of support for the proposals and BVN thank the SDRP panel for feedback and support through the process. Through each session, we have developed a response to items of feedback which have enriched the design.







01.04 STATE DESIGN REVIEW PANEL - FIRST FEEDBACK ADVICE NOTE

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

14 July 2022

Jae Park
The Kings School
Bursar
jpark@kings.edu.au

PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 06/07 – First Review**

Dear Jae,

Thank you for the opportunity to review the above project at an early stage. Please find below a summary of advice and recommendations arising from the design review session held on the 6th July 2022.

The project team has demonstrated leadership in their decision to engage at an early stage with GANSW through the SDRP process. The comprehensive presentation enabled a deeper understanding of the site, aspirations for the project, and opportunities to enable a Country led design response.

The following elements of the proposal are supported:

- The Connecting with Country principles, and the project principle of the *Building as teacher*, which offer the potential to inform a rich and place responsive design solution.
- The early concept work, which carries the potential to elevate the experience of learning and inspire *Wonder and awe*.
- The aspiration to juxtapose the formal courtyard typology of the academic precinct with the informal bushland setting of the broader campus.
- The proposal to contain the eastern edge of the courtyard, which supports the existing axial built form strategy and provides a legible and cohesive edge to the academic precinct.
- The fine vertical pilottis, which maximise the internal sense of space and reinforce the notion of the roof plane as a forest canopy. These are considered critical to the quality of the internal space.

The following commentary provides advice and recommendations for the project:

Connecting with Country

1. The Connecting with Country principles offer the potential to amplify the place based identity for the school, and are commended. Demonstrate how these principles will inform the project vision and project specific principles.
2. As the architectural and landscape strategies are developed, incorporate physical and programmatic opportunities for deep engagement with site specific conditions – sun, breeze, topography, flora and fauna, and seasonal microclimatic variations, for example.

Masterplan & Landscape

3. Demonstrate how the values and principles developed in the 2020 Masterpan by Architectus relate to the project specific design principles and vision.
4. Demonstrate how the project specific principles, particularly *Connection to place* and *Learning from nature*, *Wonder and awe* and *Building as teacher* have informed the architectural and landscape response.
5. Provide any early options testing for the STEAM building to deepen the contextual analysis of the site, and enable a greater appreciation of the proposal's merits.
6. Given the increasingly high temperatures projected for Western Sydney, coupled with a forecast increase in the frequency and intensity of heat waves, the following applies for the academic precinct:
    a. demonstrate how canopy cover has been maximised for biodiversity, sustainability, shade, amenity and aesthetic quality
    b. provide an arboricultural assessment that identifies trees to be retained, new trees proposed and trees to be removed
    c. provide detail of the canopy cover target.
7. Consider how juxtaposing the formal courtyards with the natural bushland setting might amplify their difference and enrich the building setting and landscape strategy.
8. The challenge of accommodating the level change is acknowledged. As the proposal is developed, explore how to:
    a. manage the level difference so that all access and circulation is direct and equitable
    b. deliver a spatial generosity at each level
    c. ensure that the built form feels like an integral part of the landscape.
9. Given the volume and mass of the proposed built form, provide detailed study of the siting and form of the proposal, and external spaces adjacent the building to ensure that the desired spatial character andopen space amenity outcomes are optimised, and the diverse recreation needs of the students are met. Include:
    a. photos to understand the existing quality of these spaces
    b. detailed study of proposed setbacks and alignments to ensure optimal open space amenity, connectivity and view corridors.

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c. detailed drawings and views of the courtyards, transitional spaces and external learning areas to illustrate their spatial quality, character and nature of arrival from the south
d. the open space quality and amenity, including proposedshade
e. shadow studies at half hour intervals in midwinter to illustrate solar impacts created by the proposed STEAM building.
f. provide a wayfinding strategy for the entire campus

Architecture

10. Explore how the Connecting with Country design principles, particularly those generated by the *Eel Story* and *Whale Story* might inform the pedagogical approach and invite diverse spatial interactions within the central collaborative space.
11. Explore how the Connecting with Country design principle of 'enoughness' can inform the architectural strategy, including construction processes and materials, energy consumption and operation.
12. Provide detail of the sustainability strategy for the proposed building and how the central internal space might be heated and cooled given its scale and considerable western exposure.
13. Provide detail of the performative roof, including access to light, strategies for water capture and provision of pvs.
14. Demonstrate how the western façade might prevent glare and heat ingress.
15. Provide detail of the eastern elevation and any impacts to the neighbouring residential properties in terms of scale, noise and overshadowing.

Further review of this proposal is encouraged. The issues outlined above, and other projects that will form part of the SSDA submission, are to be addressed at the next SDRP session.

Please contact GANSW Design Advisor, Liz Bowra (Elizabeth.bowra@planning.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,



Emma Kirkman
Principal Design Advisor
Chair, SDRP

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01.05 STATE DESIGN REVIEW PANEL - FIRST FEEDBACK ADVICE RESPONSE

Following SDRP 1 the design team developed the design in response to the commentary from the panel. The development was organic, however the following are noted in response to comments made (listed by number to match comments made):





Connecting with Country

1/2. The Connecting with Country framework was further developed with Djinjama through a series of workshops held with the Project Control Group and senior leadership at the School. These workshops fostered a holistic appreciation of the country and enabled active engagement of stakeholder groups with design responses. The design presented at SDRP 1 was for a simple rectangular form. This led to the removal of 1 x significant tree to the South East of the site. Following comments by the SDRP and further workshops with Djinjama, the building shape was altered to enable retention of the significant tree. This alteration allowed for a more integrated, contextual site response that appreciates the existing habitat and creates new families of trees around the existing grandparent trees on-site.

Masterplan and Landscape

3. The Architectus Masterplan served as a high-level reference document demonstrating the development's siting and its integration into the future Campus development. The design response closely aligns with the masterplan principles, celebrating history through the interpretation of the predominant colonnade typology on campus, respecting nature through the retention of all on-site trees, fostering connection and transparency through open collaborative floor plates, and supporting everyday adventure through engaging environments facing a newly configured STEAM courtyard and internal free-flowing spaces.

4. The concept of "Building as Teacher" is demonstrated through the expression and detailing of the architecture. Connection details are showcased, and the building's careful design exposes services, showcasing the building's inner workings. This aspect is crucial for the architecture's success. Alongside physical layout, departments are arranged to encourage engagement between traditionally separate functions. Arts, computer science, food technology, robotics, and media production are all interwoven throughout the building, fostering crossover and interaction.

5. Further SDRP's added more detail on how the design developed over time

6.a/c. The building design was further developed with daylight modelling to create substantial verandah cover to exposed façades (in particular the North facade). There were no specific targets for amenity, but building performance has gone above and beyond compliance.

b. The design team worked closely with an arborist and a full arborist assessment has been provided (refer to separate report)

7. The building's shape was modified to retain a significant tree based on SDRP comments and closer collaboration with Djinjama. This adjustment resulted in a landscape intended to serve as a "bridge" between formal courtyards and the surrounding natural environment.

8. a. The building and landscape has worked hard to provide fully accessible and equitable access to the precinct

b. Each space is substantial and has dedicated function to facilitate maximum use of external areas surrounding the building.

c. The amended shape of the building following SDRP 1 further connects it to nature, open transparent façades connect the building to it's surroundings.

9. a. Photo records are provided as part of this report and were presented as part of SDRP 2

b. Setbacks from existing buildings shown on design drawings, showing substantial landscape areas to all frontages.

c/d. Additional images/drawings demonstrating spatial quality, character and arrival provided as part of this document. Refer to relevant sections

e. Shadow studies provided as part of application

f. Wayfinding strategy has been developed by Citizen group signage consultants. Note that the SSDA is for the individual development projects only, not consent for the signage strategy to be developed on site.

Architecture

10. The Eel story has directly influenced the ground plane, with the carving of the base conceptually linked to free flowing movement. This leads into the Whale story, with the carved landscape courtyard, wrapping inside the building, creating places for dwelling and collaboration.

11. ''Enoughness' has significantly impacted the project. The "Building as Teacher" approach results in raw architecture appreciation, showcasing architectural and engineering components while minimizing the need for finishes. The building uses necessary materials and exposes its inner workings. This streamlined approach reduces the overall carbon footprint and aligns with the 'enoughness' theme in the Connecting with Country narrative. The design also prioritizes landscape appreciation by avoiding disruption to well-established tree structures.

12. The building incorporates a sophisticated mixed-mode ventilation system, primarily relying on natural ventilation. This is facilitated by carefully integrating low-level air intakes and high-level discharges to enable a natural stack effect. Refer to the sustainability section of the report for more details.

13. A 99KW array of PV panels is installed on the roof to generate renewable energy. Distributed skylights allow light penetration to deeper parts of the floor plates, as shown in the design drawings. The roof's design redirects water to a storage tank for reuse and diverts excess water to nature via an open retention basin to the South. This approach eliminates the need for large concrete water holding structures, enabling water to nurture the landscape and support nature.

14. The Canopy structures shield North and Western sun - refer to shadow studies.

15. Noise assessments and view analysis has been conducted and are part of the SSDA application - refer to relevant sections.

01.06 STATE DESIGN REVIEW PANEL - SECOND FEEDBACK ADVICE NOTE

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

5th December 2022

Toni Walter
Senior Consultant
Urbis
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PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 23rd Nov 2022 – Second Review**

Dear Toni,

Thank you for the opportunity to review the above project a second time. Please find below a summary of advice and recommendations arising from the design review session held on the 23rd November 2022.

The project team is commended for the clarity of their presentation which demonstrated a well-considered design approach to The Kings School, and a willingness to embrace comments from the first SDRP. A comprehensive landscape strategy, informed by Country narratives, would bring an overall cohesion to the masterplan and assist in the clarity of reading the campus as a whole, which risks being fragmented.

The following elements of the proposal are supported:

- compelling Connecting with Country narratives and principles, which have the potential to inform the macro and micro scale
- concept of Building as Teacher within the campus, including the initial vernacular studies
- spatial qualities of the STEAM building, and various functions of the learning spaces
- ESD initiatives of the STEAM building, including the performative roof
- amending the floor plan of the STEAM building to retain a significant existing tree
- intention to minimise impact when locating new staff accommodation
- overall philosophy of the school, which supports activity and a healthy approach to risk-taking
- unpicking the cluttered prep school buildings to create a connected and usable campus.

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The following commentary provides advice and recommendations for the project:

Connecting with Country

1. The design team is commended on the compelling Country narratives and principles. Consider how the five narratives can unify the individual projects, and assist in creating interconnectivity between the different sites.
2. As per previous advice, continue to incorporate physical and programmatic opportunities for deep engagement with site-specific conditions – e.g. sun, breeze, topography, flora and fauna, and seasonal microclimatic variations.
3. Enable living cultural practices to continue on the campus during the ongoing operation of the school.

Masterplan and Landscape

While each individual project on the campus is well considered, these would benefit from being further developed together as part of a holistic masterplan.

4. Prepare a site-wide landscape strategy, incorporating the established Connecting with Country narratives and principles. Consider the following:
    a. pathways between sites and landscapes across the campus to address topography and circulation between buildings
    b. soil biodiversity, ensuring soil remains connected within the landscape after works take place
    c. healing land and enriching soil through living cultural practices
    d. understanding and mapping the waterways and trees within the landscape.
5. Utilise Water Sensitive Urban Design principles to integrate the ecological systems of the dam into the wider site strategy.
6. Consider how the masterplan and landscape proposals can address climate action and integrate sustainability, including through restoration and regeneration across the campus.
7. Develop the masterplan to clearly identify demolition throughout the campus, including buildings and trees proposed be removed or retained.
8. Ensure there is sufficient budget to implement landscape proposals across the campus which are key to providing accessibility and creating connections.

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Prep School

9. Improve the clarity of the prep school. Consider the current limitations and proposed amendments required to improve the existing arrangement of buildings and wayfinding within the campus.
10. The concept of age-appropriate familiarity as a vernacular response is supportable, however in this instance it risks being overly restrictive. Allow the architectural proposal to respond to its context and embody the principle of 'wonder and awe', without relying too heavily on strict formal representations.
11. Review the depth of the floorplate of the performing arts centre. Consider providing opportunities for natural light between the new extension and existing hall.
12. Clarify the spatial quality and amenity of the lower ground undercroft spaces beneath the performing arts centre and general learning units, including how these are proposed to be accessed and utilised.
13. Ensure there is sufficient budget to allow for any decontamination or remediation associated with the demolition of existing buildings, which can be a significant cost.

Staff Accommodation

The ambition to minimise the impact and keep all landscape unharmed beyond the boundary of the existing tennis courts is supported, however the accommodation options as discussed at the SDRP should be presented to determine the best fit.

14. Present options for the arrangement of the accommodation, considering orientation, internal and external amenity and integration with the surrounding boarding houses.
15. Involve the landscape architect to propose any enhancements to the existing site and influence the final planning of the residences.
16. The preferred scheme comprises proportionally long and thin terraces. Consider the following:
    a. breaking down the traditional 'terrace' typology to allow more light into the space, utilising voids and internal lightwells
    b. amenity provision for teachers and their families, including gardens.

STEAM Building

The STEAM building has shown considerable development and continues to be supported.

17. Due to the bespoke nature of the proposal, continue to ensure there is sufficient budget to see the vision through, particularly in terms of the material selection.

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01.07 STATE DESIGN REVIEW PANEL - SECOND FEEDBACK ADVICE RESPONSE

Following SDRP 2 the design team developed the design in response to the commentary from the panel. The development was organic, however the following are noted in response to comments made (listed by number to match comments made):

Connecting with Country

1/2. The Connecting with Country framework has been developed by Djinjama, and the design team have interpreted the framework at macro and micro scale. Each development has a narrative associated to the framework, a deep understanding of country that has been presented to all school stakeholder groups and has impacted building material and landscape selections. The developments all interact with site, providing opportunities to link to nature, be grounded on the sites they occupy and provide climatic responses in the form and articulation.

3. The School has demonstrated a desire to continue the dialogue between the traditional custodians of the land and learn from cultural practices from elders. The curriculum already contains aspects of learning from country and this is something the School would like to develop further in the future. Djinjama have been fundamental in educating the client group and enabling dialogue with surrounding communities.

Masterplan and Landscape

4/6/8. A substantial landscape Masterplan has been developed for the site in response to SDRP feedback - please refer to separate report.

5. The civil proposal uses the dam for discharge, creating natural overland flow oppose to tank storage. This is being developed with Council

7. Demolition drawings are provided as part of the submission - refer to layouts.

Prep School

9. The proposals have identified a long term strategy for the campus. Note these are for the Schools strategic direction only and not part of this SSDA application. The first phase developments are positioned to enable expansion to the West of the campus, enabling greater connection to landscape and a staged approach in creating more generous landscape areas between new building structures. The General Learning unit is positioned to the west as an independent structure, removing the need to nestle against the existing and exasperate the issue of warren like spaces. Once constructed the existing k-2 buildings are to be removed which will completely transform the campus and create a significant landscape area and clarity of built form and landscape.

10. The spaces have been developed to inspire wonder and awe. In particular the performing arts centre has taken the SDRP feedback and developed a individualised language, taking elements of the existing campus, but being a clearly separate and identifiable architectural form. Refer to visualisations for reference.

11. Following SDRP comment, the scheme was developed to consider depth of floorplate and introduce a series of skylights which assist in providing natural light to deeper parts of the floorplate and also articulate the masses.

12. The performing Arts Centre was developed to no longer have an undercroft space. The GLU building has undercroft space but is inaccessible by students.

13. The School has worked with a QS throughout the design iteration to ensure the project aspirations can be met.

Staff Accommodation

Please refer to Staff accommodation section of the report for response

STEAM Building

17. The School has worked with a QS throughout the design iteration to ensure the project aspirations can be met.







01.08 STATE DESIGN REVIEW PANEL - THIRD FEEDBACK ADVICE NOTE

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

8th February 2023

Toni Walter
Senior Consultant
Urbis
twalter@urbis.com.au

PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 1st Feb 2023 – Third Review**

Dear Toni,

Thank you for the opportunity to review the above project a third time. Please find below a summary of advice and recommendations arising from the design review session held on the 1st February 2023.

The project team is commended on a clear presentation of the Connecting with Country principles and campus-wide landscape strategy which demonstrates a considerate and cohesive design response. While the Country-centred approach appears to have informed the various design principles, the response would benefit from a rationalisation of these to assist in unifying the project.

The following elements of the proposal are supported:

- Connecting with Country principles, which have informed the landscape design strategy
- protection of the existing landscape to support the concept of flourishing non-humans
- cohesive and collaborative design approach
- breaking down the 'institutional' language, creating a village feel
- relocating the service area and bus parking
- net positive impact to landscape on the site
- intent to allow community use of facilities outside of term time
- development of landscape response to the STEAM building.

The following commentary provides advice and recommendations for the project:

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NSW GOVERNMENT

Connecting with Country

1. Explore how the Connecting with Country principles can be realised in the operation and curriculum of the school, such as encouraging access for the local and Indigenous community.
2. Demonstrate how living cultural practices will be supported on the campus.
3. Explore the concept of flourishing non-humans within the landscape and masterplan design, including the identification of any endangered wildlife, insects etc.
4. While the various design principles are supported and appear to be established with a Country-centred approach, the project would benefit from combining these:
    a. Rationalise the various principles into one set of holistic design principles.
    b. Establish a hierarchy of design principles.
    c. Consider the look and feel of the design principles and explore how these will be realised in the designed output.

Masterplan and Landscape

5. Explore the school's interface with the broader community, including physical and visual connections, and the opportunities and challenges of its contribution to environment, heritage, traffic, urban fabric etc.
6. Prepare a traffic assessment. Include:
    a. common methods of travel to school and proposed direction of access, including pedestrian, bus, train, and vehicle routes
    b. active transport provision location within the school and connections to existing and proposed cycle infrastructure
    c. pick up and drop off location, including alternative locations for the 'servicing zone'
    d. proposed parking capacity and location
    e. vehicle roads vs shared ways within the campus.
7. Explore how the concept of 'building as teacher' can extend to the pedagogy of the landscaped areas, ensuring opportunities for learning are present throughout the campus.
8. Further develop the landscape strategy and provide detailed drawings of the landscape response across the campus and particularly surrounding new buildings.

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NSW GOVERNMENT

Prep School

9. Consider the scale of the architectural proposal, particularly the large staircase at the main entrance, to avoid it being overwhelming for prep school age children.
10. Further develop the breaking down of the institutional language and the idea of 'village making'.

The following commentary from the SDRP 02 advice letter is still to be addressed:

Staff Accommodation

The ambition to minimise the impact and keep all landscape unharmed beyond the boundary of the existing tennis courts is supported, however the accommodation options as discussed at the SDRP should be presented to determine the best fit.

10. Present options for the arrangement of the accommodation, considering orientation, internal and external amenity and integration with the surrounding boarding houses.
11. Involve the landscape architect to propose any enhancements to the existing site and influence the final planning of the residences.
12. The preferred scheme comprises proportionally long and thin terraces. Consider the following:
    a. breaking down the traditional 'terrace' typology to allow more light into the space, utilising voids and internal lightwells
    b. amenity provision for teachers and their families, including gardens.

The issues outlined above, and details of the other projects that will form part of the SSDA submission, are to be addressed in the application and/or at the next SDRP session.

Please contact GANSW Design Advisor, Jeremy Giacomini (jeremy.giacomini@dpie.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,



Emma Kirkman
Principal Design Review
Chair, SDRP

Government Architect
New South Wales

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01.09 STATE DESIGN REVIEW PANEL - THIRD FEEDBACK ADVICE RESPONSE

Following SDRP 3 the design team developed the design in response to the commentary from the panel. The development was organic, however the following are noted in response to comments made (listed by number to match comments made):

Connecting with Country

1/2 As noted in SDRP feedback 2, The School has demonstrated a desire to continue the dialogue between the traditional custodians of the land and learn from cultural practices from the indigenous community. The curriculum already contains aspects of learning from country and this is something the School would like to develop further in the future. Djinjama have been fundemental in ecucating the client group and enabling dialogue with surrounding communities.

3. Landscape proposals have been further refined following SDRP 3 and can be found in the landscape report that accompanies this application.

4. The Designing with country principles have been further developed into a framework which concisely articulates the principles and provides a base for interpreting and directly applying recommendations. Each project has been refined to respond to the framework - refer to individual sections of the report.

Masterplan and Landscape

5/8. A substantial landscape Masterplan has been developed for the site in response to SDRP feedback - please refer to seperate report.

6. Following comment from the SDRP panel, a traffic consultant was appointed and has provided a thorough transport assessment - please refer to seperate report.

7. The General Learning Building has been meticulously developed to serve as an exemplar in the concept of “Building as Teacher.” The primary focus following SDRP review 3 was the incorporation of ‘sustainability on show’ within the prep campus. This objective is achieved through various features, including PV panels equipped with energy monitoring capabilities, classroom-specific energy consumption monitoring, and display of energy usage in the learning units. Additionally, rainwater allotments are effectively reused, internal ‘honesty windows’ showcase the façade’s construction, and a thoughtful approach has been taken towards the landscape decks surrounding the building.

Prep School

9. Following SDRP review, the design evolved to internalise the tiered seating at the main entrance. This has enabled a more delicate response to material treatment and secondary layering of internal finishes such as cushions and furniture. The General learning building has been carefully developed to provide a series of scales of spaces and enable future flexibility

10. The village making development starts with the introduction of the two new buildings on the prep campus.

Staff Accommodation

Please refer to Staff accommodation section of the report for response

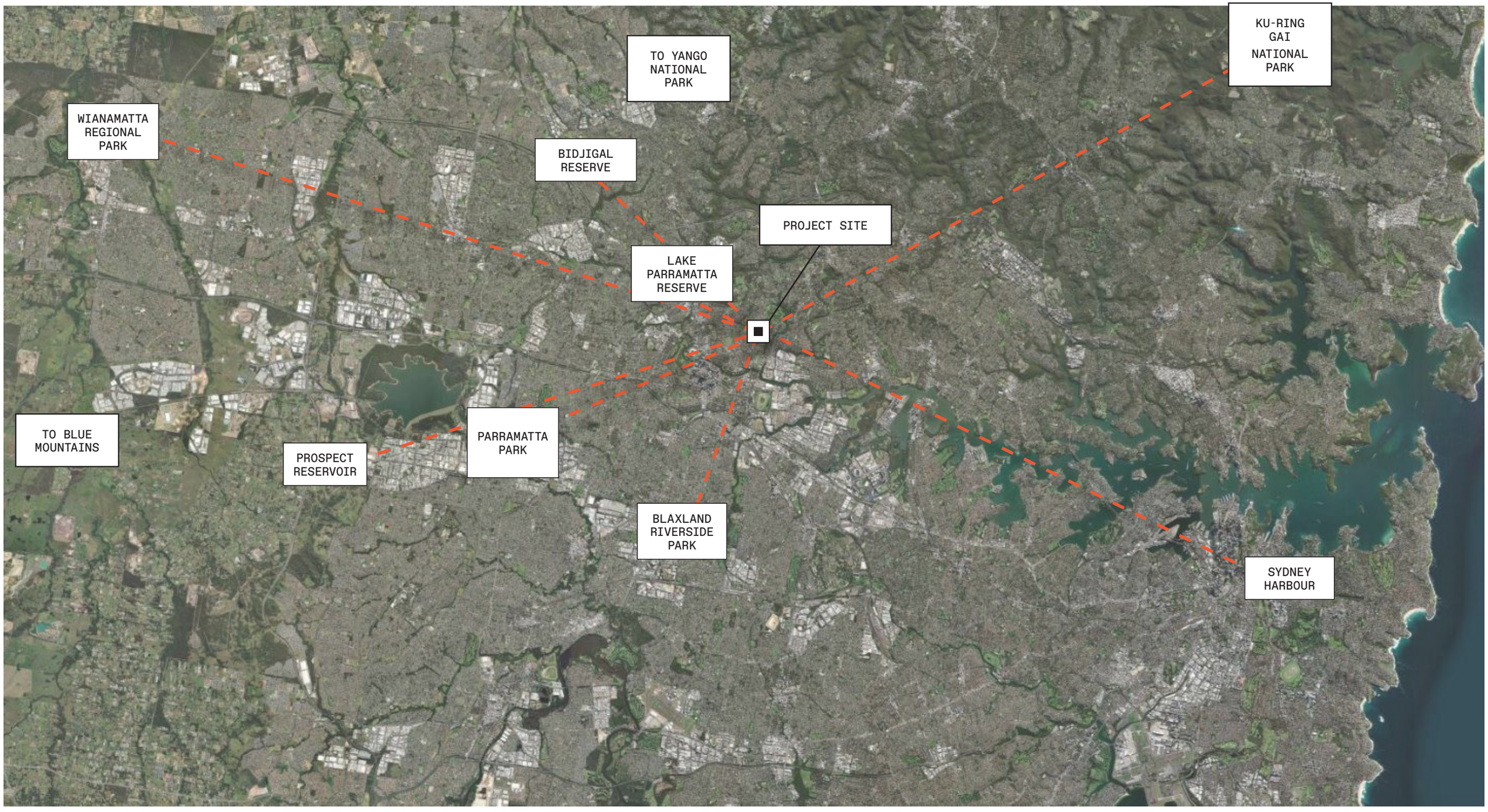




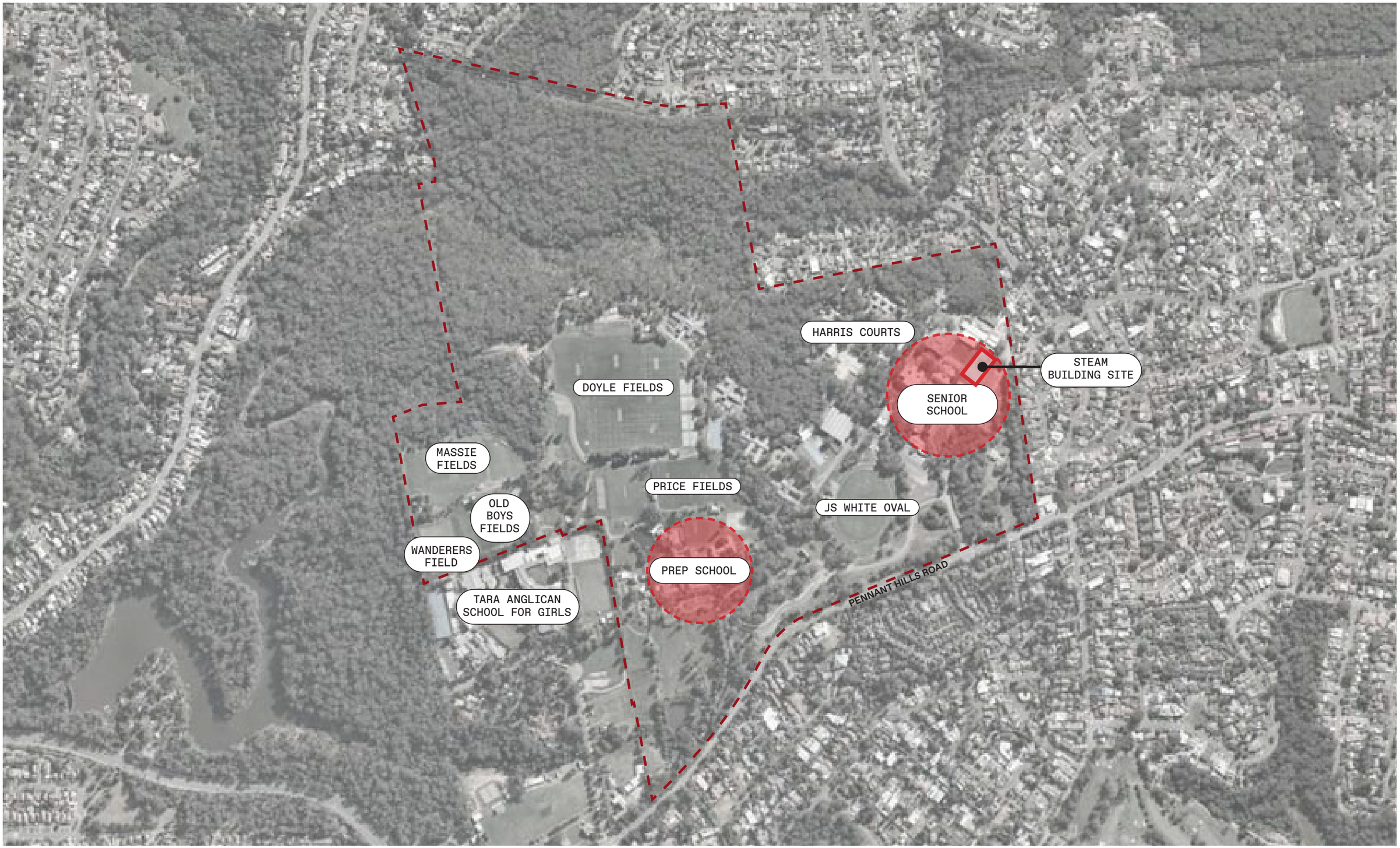
SITE CONTEXT & ANALYSIS

02

02.01 SITE LOCATION



02.02 PRECINCT AERIAL PHOTO



02.03 SCHOOL CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. The School is comprised of a Prep School to the West and a Senior School to the east. There are also a number of individual buildings throughout the site such as boarding facilities, heritage items, chapels, sports pitches and facilities and a series of staff and facilities residences.

King's was established as a boys' school that would provide Australia with its next generation of leaders, through a community-centred ethos of humility and service.



RESPECT



INTEGRITY



COMPASSION



HONESTY



GRATITUDE



HUMILITY



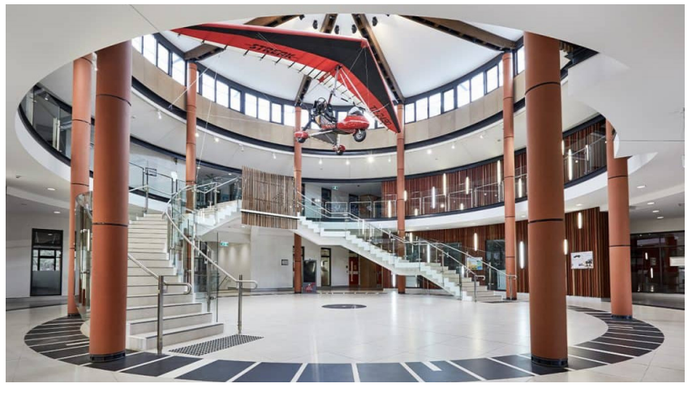
EXCELLENCE



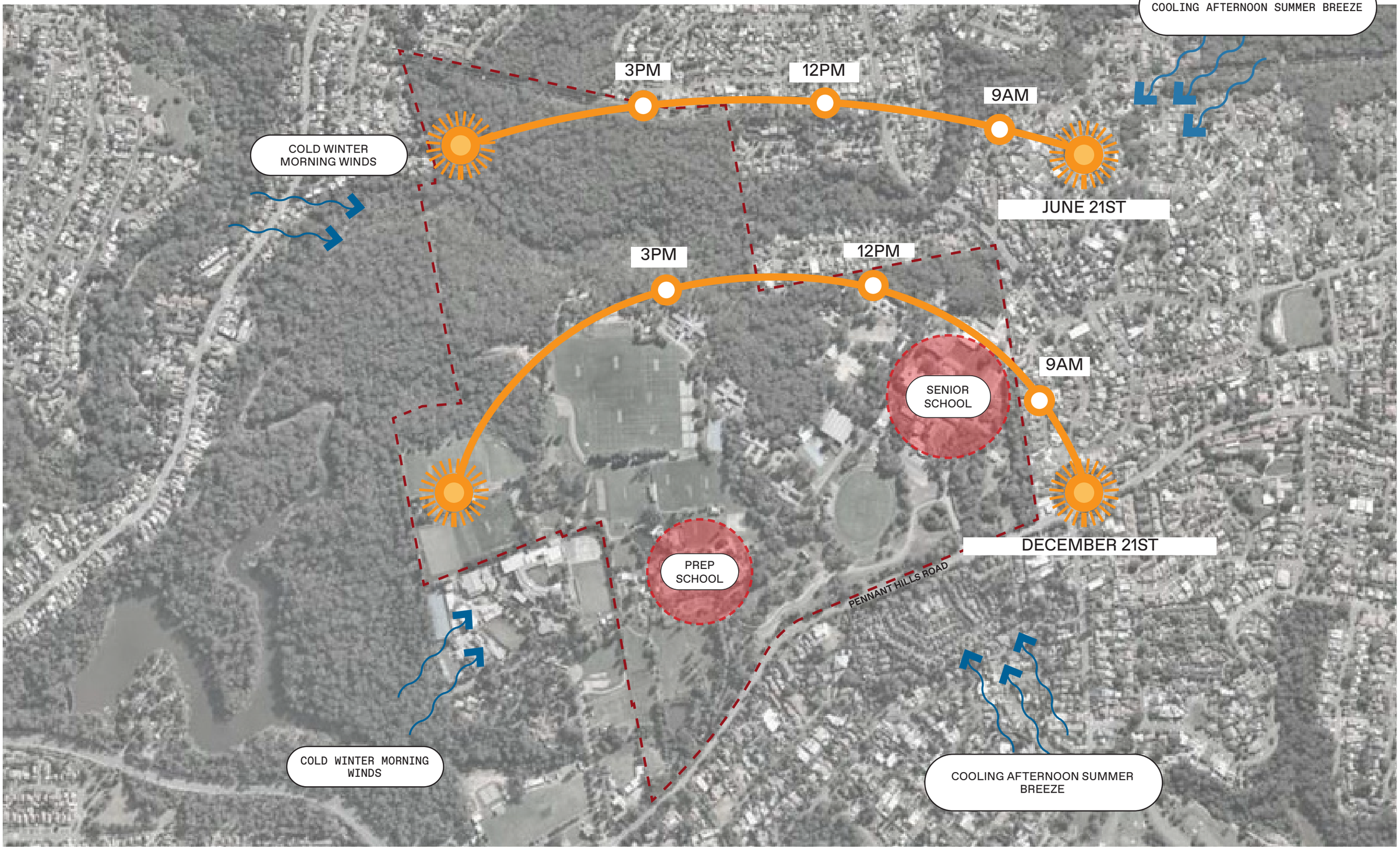




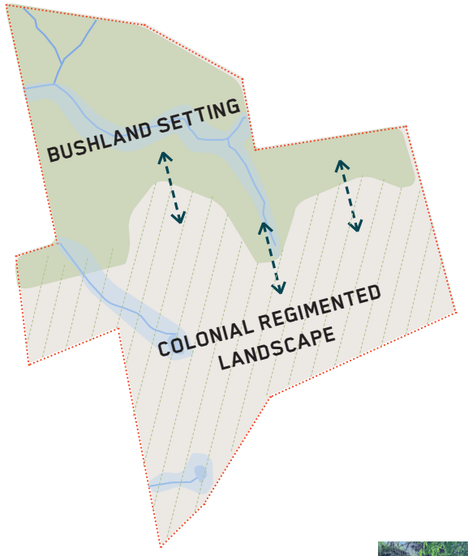




02.04 ENVIRONMENTAL CONDITIONS



02.05 UNIQUE SETTING

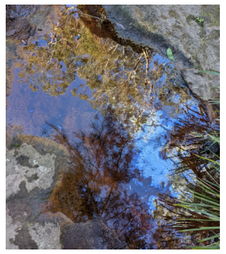








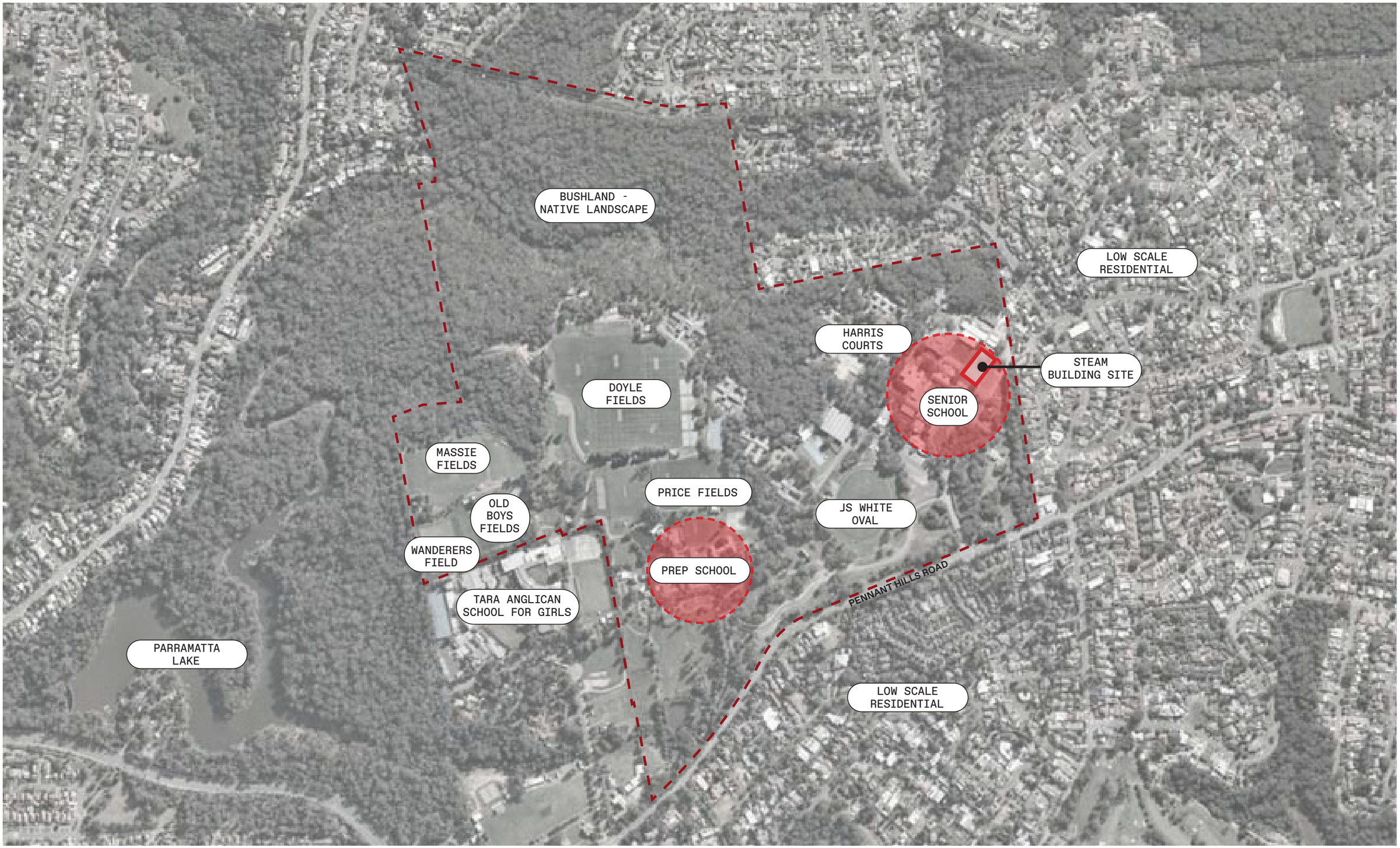








02.06 SURROUNDING CONTEXT

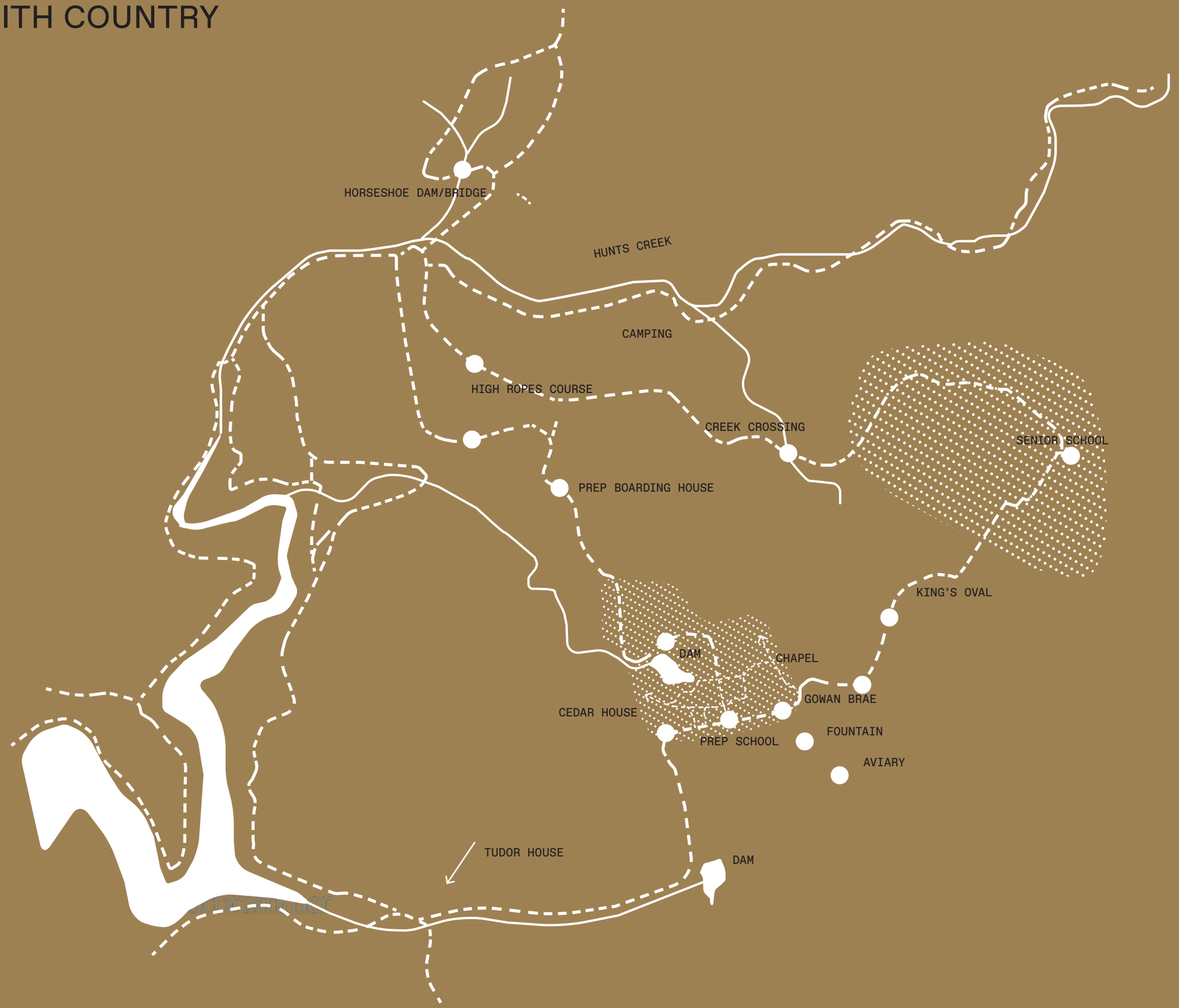


02.07 DESIGNING WITH COUNTRY

“Understanding Country means we stop reading
landscape as being empty and start to see that parts of the land
have been ritualised and have meaning beyond what we can see.”

Kevin O’Brien, BVN Principal

02.07 DESIGNING WITH COUNTRY



Our Process

What We Understand

BVN's Designing with Country work and Djinjama Country Centred Design Guidelines guide the way we think about projects that engage with First Nations communities and contexts. These contexts vary from direct engagement on community projects to contributions to mainstream projects and provides industry leadership. At the core of all these contexts is a need to understand the First Nations concept of Country.

The idea of Country is drawn from a sense of belonging. When First Nations speak of Country, it is about the place of their ancestors, stories, lore and knowledge. These memories and connections form the basis of songlines and bind people to their Country. Country is a matter of sustenance and is therefore as much a cultural and spiritual condition as it is a scientific or physical one. It follows that within an associated knowledge capital, there exist endless opportunities to engage with and affect the cultural and built environments of a specific locale.

In thinking about Country, there is a logic for movement located in the idea of a track, logic for occupation emanating from the idea of a camp and logic for events found in the idea of ritual. Acknowledging that a site belongs to a specific Country on a particular part of this continent enables us to draw inspiration, ideas and opportunities directly from that place and the people who belong to it.

WHY WE NEED THIS

Why would we make buildings, modern precincts and communities connect to Country and what makes this important?

Our underlying belief is that it is the first point of connection to culture, creativity and science, and an awareness that it has existed in Australia for over 50,000 years. The ambition of the Designing with Country Framework is to enable a greater relationship between people, knowledge and environment and work towards a non-conflicted future. This ambition can be realised by acknowledging the significance of First Nations culture in the reconsideration and development of the built environment.



Our Process

Layers of Influence

BVN's approach to Designing with Country is grounded in an understanding that there are many layers of influence that can affect the outcome of a project.

This 'Layers of Influence' diagram aims to summarise the potential symbiotic nature of the context in which the future project sits. At each stage, it is important to question, acknowledge and embed the story of place and people, to inform the consideration, articulation and design of the project.

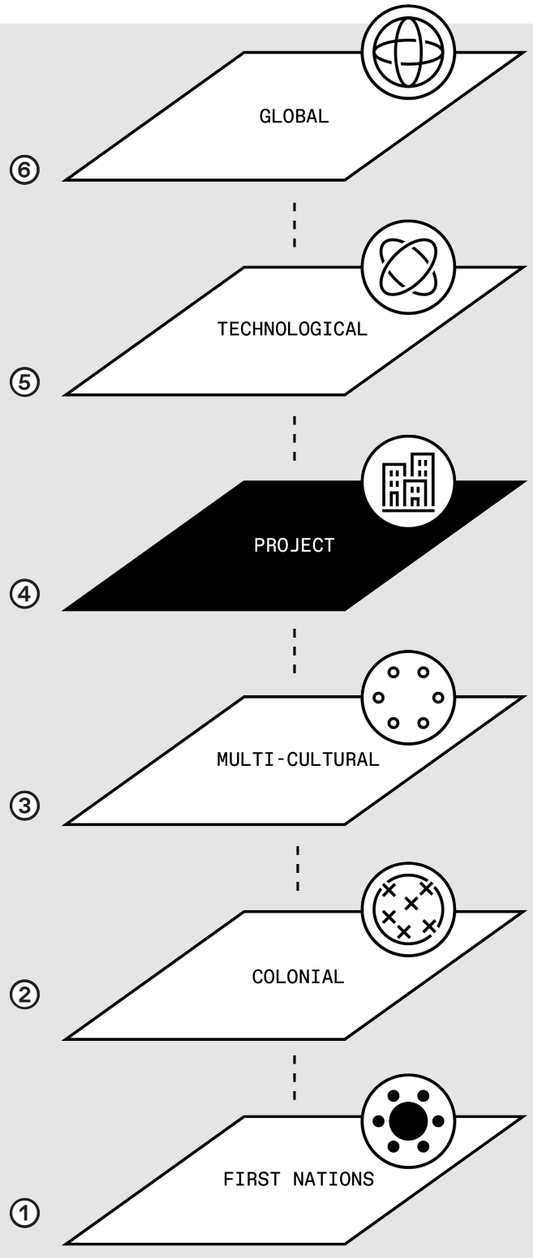
The first layer is First Nations and knowledges and engages with the community to understand aspirations, the connection to, and characteristics of, Country and culture.

The second layer is Colonial and draws upon the economic networks and hard infrastructure that has come to enable the city today.

The third layer is Multicultural and, by way of inclusion, acknowledges the modern multicultural history and vibrancy of the locale.

The fourth layer is bound to the Technological and understands that harnessing current technology connects to the future.

The fifth layer is Global and seeks to both benchmark the project as an exemplar and understand its relevance on the world stage.



LAYERS OF INFLUENCE

02.08 PROJECT LOCATION

DARUG NATION

The King's School is located on the lands of the Darug Nation, the traditional clan of this area are the Burramattgal.

For over 60,000 years, the area comprising present day Parramatta has been occupied by the Burramattagal people, a clan of the Darug, who first settled along the upper reaches of the Parramatta River. The Darug people still populate the areas of Parramatta, Greater Western Sydney, La Perouse and the Blue Mountains.

Burramattagal are the Saltwater people who make up the clan around North Parramatta. Burramatta territory is located from the head of the river to the west.

Burramattagal is thought to be derived from the Aboriginal word for 'place of eels'. The Burramattagal have a close connection with the Parramatta River, from which they caught fish, eels, and other food.

"After the penal colony was founded at Sydney Cove in January 1788, Governor Arthur Phillip organised exploring expeditions up the Parramatta River... When more fertile land near the head of the river was found, he decided to set up a second settlement.

The settlement was originally known as Rose Hill in honour of George Rose, Secretary to the British Treasury, who was reputed to have helped Phillip secure appointment as governor of the penal colony. On 2 June 1791, Phillip renamed it Parramatta, using the locality name used by the Burramattagal... It was the first place to be given a name by Europeans that was based on an Aboriginal name."

Kass, T, 'Parramatta', Dictionary of Sydney, 2008

Burramattagal are the Saltwater people who make up the clan around North Parramatta. Burramatta territory is located from the head of the river to the west.

Before the destruction of their habitat, flying foxes gathered in the skies in the warmer months as they returned regularly to nest and give birth in the heavy tall stands of apple gums and other eucalyptus. These giant trees once sprawled across the undulating green parklands, that had been shaped by the regular 'firestick farming' the local clan used to hunt live game and encourage new growth. Carved trees signifying special burial sites or scars from the extraction of coolamon and shields, were once numerous along the banks here."

Tobin, L, 'The Fence. Burra Matta — Parramatta', Urban Theatre Projects, 2012.



AERIAL OF PARRAMATTA
Nearmaps.



ANGUILLA REINHARDTII (LONG FINNED EEL)
NSW Department of Primary Industries



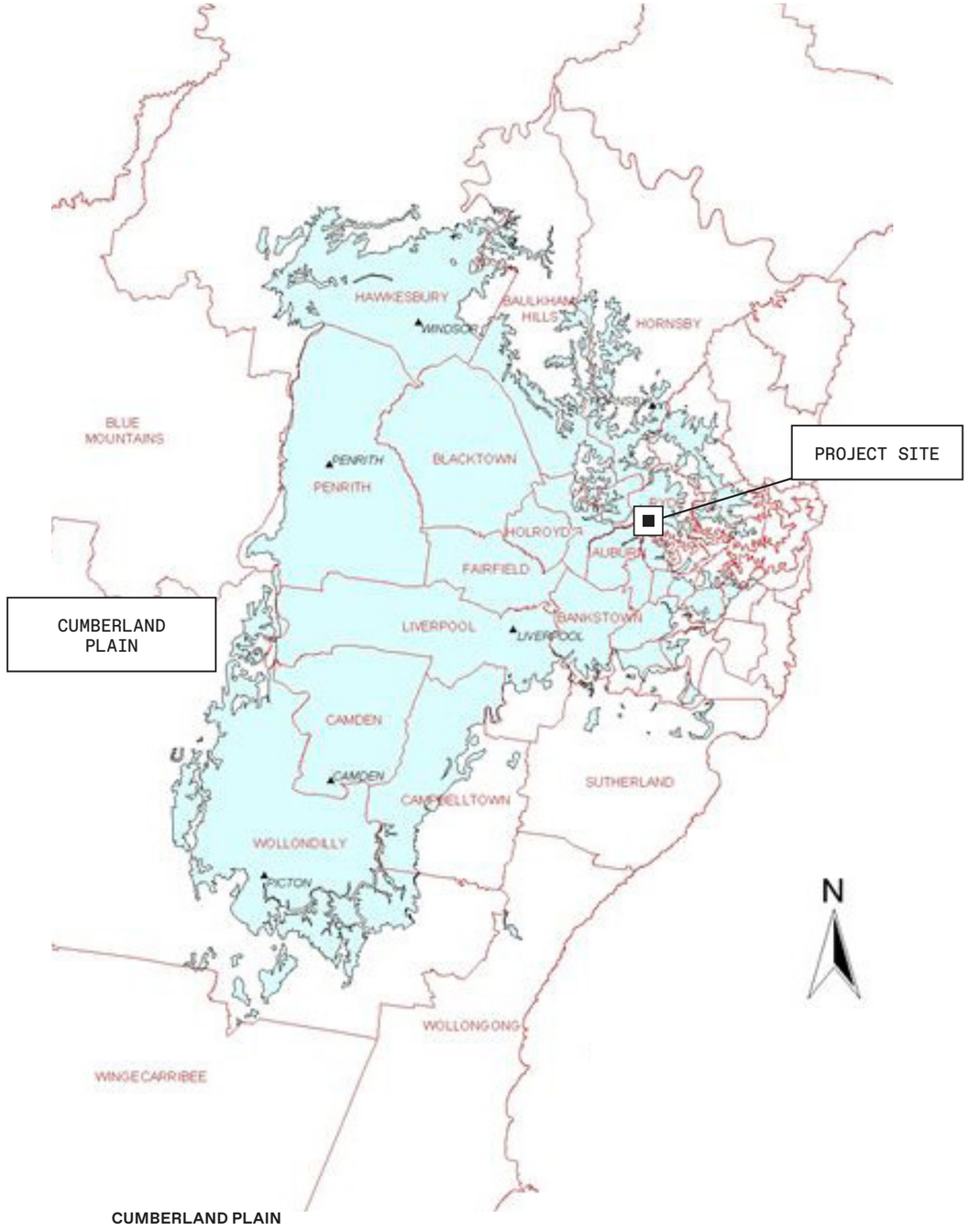
PTEROPUS POLIOCEPHALUS (GREY FACED FLYING FOX)
Neville W. Cayley (1887-1950)

02.09 GEOLOGY

The Cumberland Plain

The Cumberland Plain is a relatively flat region lying to the west of Sydney CBD in New South Wales, Australia. Cumberland Basin is the preferred physiographic and geological term for the low-lying plain of the Permian-Triassic Sydney Basin found between Sydney and the Blue Mountains, and it is a structural sub-basin of the Sydney Basin elevated terrain that partially surrounds it. Common vegetation in the Cumberland Plain is eucalyptus trees.

The Cumberland Plain is formed on sediments of the Wianamatta Group, from the Bringelly Shale on the plain itself and the Ashfield Shale around the margins. The Wianamatta Group is the upper unit of Sydney Basin sediments and overlies the Hawkesbury Sandstone which outcrops around the margins as a result of subsequent relative uplift. On the fringe of the plain, the clay soils grade into sandstone.



CUMBERLAND PLAIN

NSW Government Energy and Science

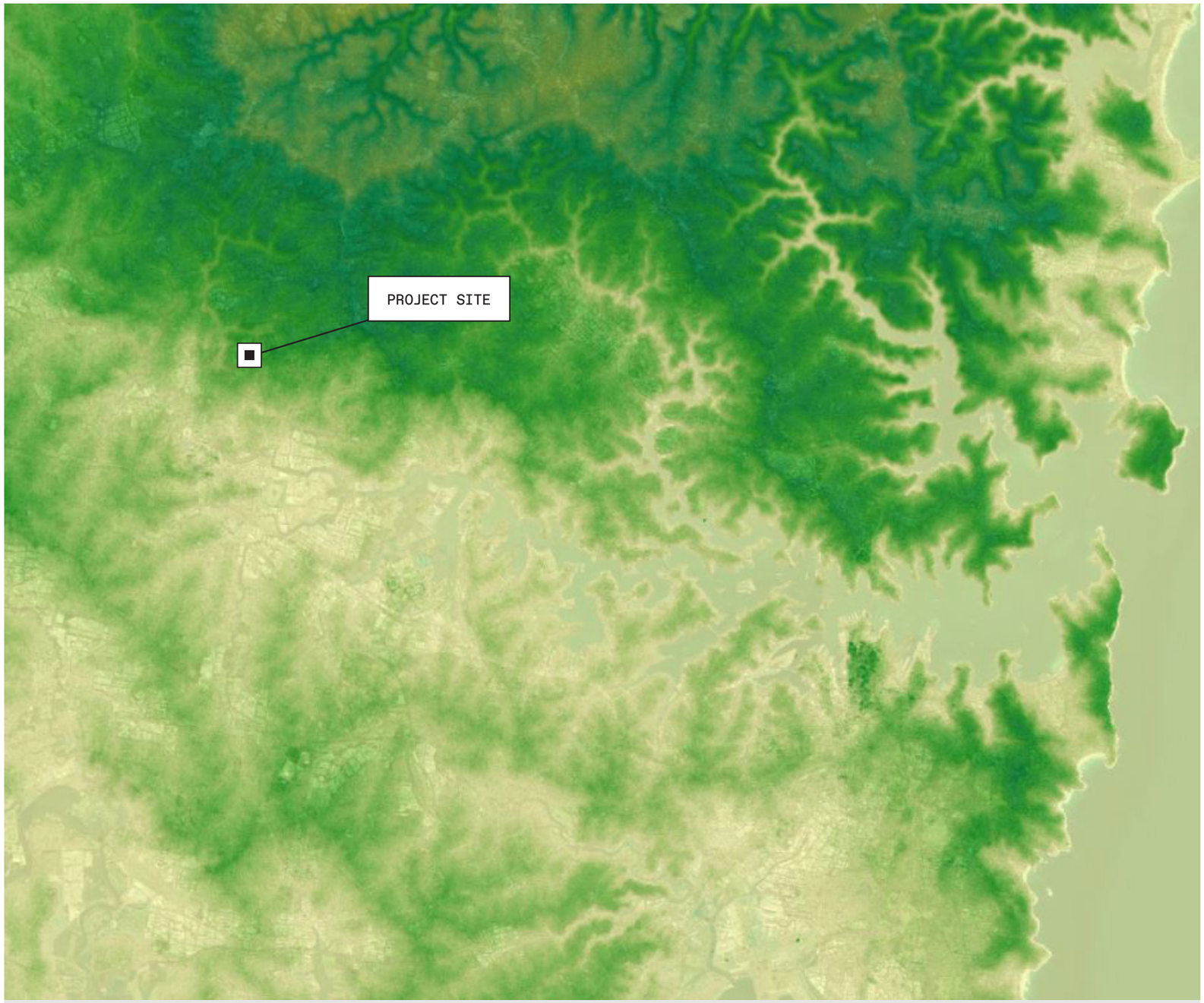
02.10 TOPOGRAPHY

Parramatta

The School Site is located in North Parramatta.
Parramatta City is located at the head of Sydney Harbour at the edge of the Cumberland Basin. On either side of the Parramatta River, the City's topography is generally characterised by hills and valleys to the north, and the Cumberland Plain to the south. The City's centre is located between the hills and the Plain, and along the banks of the Parramatta River. The River's tributaries and adjacent open space corridors extend as fingers through the City.

Maximum Elevation: 142m
Average Elevation: 53m

SITE PLANNING
City of Parramatta



TOPOGRAPHY
Geoscience Australia Portal

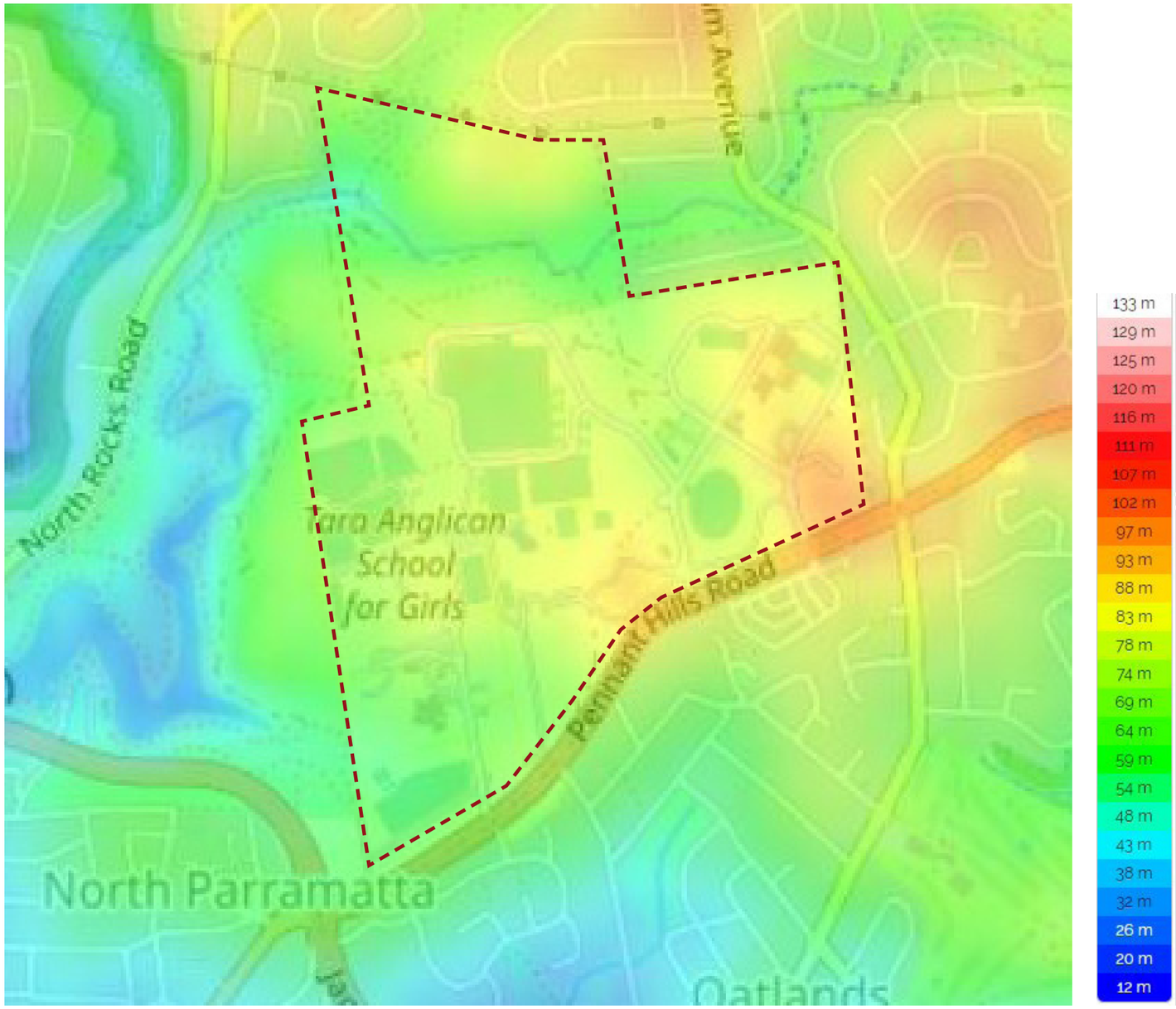
02.10 TOPOGRAPHY

The King's School Site

There is a steep section towards the north of the campus in the bushland and a gulley between the day boy houses and boarding residences, where the topography falls to hunts creek.

SITE PLANNING

City of Parramatta



02.11GEOLOGY

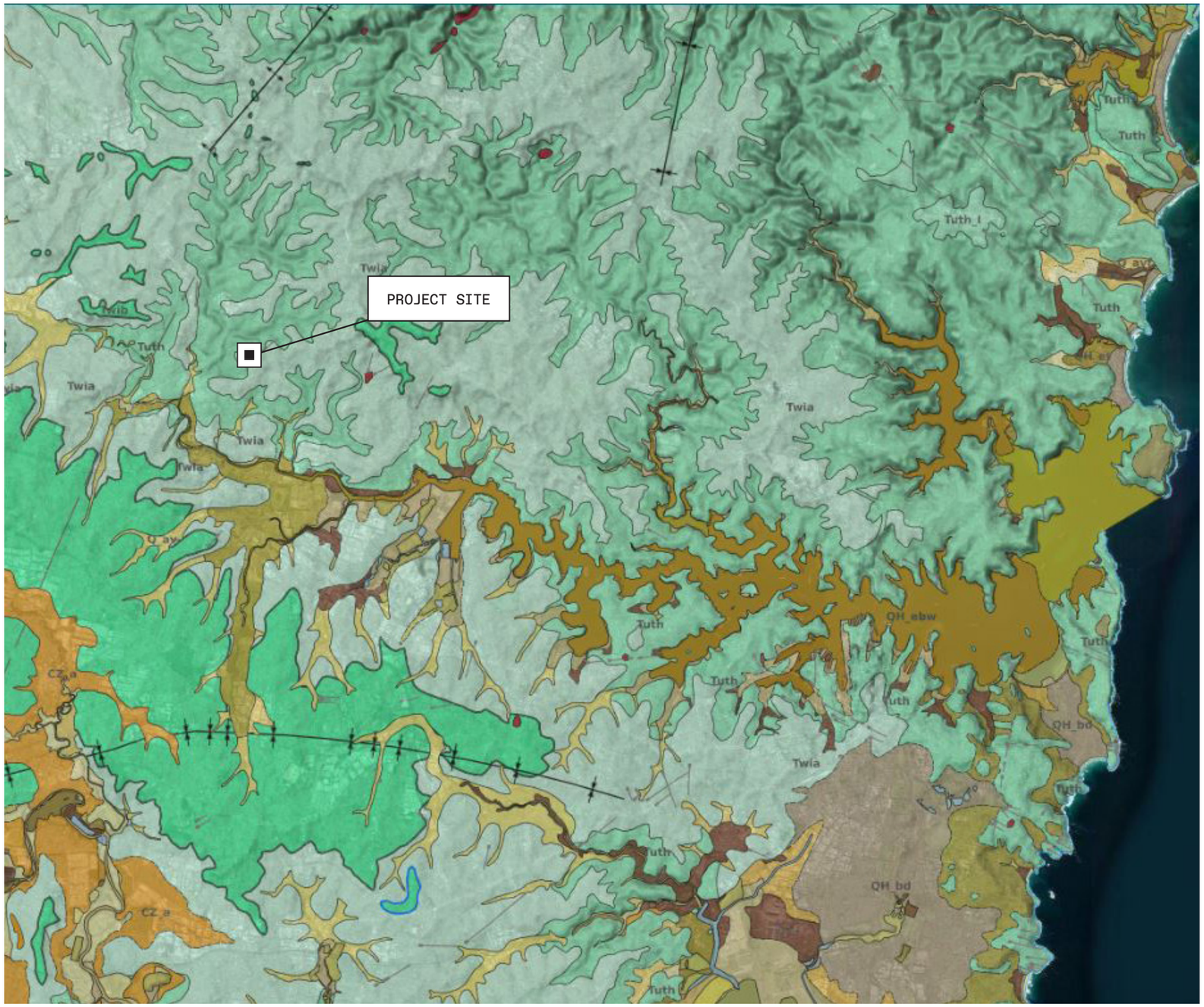
HAWKESBURY SANDSTONE
This prominent sandstone directly overlies the Narrabeen Group. The dominant relatively pure quartzose sandstone produces the sandy soils, especially on the flat ridgetops. Red-brown concentric bands and patchy coloration in the sandstone have formed subsequent to deposition, being produced during weathering by precipitation of iron oxide mobilised in ground water. This cuts across primary bedding and is not banding related to the deposition.

WIANNAMATTA GROUP SHALE
The Wianamatta Group is a geological feature of the Sydney Basin, New South Wales, Australia. The Wianamatta Group directly overlies the older (but still Triassic in age) Hawkesbury sandstone. The shale formations generally comprise fine grained sedimentary rocks such as shales and laminites as well as less common sandstone units.

ASHFIELD SHALE
Lies directly on contemporaneously eroded Hawkesbury sandstone or the Mittagong formation. These rock types were formed in the Triassic Period. (Packham (editor), Gordon Howard (November 1969). The Geology of New South Wales. Sydney: Geological Society of Australia. pp. 417–421.)

QUATERNARY ALLUVIUM
The word Alluvium comes from the Latin alluvius, from allure, to ”wash against”. Alluvium is loose, unconsolidated soil and/or sediment that has been eroded and deposited by a body of water (Cambridge Dictionary, n.d.).

BRINGELLY SHALE
The shale is the topmost layer of sedimentary rock laid down by a river delta over the older Hawkesbury sandstone in the Triassic Period. Bringelly Shale has lumpy clay minerals, and it swells and decays rapidly on submergence in water and is generally less durable



SURFACE GEOLOGY

Geoscience Australia Portal

02.12 GEOLOGY & PEDOLOGY

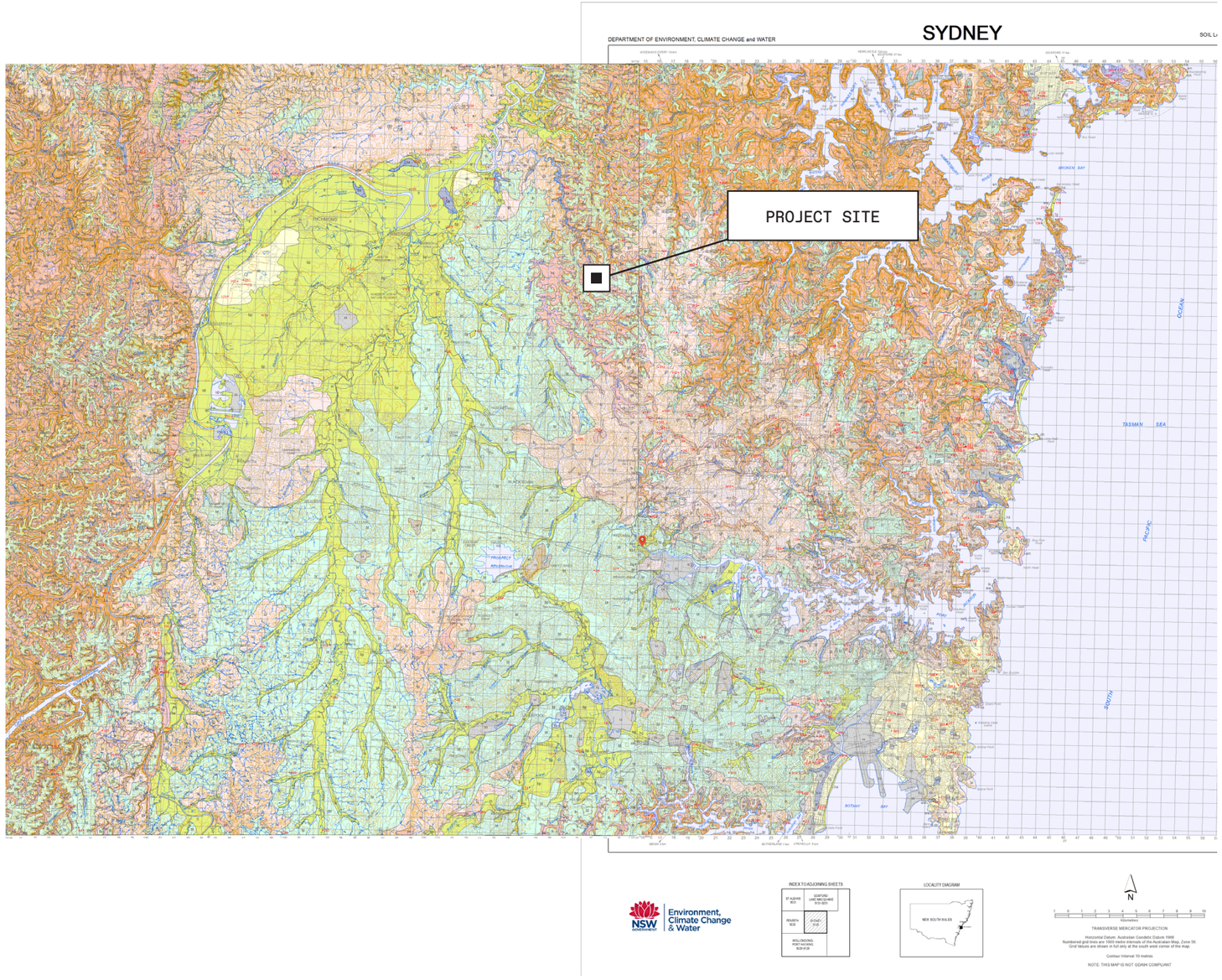
One of the school greatest assets is it's green space, the open park-like surrounds which includes over 2,500 trees. Over 30 ha of the school's vacant bushland.

The region surrounding the site contains two distinct soil landscapes: **Birrong** and **Blacktown Soil**

GLENORIE
The Glenorie soil landscape is underlain by Wianamatta Group Ashfield Shale and Bringelly Shale formations.
The Ashfield Shale is comprised of laminite and dark grey shale. Bringelly Shale consists of shale, calcareous claystone, laminite, fine to medium grained lithic-quartz sandstone

BLACKTOWN
The Blacktown soil landscape generally rises on Wianamatta Group shales and Hawesbury shale and can often be found in cleared eucalypt woodland and tall open-forest (wet sclerophyll forests). The soils are shallow to moderate with Red and Brown Podzolic Soils on crests, slopes and well drained areas with deep Yellow Podzolic Soils and Soloths on lower slopes and in areas of poor drainage. Limitations include a moderately reactive highly plastic subsoil, low soil fertility and poor soil drainage.

BIRRONG
The Birrong soil landscape covers the undulating alluvial floodplains on the sides of the Parramatta River and drains into the Wianamatta Group shales. It is characteristic of broad valley flats and extensively cleared tall open-forest and woodland areas. The soils are deep and contain Yellow Podzolic soils and Yellow Solodic Soils on the older alluvial terraves and Sologice and Yellow Solonetz soils on the floodplains. Limitations include localised flooding, high soil erosion hazards, saline subsoils, seasonal water-logging and very low soil fertility.



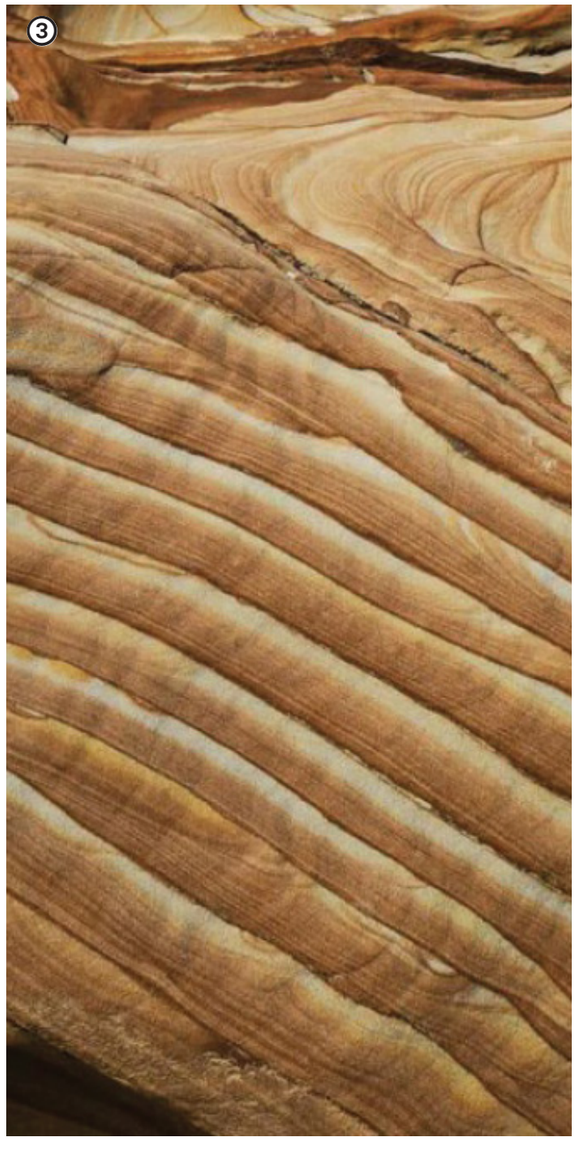
PARRAMATTA SOIL LANDSCAPE
NSW Department of Environment

Gn	Glenorie [Colluvial]	Bg	Birrong [Alluvial]
XX	Disturbed Terrain	Bt	Blacktown [Residual]

02.12 GEOLOGY & PEDOLOGY















1.WIANAMATTA SHALE 2. EXPOSED ASHFIELD SHALE 3. HAWKESBURY SANDSTONE 4. HAWKESBURY SANDSTONE5. RED-YELLOW PODZOLIC SOIL 6. YELLOW PODZOLIC SOIL 7. EXPOSED SEDIMENTARY ROCK

02.13 HYDROLOGY

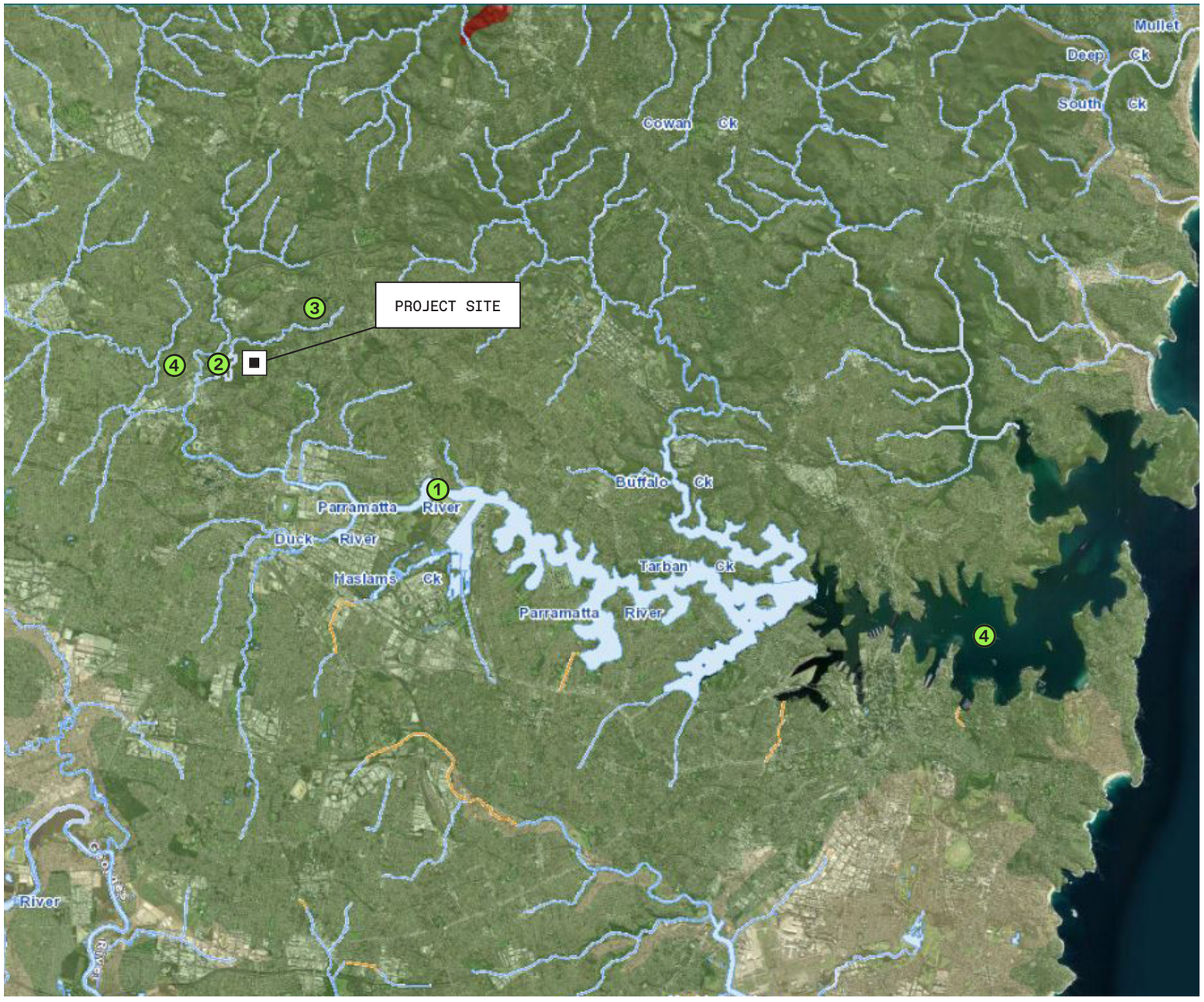
The King's School is nested in a significant network of waterways, giving the school a unique setting. Hunts Creek, crosses through the site creating Riparian zones and a unique ecology and Bushland setting.

PARRAMATTA HYDROLOGY

Parramatta and its suburbs cover an area of 84km² at the foot of the Hills district, 24km from Sydney. These hills, and the valley below, make up part of the catchment of the Parramatta River.

The creeks of the Upper Parramatta Catchment (including Coopers, Darling Mills Creek, Hunts Creek, Quarry Branch, Finlaysons, Greystanes, Pendle Hill and Toongabbie Creeks), Duck River Catchment and the Lower Parramatta River Catchment (including Vineyard, Subiaco, Clay Cliff, and Brickfield Creeks) all eventually flow into Parramatta River.

City of Parramatta
Healthy Waterways



WATERWAYS

Geoscience Australia Portal

1 Parramatta River
2 Darling Mills Creek
3 Hunts Creek
4 Sydney Harbour

02.14 GEOGRAPHY - PARRAMATTA RIVER

For at least 40,000 years, the Burramatta people, a local Indigenous clan of the Darug Nation, lived on Parramatta River's banks, feasting on oysters, yams, mullet and, of course, eels. In fact, the word "Burramatta" can be loosely translated as "the place where eels lie down". Right near Parramatta Wharf, fresh water, flowing downstream, meets salt water, creating a perfect place for eels to breed and thereby making them easy targets for hunters. Today, the Burramatta people remain the area's traditional custodians.

History & Heritage

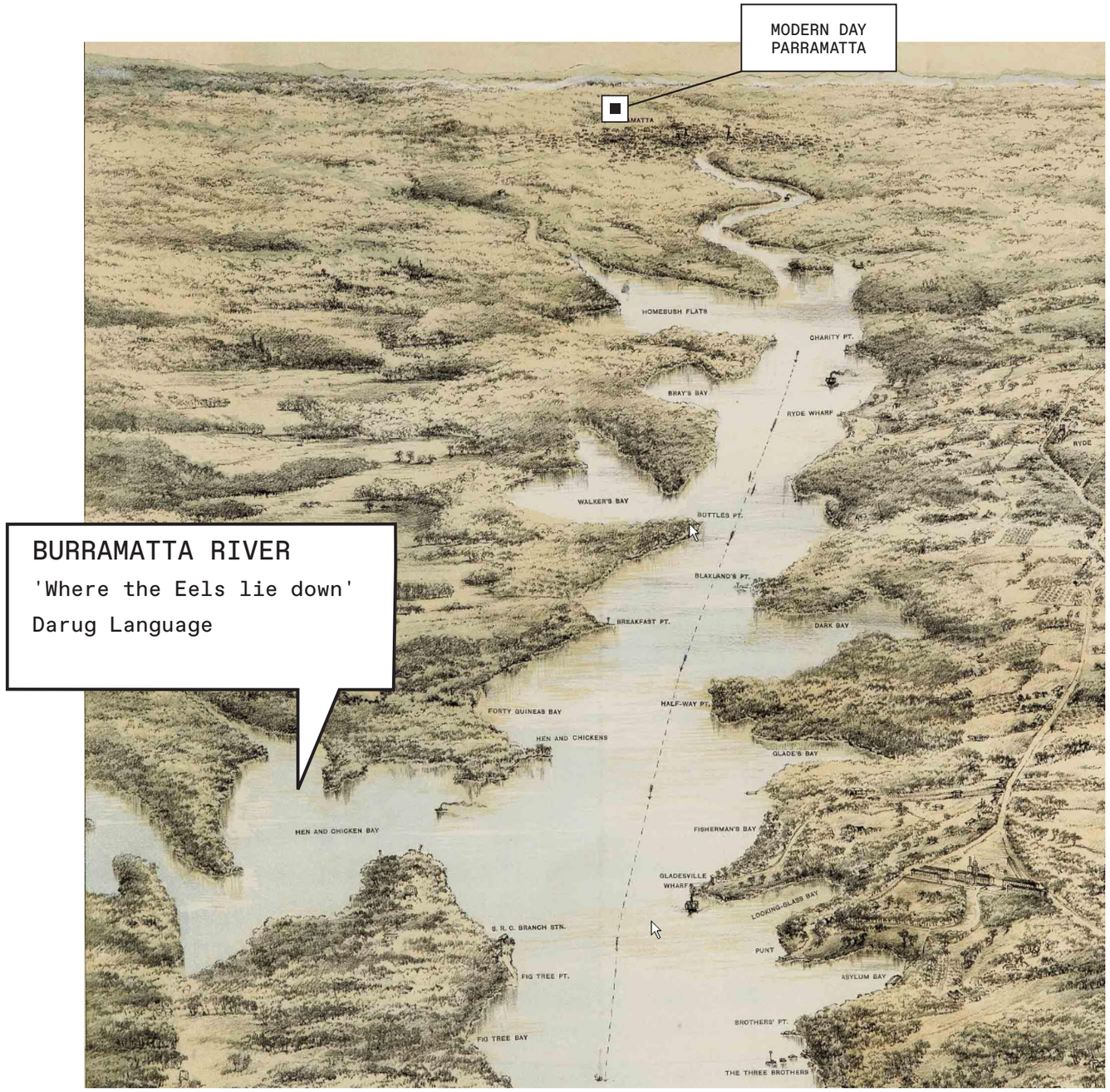
Parramatta Council

The water course we know as the Parramatta River was created 15 to 29 million years ago as water began to cut a valley into sandstone and shale laid down some 200 million years earlier. When the river began its flow, Australia had separated from Antarctica and begun moving north. The climate changed many times over the millennia. Some 10,000 years ago, the valley that had formed began to fill with rising seawater unleashed from melting glaciers to shape Sydney Harbour.

Today, most of the river to west of the city of Sydney is considered to be part of the harbour, all the way up to Parramatta where the tidal brackish water stops and fresh river water flows east fed by the Domain Creek and two other courses at the river's head; the Darling Mills and the Toongabbie Creeks.

RIVER CYCLES -

A History of the Parramatta River



'BIRDS EYE VIEW OF PARRAMATTA RIVER, NSW'
June 1877. Australian National Maritime Museum

02.15 PARRAMATTA LAKE

The 75 hectare reserve and surrounds were originally home to the Burramattagal clan of the Darug Aboriginal people. Their occupation is evident through the presence of hand-stencils, shelters, campsites, and tree scars.

A rich mix of wildflowers, shrubs, trees and grasses of the Sydney Sandstone Gully Forest. The bushland is dappled with Smooth-barked Apple (Angophora costata) and Blackbutt (Eucalyptus pilularus) which contains hollows for Sugar Gliders and root buttresses for Echidnas

The existence of the lake is due to early Parramatta's need for fresh water. Drinking water was originally sourced from the Parramatta River weir at Marsden Street

By the 1840's the town's drinking water became a health risk because of pollution from tanneries, wool washing operations, the Female Factory, gaol and hospital. The District Council petitioned the Legislative Council in 1848 and 1849 to provide funds to build a new reservoir.

In 1917 the Waterboard took control of the lake before handing it back to Council in 1927. The construction of the dam enhanced an already idyllic spot with the higher waters lapping the rocks of this rugged and wooded location providing Parramatta with a valuable recreational reserve.
With such a unique and beautiful resource available close to a growing population centre Parramatta Council undertook a program to initiate improvements to the park for the benefit of visitors and swimmers.
Hunt's Creek Reserve, as it was know then, was officially named Lake Parramatta and opened for recreational purposes in 1930

HISTORY AND HERITAGE
City of Parramatta



DAMING PARRAMATTA LAKE, 1898
History and Heritage City of Parramatta



SWIMMERS AT PARRAMATTA LAKE
History and Heritage City of Parramatta

02.16 HUNTS CREEK

Hunts Creek, which flows into Darling Mills Creek at North Parramatta, is fed by numerous small creeks which rise in the suburbs of North Rocks and Carlingford.

Hunts Creek is between four Darug tribal areas, the Burramattagal, Bidjigal, Terramerragal and Wallumattagal. It was described as the cleanest waters of the area by the early European settlers

The majority of the creek contains remnant bushland, including a large portion within the King's School site.

Hunts Creek, running through the north of the site, is classified as a 2nd Order Stream and requires a minimum 20 metre vegetated riparian zone each side of the waterway. The waterway running north-south through the site, is classified as a 1st Order Stream and requires a minimum 10 metre vegetated riparian zone.

There are several distinct vegetation communities along the creek. Coastal Enriched Sandstone Moist Forest is located closer to the creek. Sections of Sydney Turpentine–Ironbark Forest and Coastal Enriched Sandstone Dry Forest occupy sections of the reserve as you move up the catchment and away from the creek.

City of Parramtta
Walking tracks of Parramatta





HUNTS CREEK
The King's School Site

02.17 WALKING TRACKS

Hunts Creek, which flows into Darling Mills Creek at North Parramatta, is fed by numerous small creeks which rise in the suburbs of North Rocks and Carlingford.

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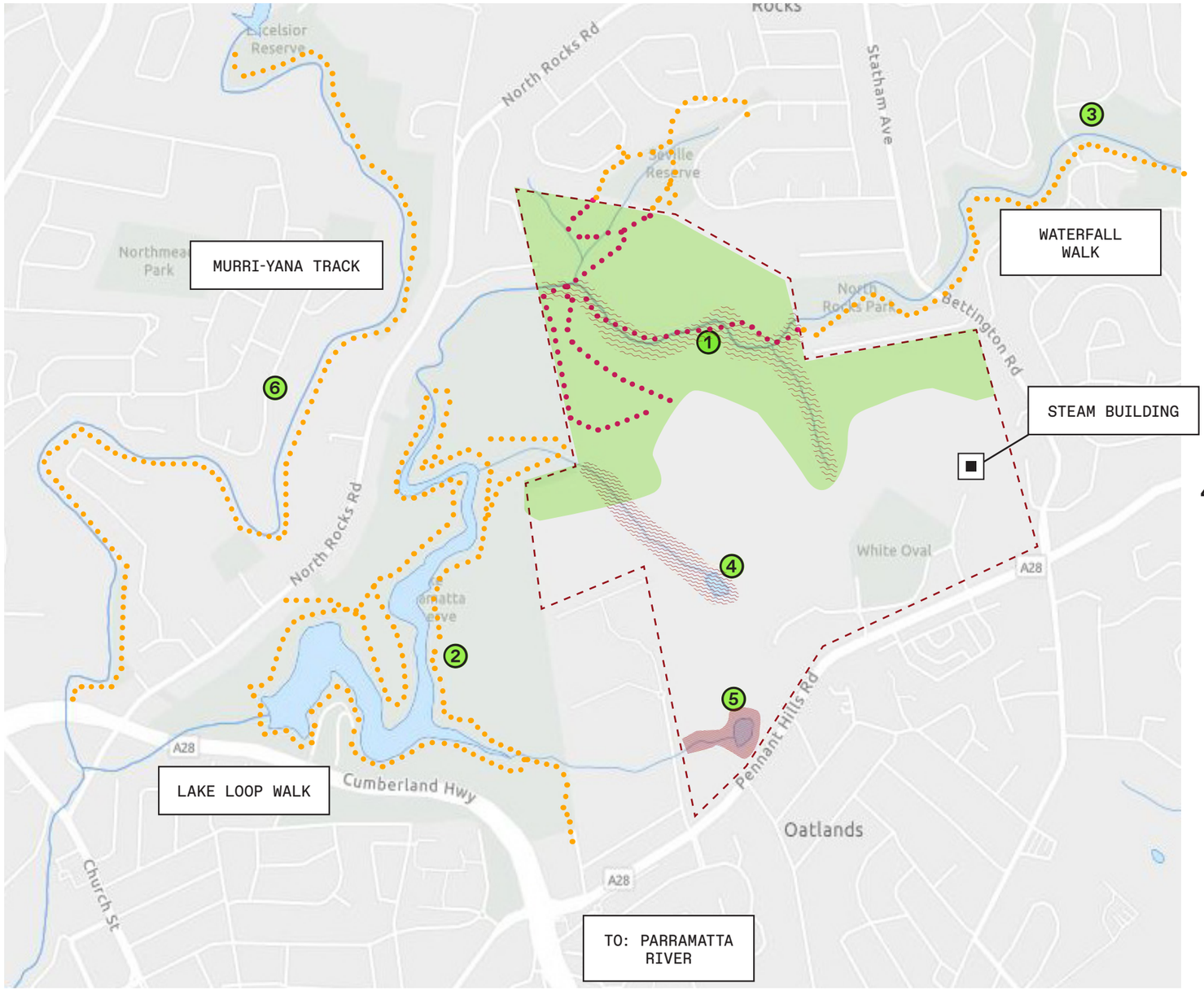
City of Parramtta
Walking tracks of Parramatta





- EXISTING PUBLIC WALKING TRACKS
- WALKING TRACKS INSIDE SITE BOUNDARY

1.HUNTS CREEK THROUGH THE KING'S SCHOOL SITE 2. PARRAMATTA LAKE
3.BALAKA WATERFALL 4. TKS DAM. 5. TKS DAM 6. DARLING MILLS CREEK

02.18 RIPARIAN AREAS & DAMS

The School site has significant native vegetation and riparian zones that forms part of the broader bushland.

In a natural or well managed state, riparian areas are important for many reasons. They can support diverse vegetation, help maintain bank stability, and increase ecological and economic productivity. These conditions support cleaner water, reduce disease and pests, and retain important nutrients and soil. Healthy land supports healthy waterways.

There are two dams on site that connect to Parramatta Lake.

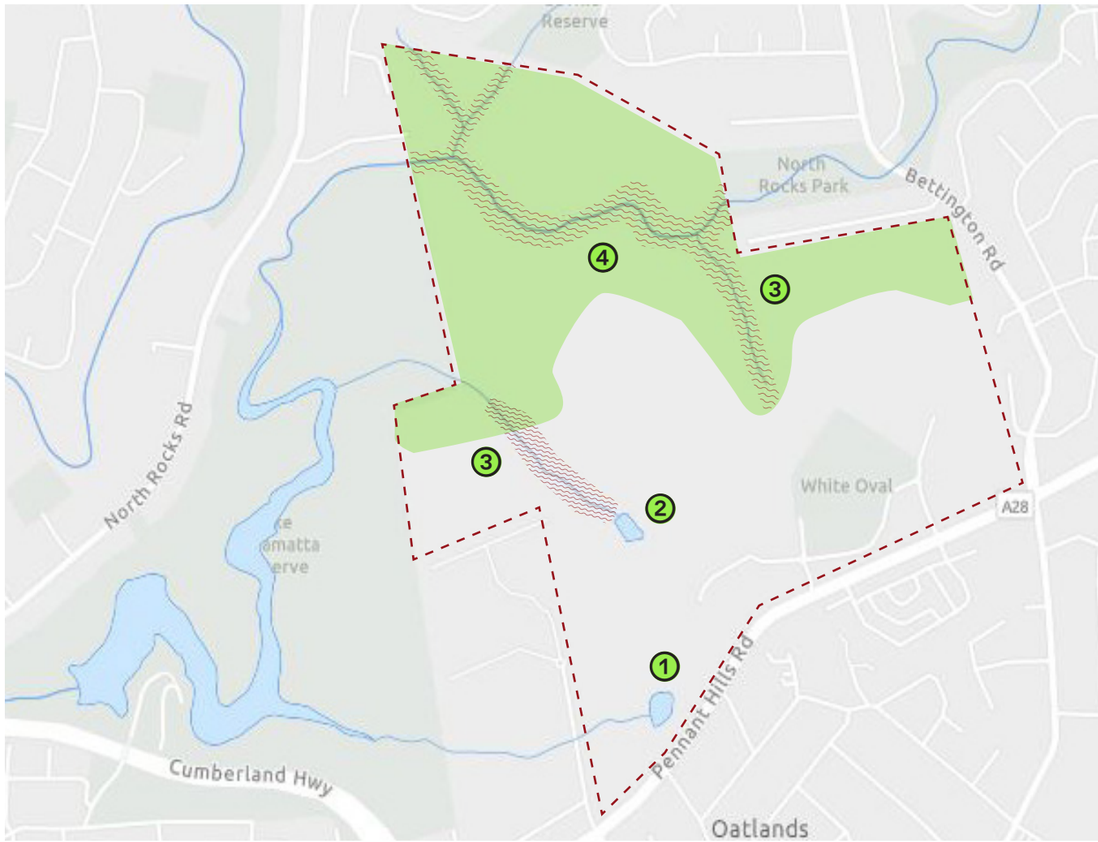
WATER NSW

Riparian Zones

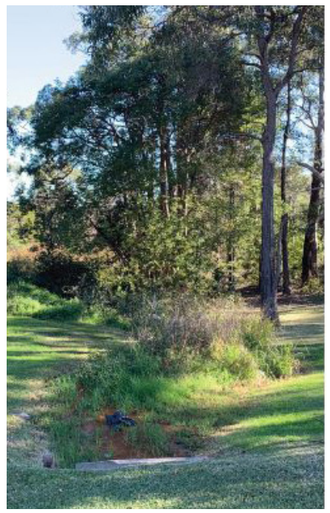
1. Lower Dam - Approximately 2 mega litres of water
2. Prep Dam - Approximately 3 mega litres of water
3. Riparian Zone
4. Remnant Bushland

Remnant bushland

Riparian land and waterways







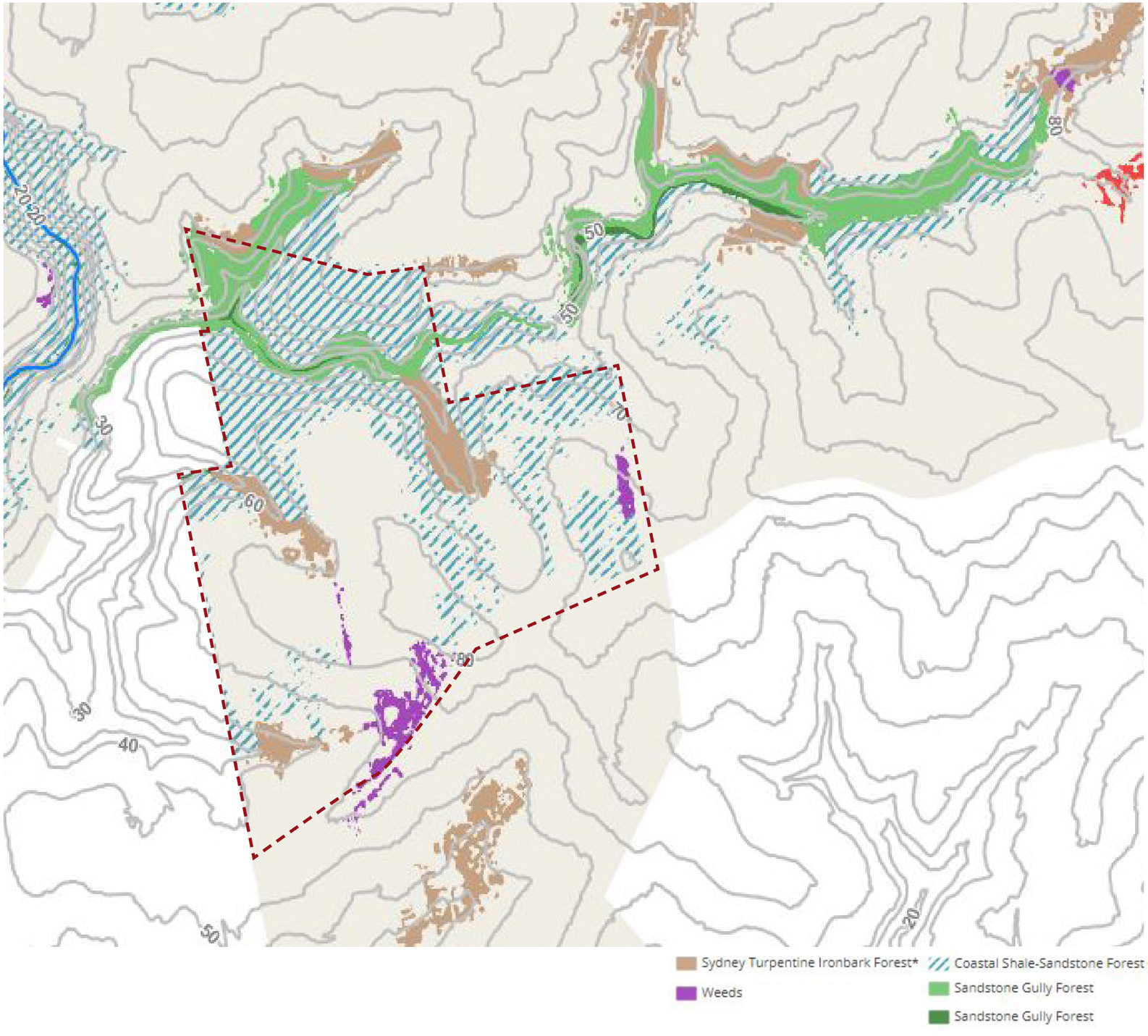
02.19 FLORA & FAUNA

Vegetation Types

The site contains significant native vegetation that forms part of a broader area of remnant bushland. This vegetation provides a strategic connection along Hunts Creek between Lake Parramatta Reserve to the east, Seville Reserve to the north and North Rocks Park to the west.

The Hills Council vegetation mapping (shown) indicates that the site contains Sydney Turpentine Ironbark Forest, an endangered ecological community (EEC) listed under the Biodiversity Conservation Act 2016.

- Sydney Turpentine Ironbark Forest
- Coastal Shale-Sandstone Forest
- Sandstone Gully Forest



02.20 FLORA

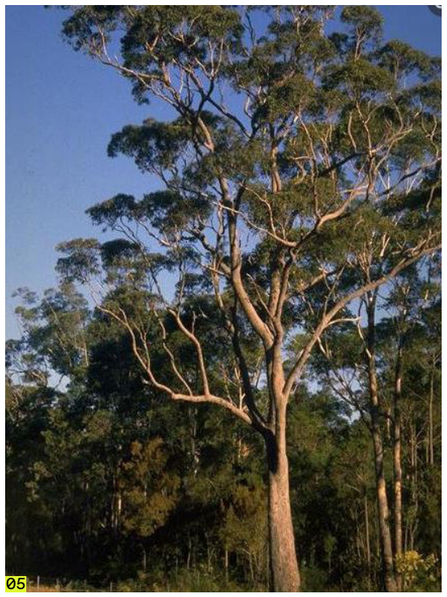
	LATIN NAME	COMMON NAME
1	Acacia linifolia	Flax Wattle
2	Allocasuarina littoralis	Black Oak or Fire Oak
3	Angophora costata	Smooth Bark Apple
4	Bossiaea obcordata	Spiny Bossiaea
5	Corymbia gummifera	Red bloodwood
6	Dianella caerulea	Flax Lily
7	Dodonaea triquetra	Hop Bush
8	Epacris purpurascens	
9	Eucalyptus pilulariss	Blackbutt
10	Eucalyptus resinifera	Red Mahogony
11	Lomandra longifolia Labil	Long Leaved Matrush
12	Syncarpia glomulifera	Turpentine
13	Austrostipa pubescens	Tall Spear Grass
14	Themeda australis	Kangaroo Grass
15	Persoonia linearis	Narrow Leaved Geebung
16	Syncarpia glomulifera	Luster


01


02


03


04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02.21 SYDNEY TURPENTINE IRONBARK FOREST

The King's School has areas of protected Sydney Turpentine Ironbark forest on it's school site. This makes up a large proportion of the schools natural and unique bushland setting.

Description

Open forest, with dominant canopy trees including Turpentine Syncarpia glomulifera, Grey Gum Eucalyptus punctata, Grey Ironbark E. paniculata and Thin-leaved Stringybark E. eugenoides.

Occurs in Sydney and is heavily fragmented, with only 0.5 percent its original extent remaining intact. Remnants mostly occur in the Baulkham Hills, Hornsby, Ku-ring-gai, Parramatta, Ryde, Sutherland and Georges River local government areas. Good examples can be seen in small reserves such as at The King's School.

Occurs close to the shale/sandstone boundary on the more fertile shale influenced soils. Because the land favoured by Sydney Turpentine-Ironbark Forest plant species is very fertile (more so than the sandy soils derived from Hawkesbury sandstone), after British settlement much of the land was cleared for its timber, as well as for subsequent farming activity.

Sydney Turpentine-Ironbark Forest contains trees which are around 20–30 metres tall, with ground cover composed of flowering shrubs and native grasses.

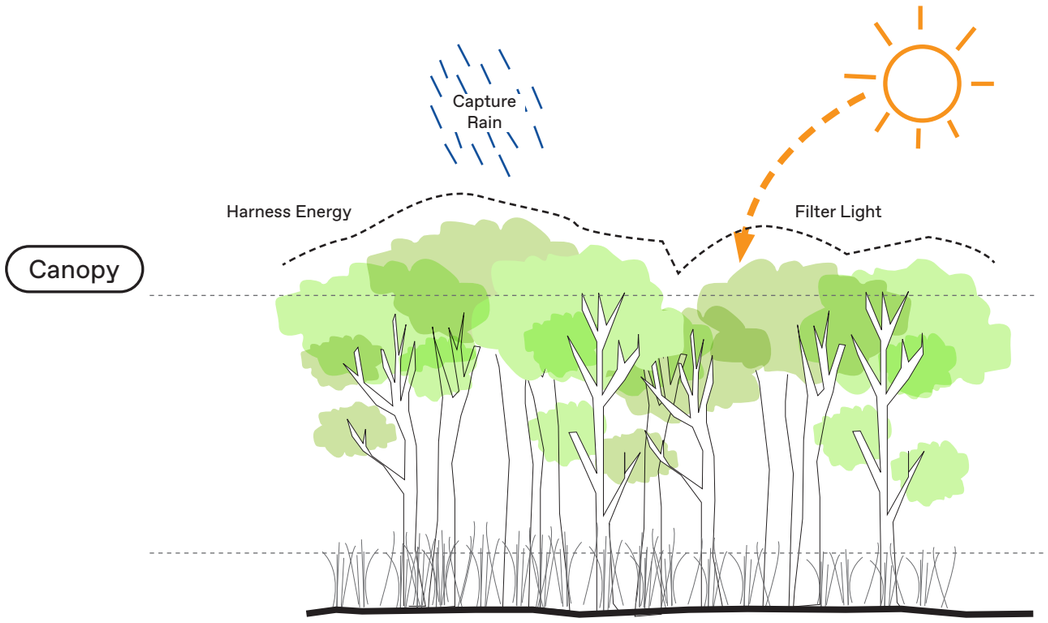
The main canopy trees in this forest community are;

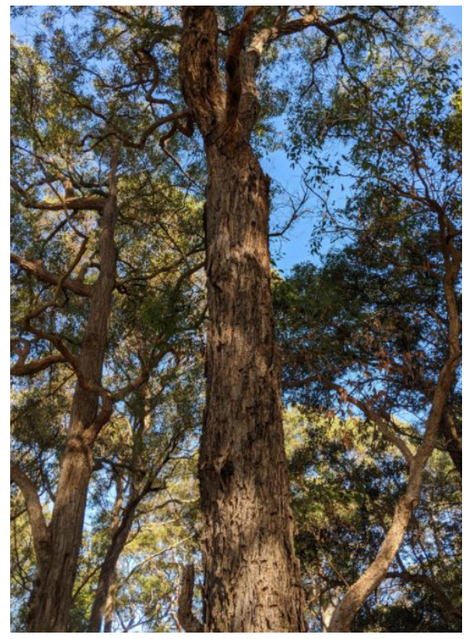
Turpentine (Syncarpia glomulifera), which can grow over 30 metres high and may live 500 years. The trunk of a mature tree trunk can soar to 45m before branching and may measure 1.5m in diameter at its base. The thick brown bark is fibrous, with deep vertical furrows, and the leaves have distinctive grey hairs on the underside.

And a number of different species of Ironbark. Ironbark is the common name used for several eucalypt species. Ironbarks grow to 30 - 40m and their branches can spread about 10m.
Its timbers was prized for its durability and was used by colonial settlers for colonial structures, railway sleepers and bridges.
It flowers from autumn to spring.

NSW Department of Planning and Environment
NSW Threatened Species Committee
Inner West Environment Group`

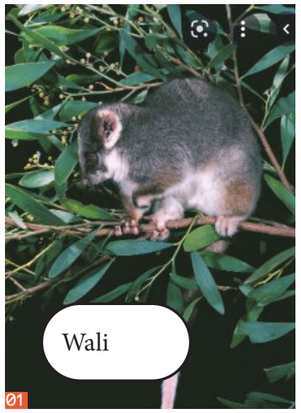






02.22 FAUNA

	COMMON NAME	STATUS
1	Ringtail Possum	
2	Gould's Wattled Bat	
3	Brushtail Possum	
4	Sugar Glider	
5	Short Beaked Echidna	
6	Grey Headed Flying Fox	
7	Southern Myotis	Threatened
8	Larged-eared Pied Bat	Threatened
9	Choclate Wattle Bat	
10	The Dural Land Snail	Threatened
11	Southern Myotis	Threatened
12	Sulphur Crested Cockatoo	
13	Galah	
14	Powerful Owl	Threatened
15	Glossy Black Cockatoo	Threatened
16	Gang-gang Cockatoo	Threatened
17	Grey Butcher bird	
18	Kookaburra	
19	Water dragon	
20	Red-bellied black snake	
21	Eastern Blue-tongue	
22	Red-crowned Toadlet	Threatened
23	Giant Burrowing Frog	Threatened
24	Rosenberg’s Goanna	Threatened





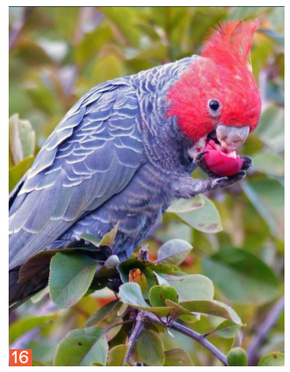


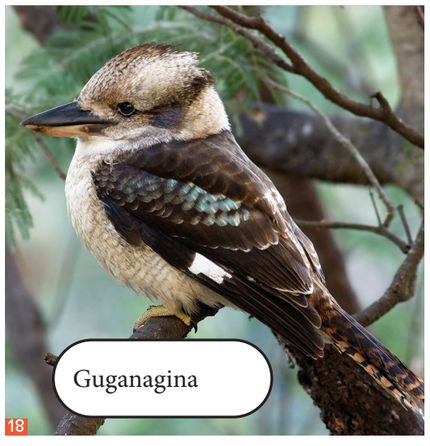


















DARUG LANGUAGE
Jakelin Troy - The Sydney Language (1994)

02.23 WALKING / SENSING COUNTRY WORKSHOP

WALKING / SENSING COUNTRY WORKSHOP
17.05.2022

Djinjama facilitated a sensing country workshop which looked at the development sites and also took the design team and project review group from the School through the Bushland and riparian settings to the North of the King's site.

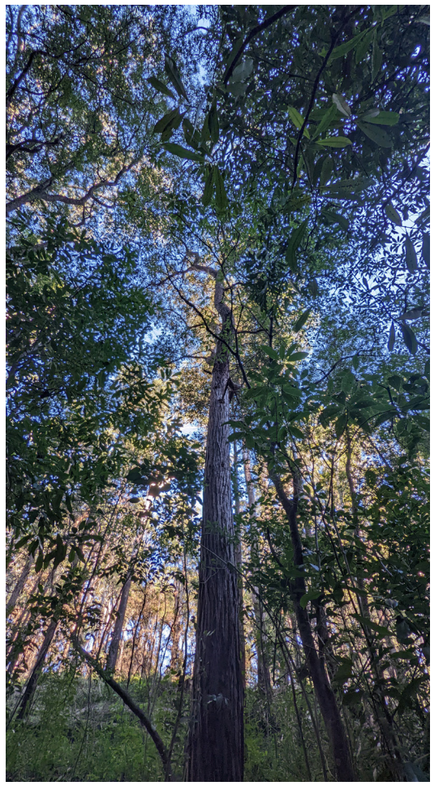
The walk developed a shared understanding and appreciation of country. It was especially useful in sharing how a deep understanding of place can assist in the development of urban and landscape proposals. It also enabled dialogue between Djinjama and the School. Through sensing country, site sensitive responses have been developed, derived from place and through ongoing dialogue with the aboriginal elders of the Darug community.





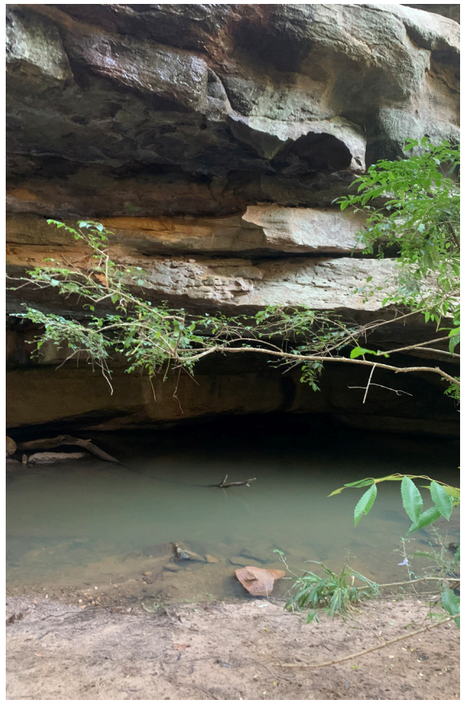














02.24 SCHOOL MASTER PLAN

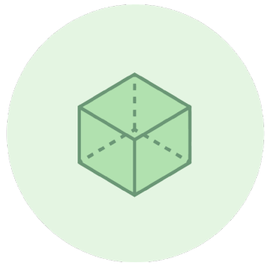
Masterplan
Architectus,
2020

A Masterplan was developed for The King's School in 2020 which set out a long term strategy for the School. This Masterplan, whilst having no planning status, has been endorsed by the School and informed the positioning of developments as part of the SSDA. The Masterplan developed a set of overarching principles which assisted in the early design stages for the individual building developments.

ARCHITECTUS MASTERPLAN - JAN 2020



CELEBRATE HISTORY



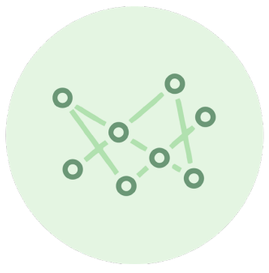
OPEN & TRANSPARENT



RESPECT LANDSCAPE



CAMPUS AS VILLAGE



CONNECTION



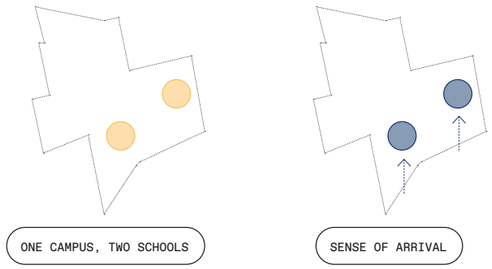
EVERYDAY ADVENTURE



02.24 SCHOOL MASTER PLAN

Masterplan Architectus, 2020

ARCHITECTUS MASTERPLAN - JAN 2020





ARCHITECTUS MASTERPLAN - JAN 2020
Precinct zoning

SSDA SCOPE

03

03.01 MASTER PLAN + BVN ENGAGEMENT

BVN ENGAGEMENT

Following an EOI process in Early 2022, BVN was selected by the School as the architects for the STEAM Building. Following confirmation of a preferred SSDA planning pathway, BVN were then selected to prepare a long term vision for the Prep School, with Phase 1 projects consisting of a General Learning Unit and a Performing Arts Centre. BVN are also commissioned to pull together all aspects of the SSDA application, which are prepared by other Architects and design professionals.

STAGE 1 DETAILED WORKS

NEW STEAM BUILDING

1.

A new STEAM building for Visual Arts, Computer Science Learning, Industrial Arts, Hospitality Food & technology withing the Senior School and adjacent to the Science building.

PREP SCHOOL UPGRADE

2.

2a
A new General Learning Unit adjacent to the existing STEM building, comprising of 8 learning spaces, breakout area, external learning space and support facilities.

2b
A new performing arts centre adjacent to the existing performing arts area, containing; a small performance space, classrooms and small practice rooms.

NEW STAFF RESIDENCE

3.

Provision of 10 residences for staff and their families within the residential precinct of the site.

NEW ENTRY THROUGH MASONS DRIVE

4.

Provision of a new vehicular entrance into the site through Masons Drive to provide more direct access to the Preparatory School and reduce traffic congestion on Pennant Hills Road

CONCEPT WORKS

NEW SPORTS PAVILION

5.

A new Sports Pavilion within the western sporting fields precinct

NEW DAY BOY HOUSE

6.

A new Day Boy House for Year 7 students who currently do not have a designated House

NEW BOARDING HOUSE

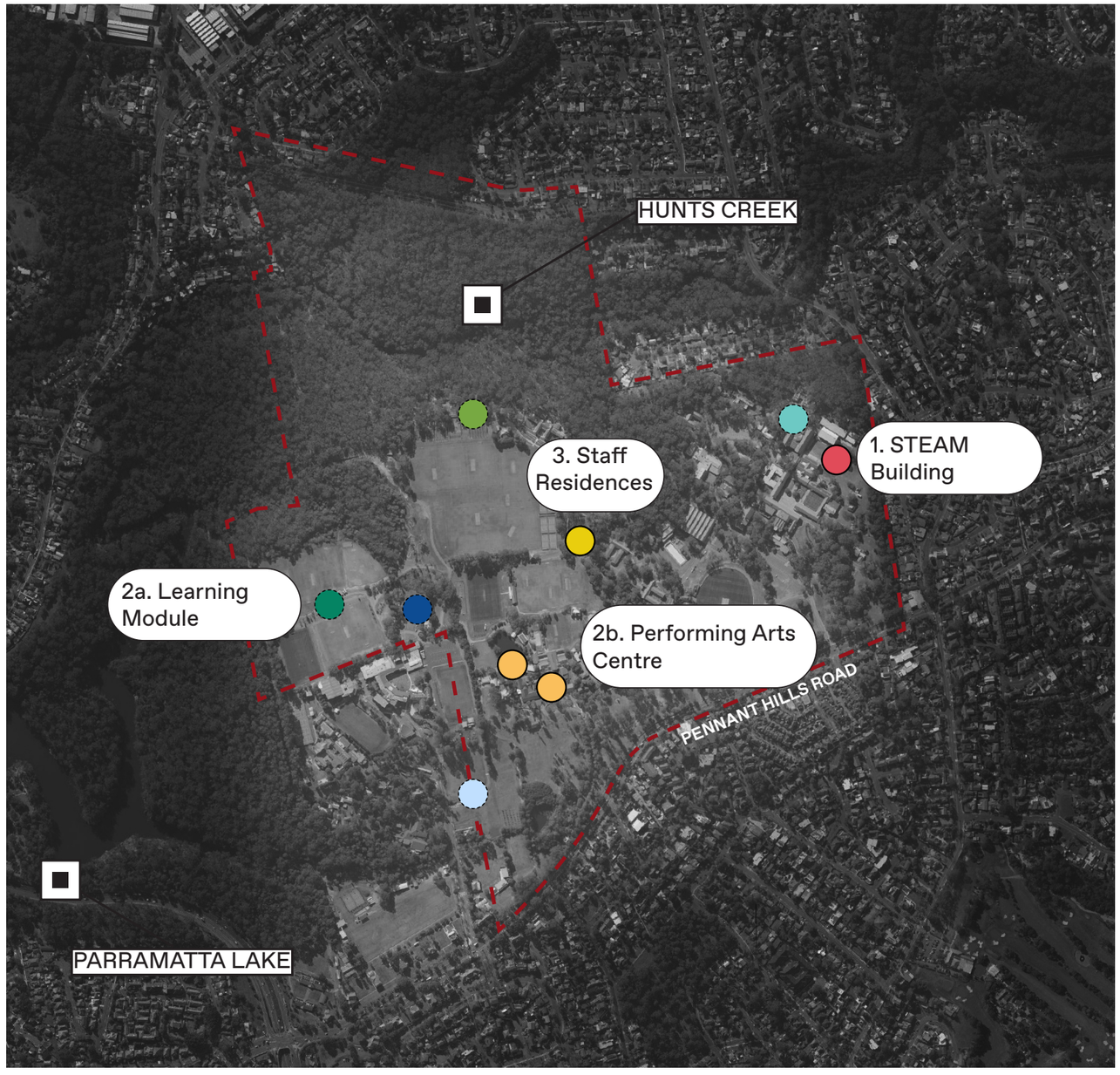
7.

A new Boarding House for up to 85 boarders to allow junior boarders to be relocated from the heritage Gowan Brae residence

NEW ROAD AND BUS PARKING

8.

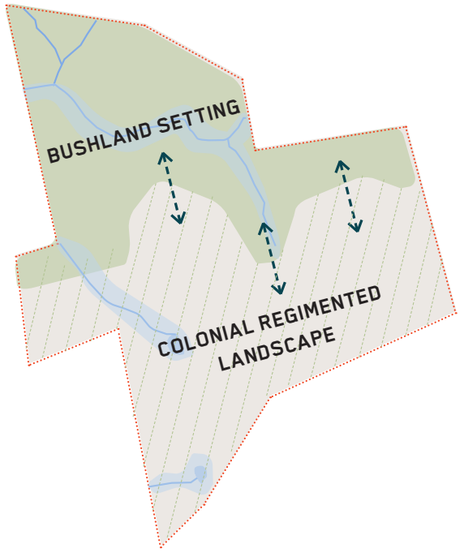
A new bus parking



03.02 EXISTING SITE

EXISTING SITE

The site is made up of a character of bushland setting to the North and buildings developed for the School to the South. The proposed developments as part of the SSDA have been considered in line with the 2020 Masterplan prepared by Architectus as well as functional adjacencies and environmental impact.





03.03 SITE PREPARATION / DEMOLITION

SITE PREPARATION / DEMOLITION

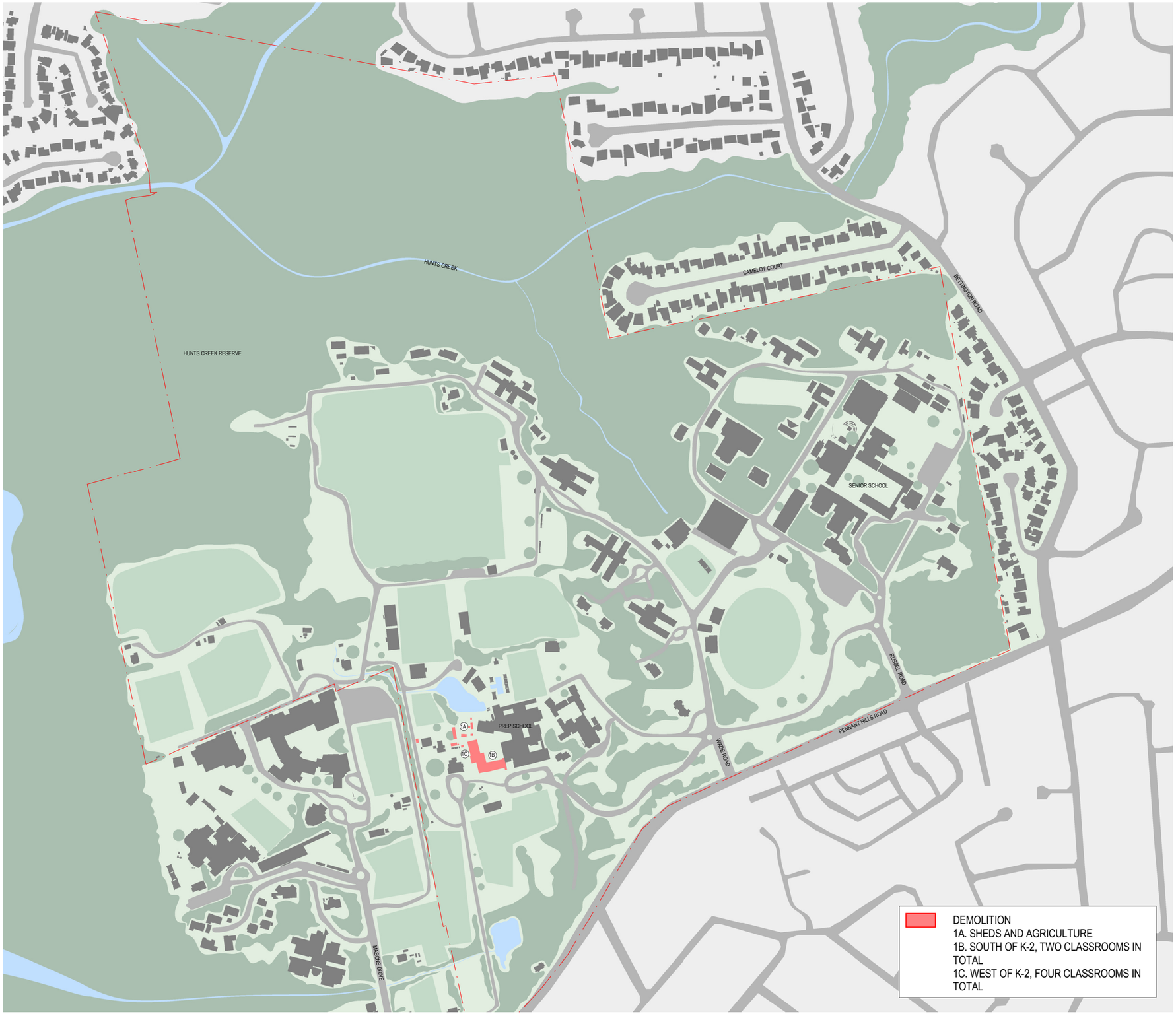
The development proposals as part of the SSDA report require site preparation, a proportion of demolition and tree removal. For the Phase 1 developments (Detailed approval), careful consideration has been given to the placement of buildings to minimise the extent of tree removal - Refer to individual sections of this report and consultant reports for further detail.

Building demolition is required to facilitate developments in targeted areas.

PHASE 1 DEMOLITION

- Prep Campus - Existing K-2 Building removed to enable construction of the new Performing Arts Centre

- Prep Campus - Removal of a cluster of out buildings which currently allow for small scale agriculture



03.04 PROPOSED

STAGE 1 PROJECTS

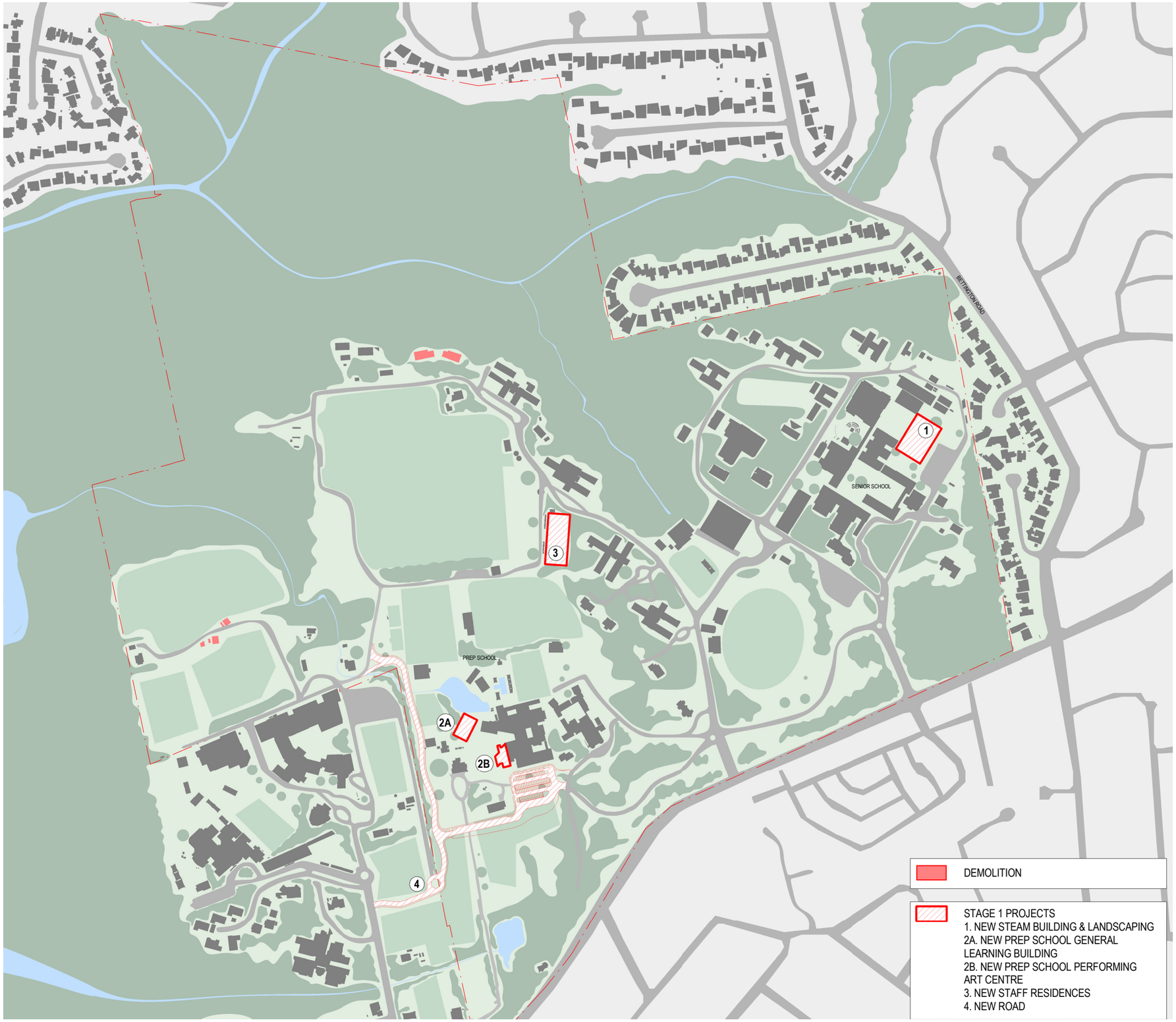
1. STEAM BUILDING
2A. PREP PERFORMING ARTS BUILDING
2B. PREP GENERAL LEARNING BUILDING
3. STAFF RESIDENCES
4. NEW ROAD

CONCEPT PROJECTS

5. SPORTS PAVILION
6. DAY BOY HOUSE
7. BOARDING HOUSE



03.05 SITE PREPARATION / DEMOLITION - CONCEPT PROJECTS



03.06 PROPOSED - CONCEPT PROJECTS



STAGE 1 PROJECTS

SENIOR SCHOOL STEAM BUILDING

04

04.01 DESIGN APPROACH

"A place of everyday adventure - to encourage, surprise & delight"

Our scheme is based upon a holistic approach to the complex layers of use, aspiration, need, character and history of the School and brief. The School has been dedicated to the design process and enabled a response which is considered, well informed and multi-faceted.

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. This is contrasted against a colonial courtyard and manicured garden typology in and around the School. The School houses a number of residents on site as well as boarding houses. Pennant Hills road provides the main access into the site. To the West is Tara Anglican School for Girls and Burnside Public School. The eastern site boundary directly adjoins the rear gardens of the low scale residential dwellings. The campus is barely visible from surrounding developments, with the bushland setting providing a substantial landscape buffer to most of the perimeter.

Upon Entrance to the site from Pennant Hills Road, the sports facilities provide an impressive first visual for the School, with the white oval being a significant identifier for the School.

The Senior School is characterised by a series of courtyard spaces surrounded by a verandah of terracotta pillared buildings.

SAFETY AND SECURITY

The site is situated well within the School Campus, with the School 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. The lighting strategy creates a safe and legible place and the building is designed for clear site lines from each facade. Refer to the CPTED section of this report

SUSTAINABILITY

The proposal uses passive solar design principles to reduce heat load on the building, including sunshading devices, a projecting canopy and a high performance thermal envelope. The building's floor plate has been minimised in depth with a central atrium to provide natural light into the teaching spaces. The building has a mixed mode ventilation system with a default of natural ventilation. The strategy brings in fresh air at the base of the building and with use of the skylights and atrium, creates stack effect for air to be drawn through the building.

The are numerous external terrace spaces, each one with a dedicated function. Rainwater is harvested from the large flat roof and is reused. The project is based on a bespoke sustainability framework. Refer to the ESD report prepared by Steensen Varming 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 lift access to navigate between the topographical levels on site and 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.

FORM, MASS AND HEIGHT

The proposal is a 3 level building with its lower level embedded within the ground, due to the site's sloping topography. The building mass is articulated by a masonry component to the base which has the visual appearance of grounding the building, and a lighter, timber screen and glazed facade to the upper levels. The roof provides protection from the elements to the levels below.

MATERIALS AND COLOUR

The base and solid elements of the project that engage with the ground plane are recycled brick - robust, durable and reminiscent of the solidity of the buildings on the site. Above this, the facade is performative, articulated, and in natural timber. Within the building, exposed concrete and services are contrasted with bold, industrial feel colour, linking to the workshop nature of the internal spaces.

EDUCATION MODEL

The Building enables alternative pedagogy at the School, providing new types of learning environments for a multitude of activities. It is a flexible and adaptable place, where STEAM subjects can be explored.





LANDSCAPE

The Landscape is a key component of the design with a key principle on blurring the boundary between the colonial courtyards and the bushland setting of the School. Refer to the Landscape Architects report prepared by Taylor Brammer

STRUCTURE

A concrete structure is utilised. This enables flexible long span spaces. The concrete is specified with cement substitutes to reduce carbon. Refer to the Structural Engineering report prepared by TTW.

SERVICES

Power, communication, hydraulic and mechanical services are provided in accordance with the brief, using a light-touch, easy maintenance approach through considered and accessible locations of plant equipment, which is all lift-accessible or on grade at ground level. Refer to the Building Services Report prepared by NDY

OPERATIONS

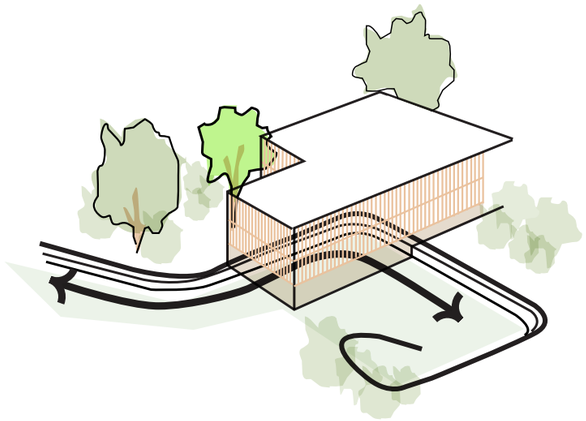
The project envisages the use of the existing Schools central waste management facilities. A dedicated waste holding area is provided at Level 0.

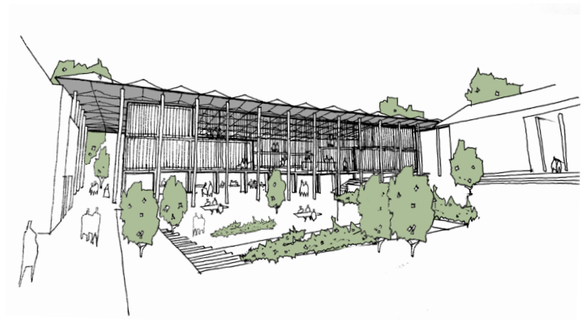
AMENITY

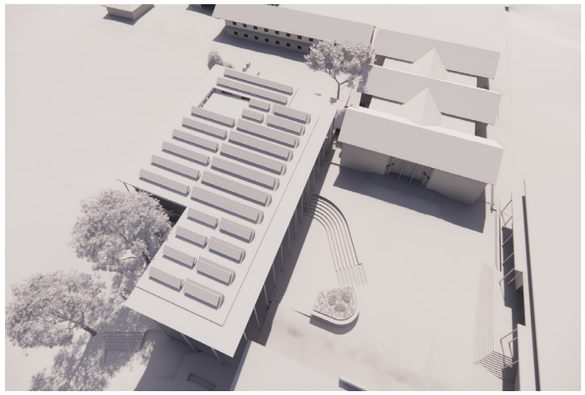
A high level of amenity is provided for the various users of the facility through the provision of differing types and scales of space - covered, uncovered, protected, tiered or open. The landscape design provides areas of shade and the massing of the building provides terraces that engage with the surrounding 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 sustainable design outcome for the STEAM Building.

04.02 BUILT FORM + MASS

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









FORM

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

The building is shaped around existing significant trees, with the South East corner highly glazed to allow the building to interact with the prominent tree 433. To the North West, a terrace space with canopied roof over allow for retention of another significant tree. This careful consideration of tree retention links into a CwC principle of caring for country and has contributed to an interesting, carefully considered form to the building.

The form is articulated by a masonry finish for the levels which engage with the ground, compared to the lighter, timber fin screen and glazed elements of the upper volume. The external event terrace on Level 0 with tiered seats spills into the interior space, with brick pavers seamlessly transitioning between thresholds. The sweeping curve between upper and lower level 0, purposefully creates a point of tension, a bridge between the colonial courtyard typology and the indigenous landscape surrounding.

MASS

Due to the slope of the site and embedding the lower level of building within the landscape, the building is legible as 2 storey building to the West and 3 storey to the East.

The building mass is articulated by:

- The masonry facade to the lower level which engages with the ground plane and a lighter, timber screen and glazed facade to the upper levels
- Masonry is also used for the flooring material at Level 0, spilling from inside to out.
- The timber screen, breaks up the building mass into two stratified levels
- Aside from the two cut-outs to enable tree retention, the building is a purposefully simple, flexible set of internal spaces for evolution over time.
- The external colonnades link into the Senior School vernacular but are part of a new language, evolving from the terracotta colonnades existing on site.

BULK

The building forms the final elevation of the STEAM Precinct, with this building providing function for all others to utilise, such as shared event and teaching spaces.

The position of the building is carefully considered to form a suitable scale of backdrop to the space, with the bulk contained to sit comfortably against existing eaves levels of adjacent buildings.

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, timber screen and glazed facade to the upper levels. The lower levels are expressed as part of landscape.

HEIGHT

The building is approximately 14.5m tall, measured at the lowest point of the project site to the east. The surrounding facilities sit at similar levels, with this building cohesive with the CLL and Science buildings. The Wansey Building to the North East is a lower 2 storey building, housing the industrial arts department. The building is not in close proximity to residential developments, with a significant landscape buffer to the South East.

04.03 STEAM BUILDING PROJECT PRINCIPLES



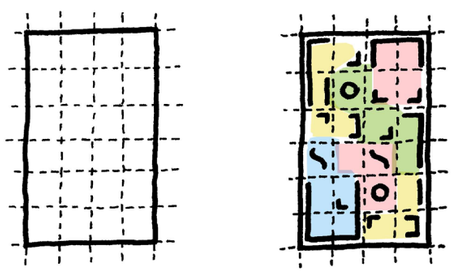
VISIBLE LEARNING

- Emphasis on collaboration
- Creative process on show



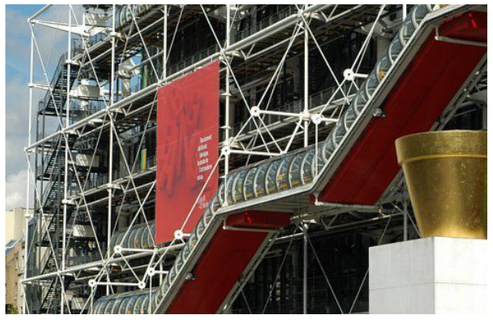
WONDER AND AWE

- A place for showcase
- Innovation



HACKABLE STRUCTURES

- Agency - freedom to choose
- Flexibility & Reconfigurable



BUILDING AS TEACHER

- Exposed structure and services
- Visible building performance



A MODERN VERNACULAR

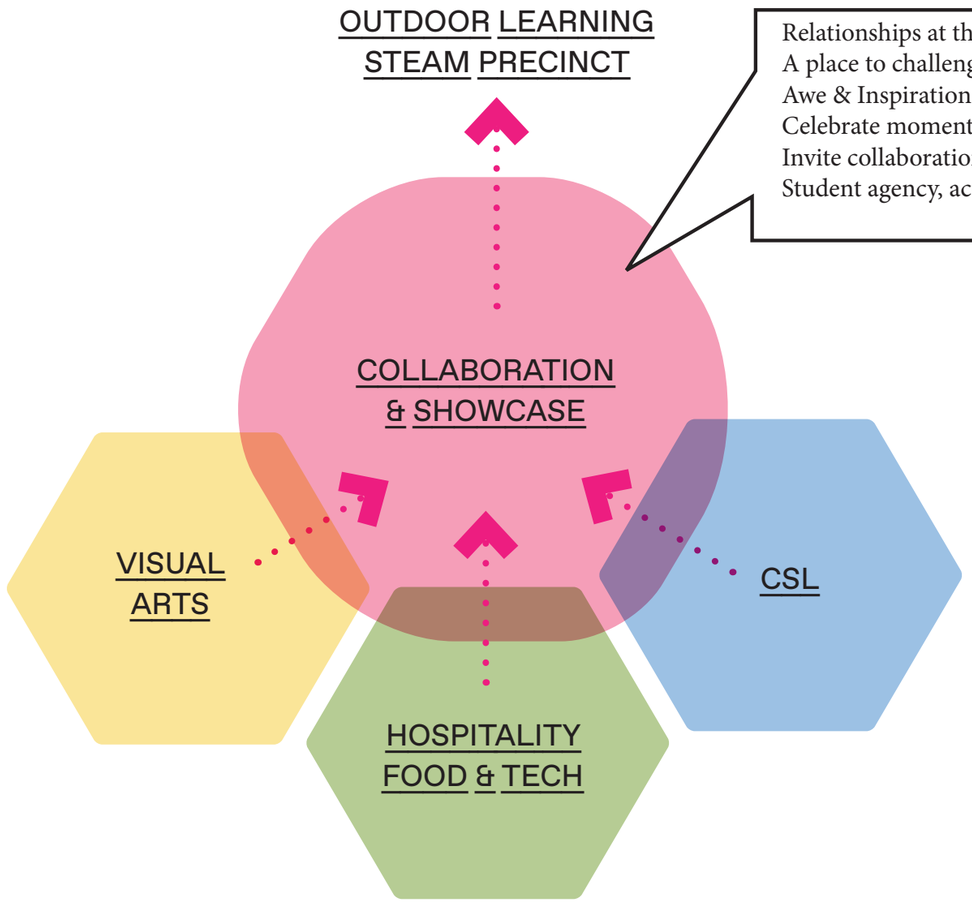
- External Verandahs
- Arrayed columns



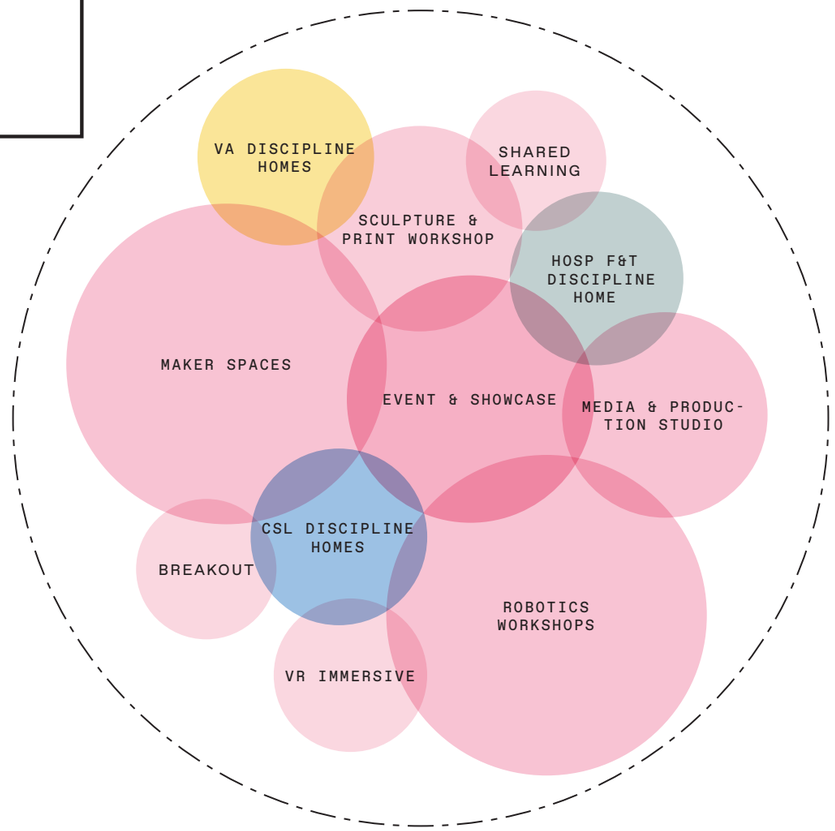
CONNECTION TO PLACE

- Visual and physical connection to the outside
- Learning from nature

04.04 BRIEF AND EDUCATIONAL PRINCIPLES



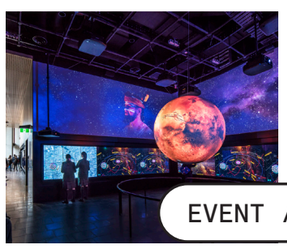
Relationships at the centre
A place to challenge & provoke
Awe & Inspiration
Celebrate moments of intersection
Invite collaboration
Student agency, active & deep learning



A shift from traditional typologies to a more dynamic expression with multiple spatial options focused on offering a range of learning settings.

VR IMMERSIVE

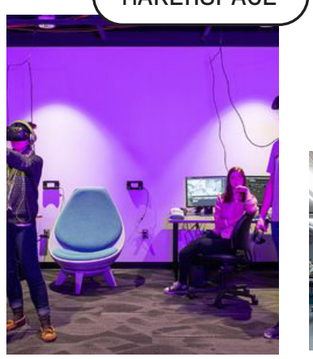


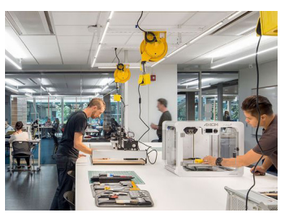


EVENT / SHOWCASE



MAKERSPACE

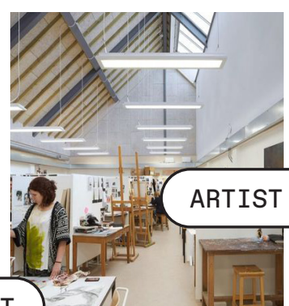




MEDIA STUDIO



INDUSTRY PROJECT



ARTIST IN RESIDENCE

WORKSHOPS



04.05 CONNECTING WITH COUNTRY PRINCIPLES

Djinjama, the projects connecting with Country consultants have consulted with Darug community and knowledge holders to derived a set of Country Narratives and design principle specific to the site and appropriate for project. (see opposite).

The stories and narratives shared with the design team and client continually inform and assist as the design is developed through all design stages.









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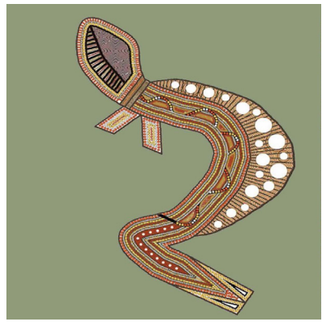
COUNTRY NARRATIVES



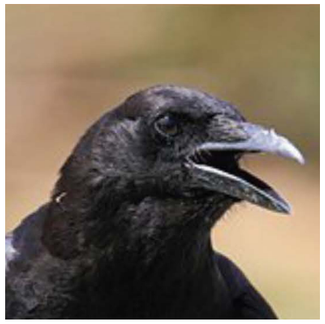
Eel Story

A story of epic journeys that formed the landscape from over the mountains to the coast. The old ones travel to Coral Sea and even to the coast of New Zealand. The young ones return up the river. Movement was around autumn.



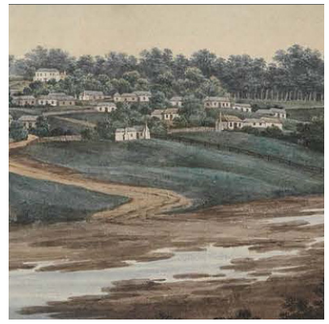
Whale Story

Occurred when a whale beached itself. Eels and other sea creatures are attracted to the nutrients that are concentrated where the saltwater of Port Jackson meets the freshwater of the Parramatta River. Blue whale, humpback, southern right whale all shared this Country. Massive migratory journey.



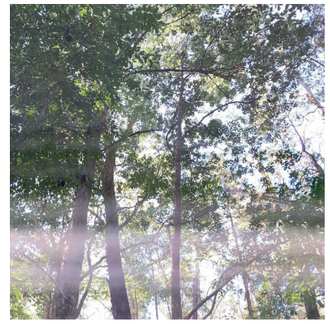
Resistance

Meeting of Coastal Dharug (identified through missing tooth) and Inland Dharu (identified through nose peplum piercing). Trade, marriage, punishment and corrobboree occurred often between these groups of the Cumberland Plain. Also the Frontier Wars; in 1797 Pemulwuy led a group of an estimated 100 Bidjigal warriors in an attack on the town of Parramatta.



Sand Body

With two permanent water sites and mixed resources (Parramatta River and Clay Cliff Creek), this special place was of great importance to the local Aboriginal groups and an important cultural landscape. Lagoons and waterholes punctuated the sand terrace. Aboriginal occupation is around 58,000 years. Sand began to be deposited 50,000-60,000 years ago to around 11,000 years ago.



Spirit of the Trees

Turpentine Ironbark woodlands. Paper bark trees, grassland, well spaced gum, box and rough barked apple trees, banksia, grass trees, mangroves. Rock shelters and deposits, open campsites, middens, axe grinding grooves, scarred trees, hand stencils and drawings all part of cultural practices. Fresh water and saltwater food sources were available. Ducks, eels, shellfish, crayfish, fish and turtles – kangaroo, possum, flying foxes, native fruits, berries seeds, yams and roots.

POTENTIAL DESIGN PRINCIPLES

- Circular and curved
- Space to learn from country
- Avoid dominant monuments, furniture and hierarchy
- Shaped landscape forms
- Bleed inside and outside
- Sensory engagement
- STEAM - value indigenous knowledge as much as European
- Slow down timelines, learning and trust that each one of us will bloom in the right time
- Design for longevity

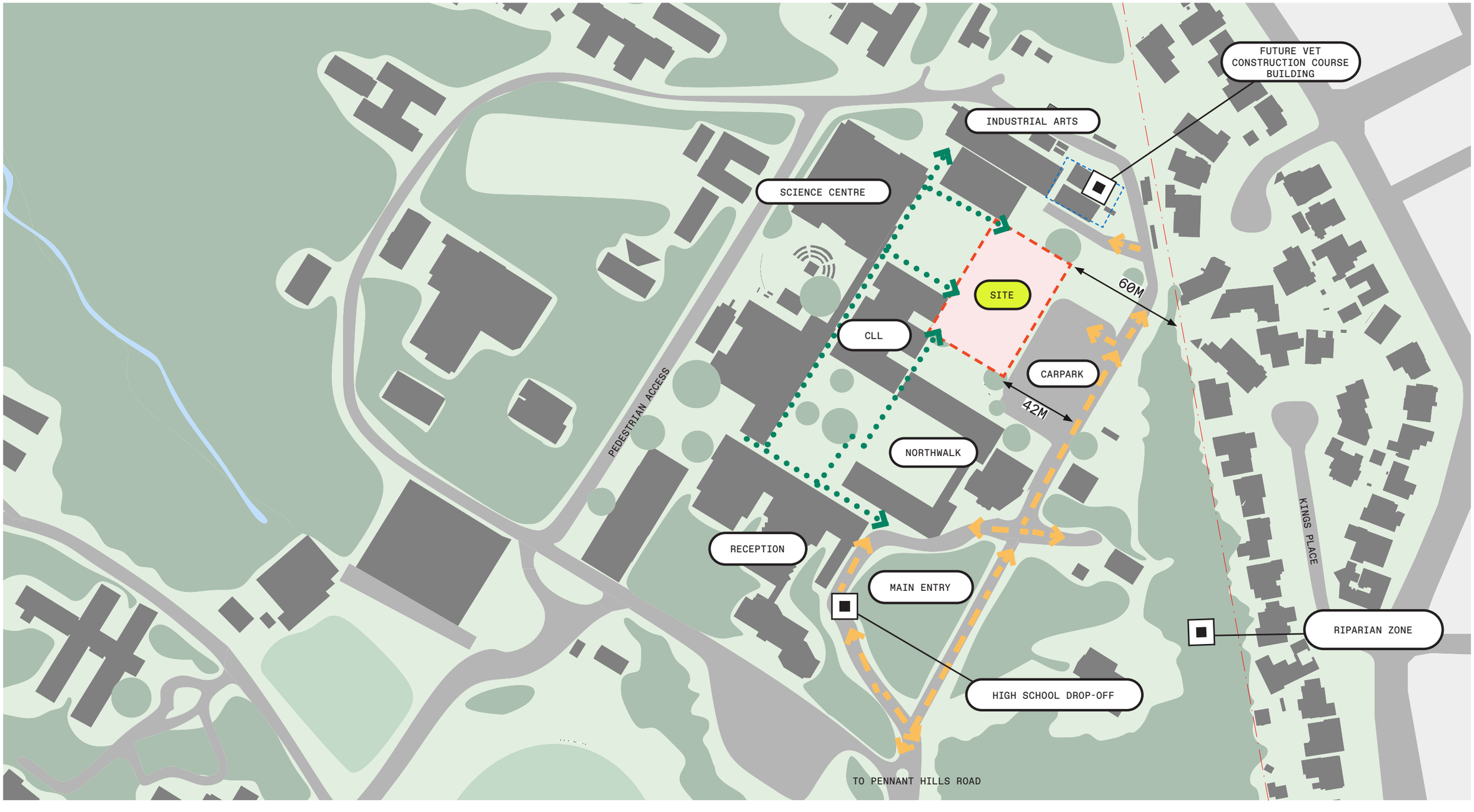
- Map Waterways out of site boundary to identify what the School needs to care for
- Flow and accessibility in way finding
- Retreat spaces to stop and breath, nooks and niche spaces
- Collaborative spaces where ideas and resources can be shared
- Avoid silos, enable flow of information including inclusive language and tonal understandings
- Create safe meeting places

- Cultural fire
- Follow patterns of country, allowing form, movement and character of Country to create space and inform hard and soft elements we add to country
- Mosaic of design and merging of ideas
- Pathways of connection, safety and healing for the non-human and more-than-human
- Create communities that support the healing process for Country and continue cultural practices
- Light and gentle response to how we add to these places
- Follow the contours of the landscape

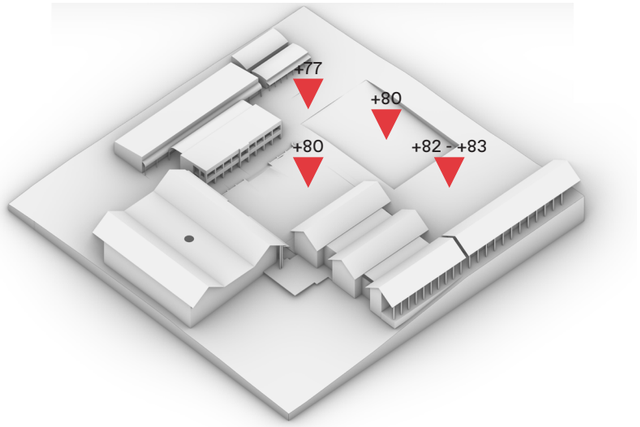
- Create safe places to gather, rest, make and be inspired
- Accessibility from many directions
- Red and orange silcrete and ochre colours
- Water in landscape. No more water in concrete. Let it slow down and clean the landscape, create spaces for non-humans to access the waterways
- Mindfulness about responsibility to the changing climate
- Creating conditions for enoughness
- Sandiness as materiality

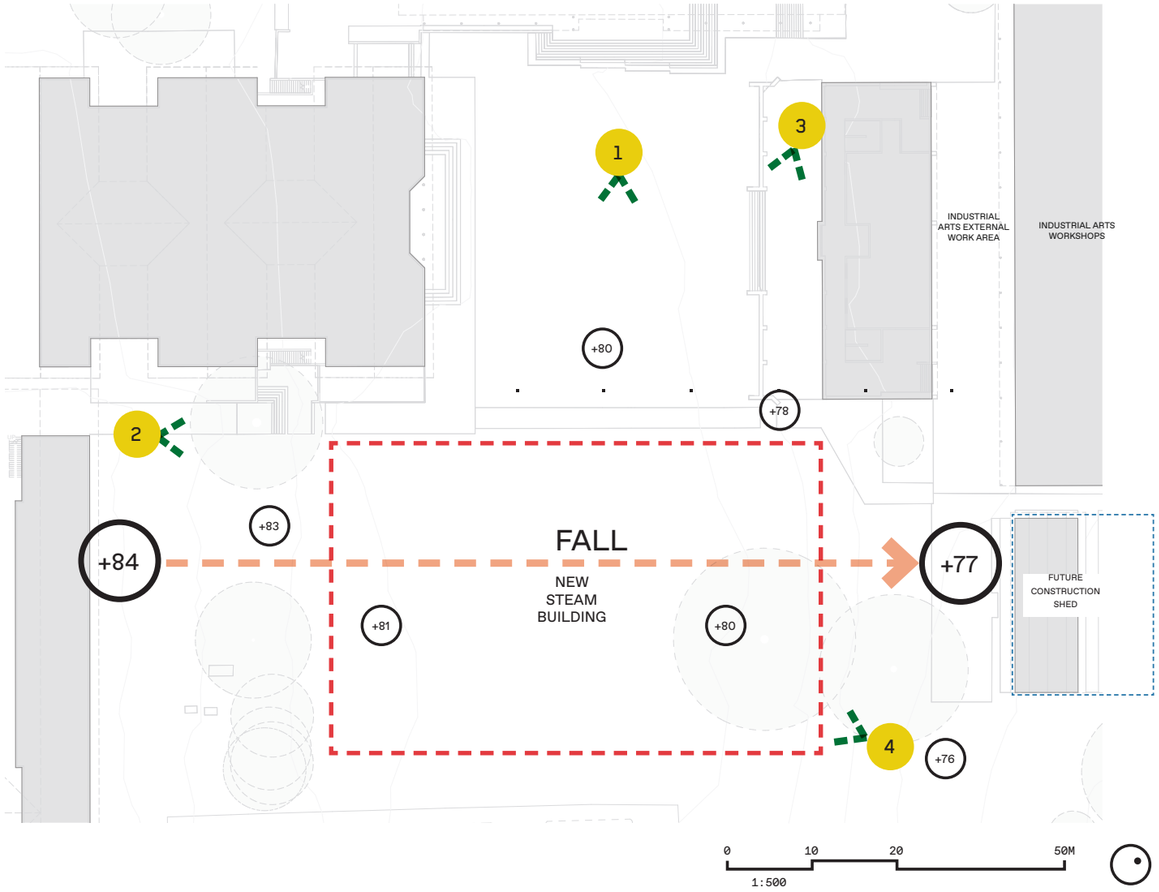
- Spaces between structure, let the light in. Tall spaces having low protective areas
- Enable tree families
- Allow biodiversity to flourish, stop clearing, leave wood on the ground
- Hardwood sustainable timber
- Cultural practice including cool fire so the shrubby understory does not dominate the grasses. Never burn the canopy
- Nudge management, allow country to do its work
- Create spaces to play and learn in the bush. Recognize this is an outdoor classroom
- Tread lightly

04.06 STEAM PRECINCT SITE ANALYSIS



04.07 STEAM PRECINCT EXISTING







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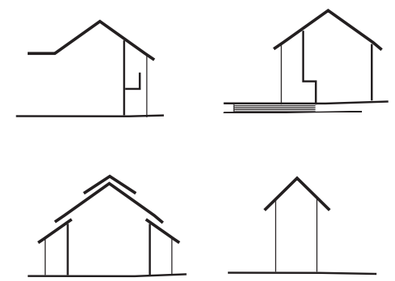
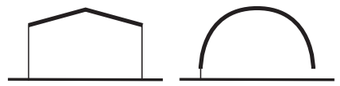
04.08 VERNACULAR EXPLORATIONS

King's School



Agricultural



Colonial

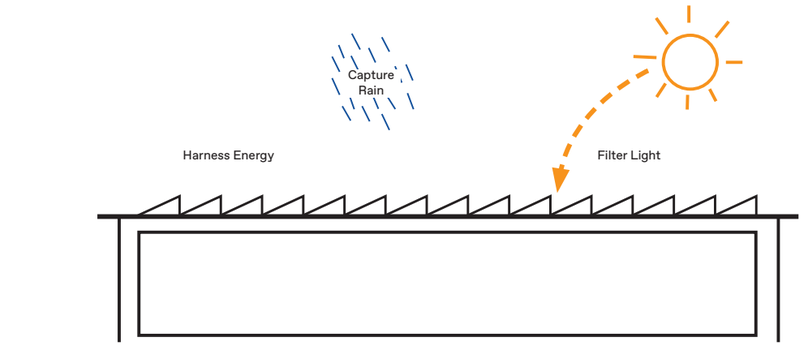


Darug

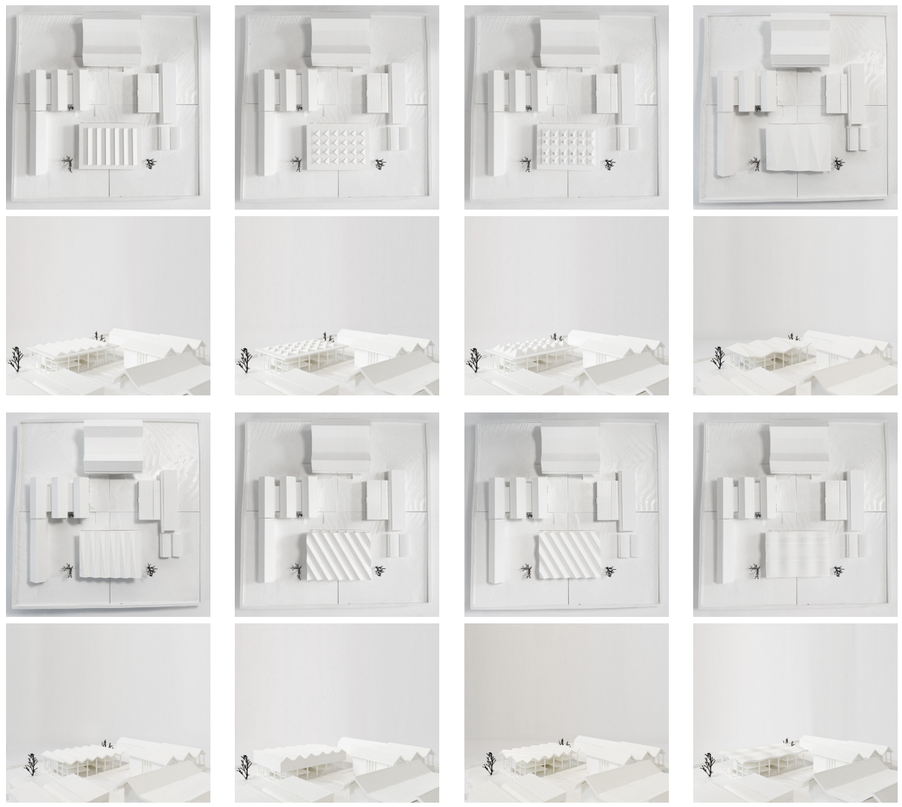


Ironbark Forest





A NEW VERNACULAR



ROOF EXPLORATIONS

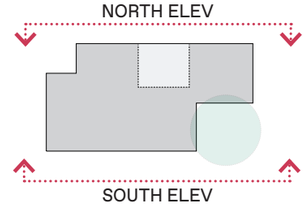
04.09 ELEVATIONS



NORTH ELEVATION



SOUTH ELEVATION



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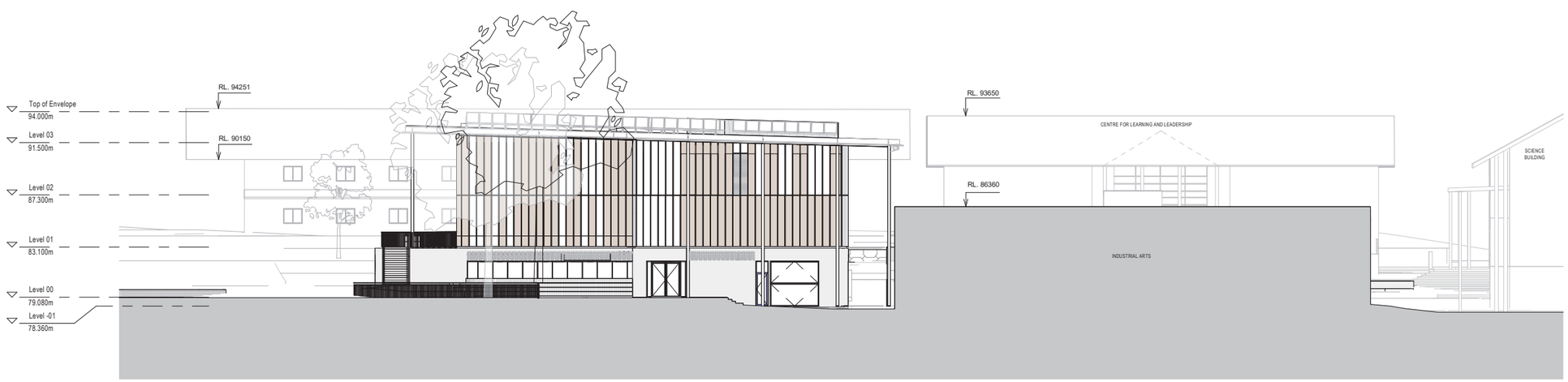
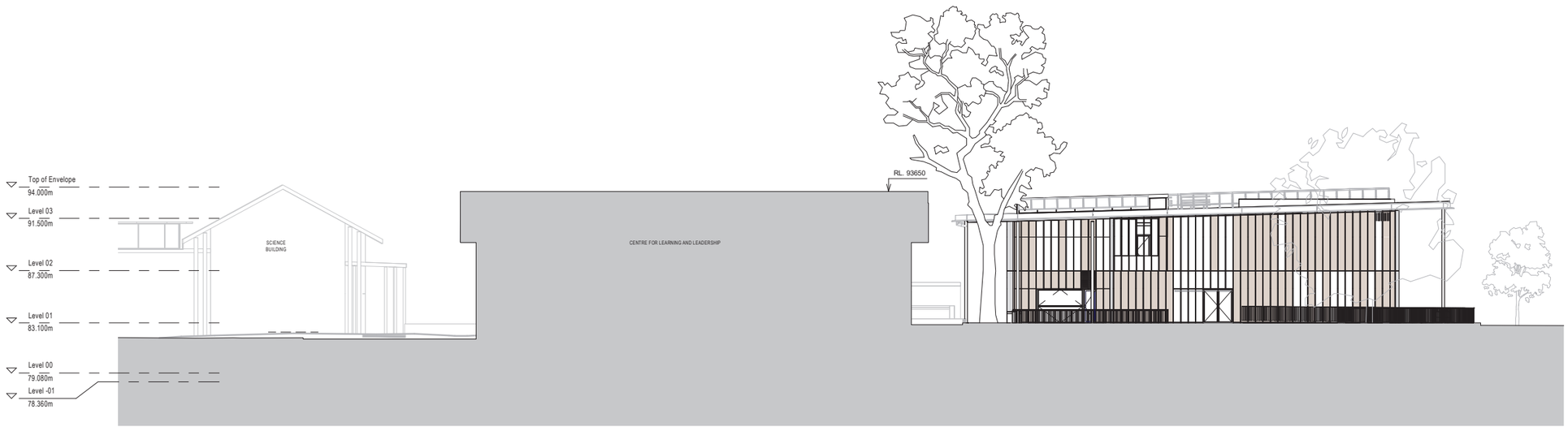
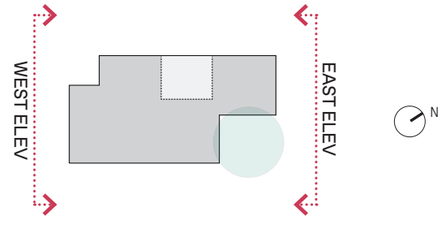
04.10 ELEVATIONS



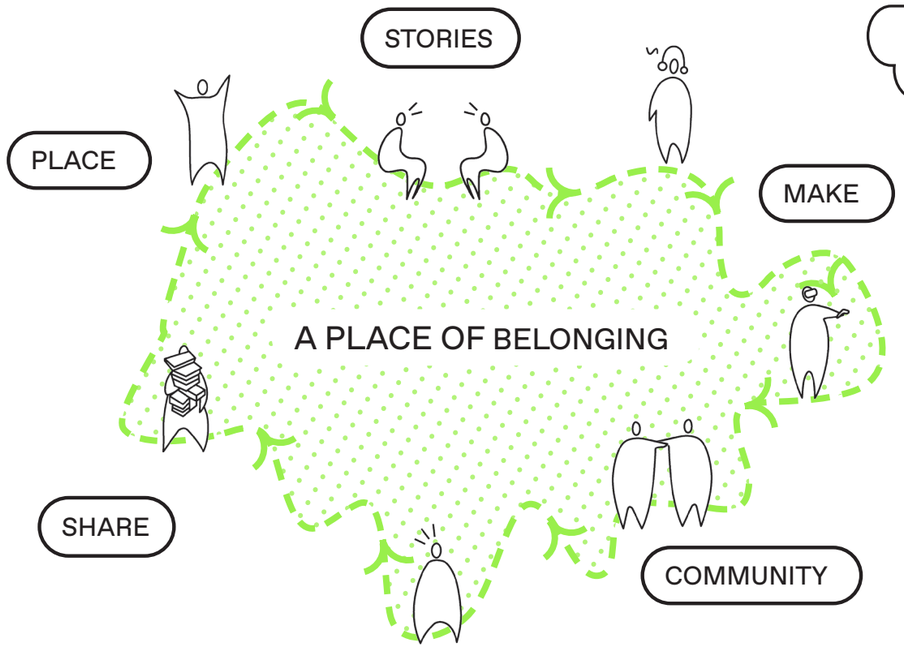
EAST ELEVATION



WEST ELEVATION



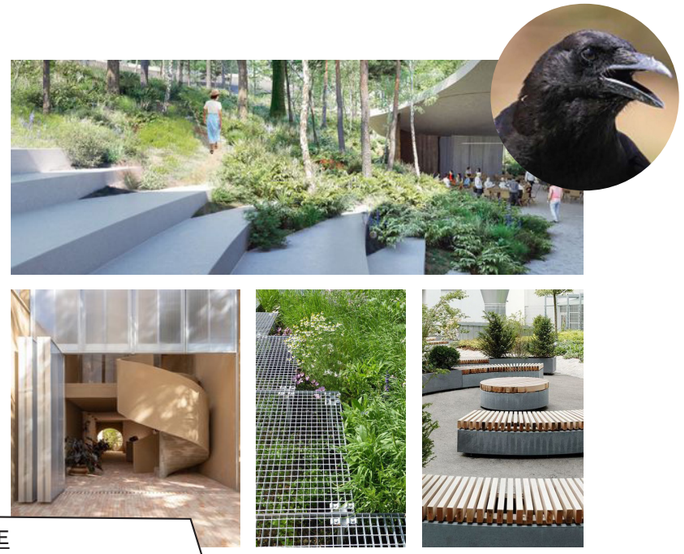
04.11 CONCEPTUAL FRAMEWORK



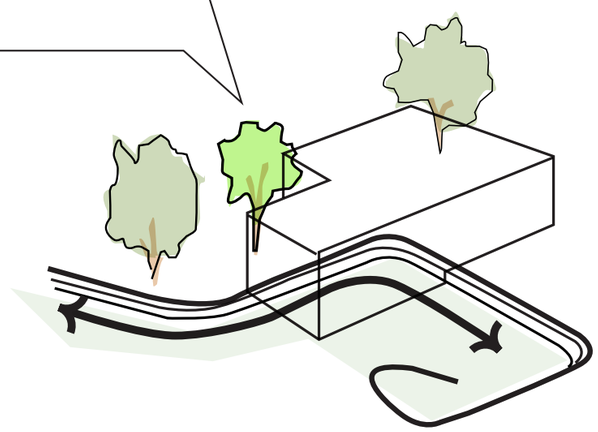
"A place of everyday adventure - to encourage, surprise & delight"



04.12 CONNECTING WITH COUNTRY

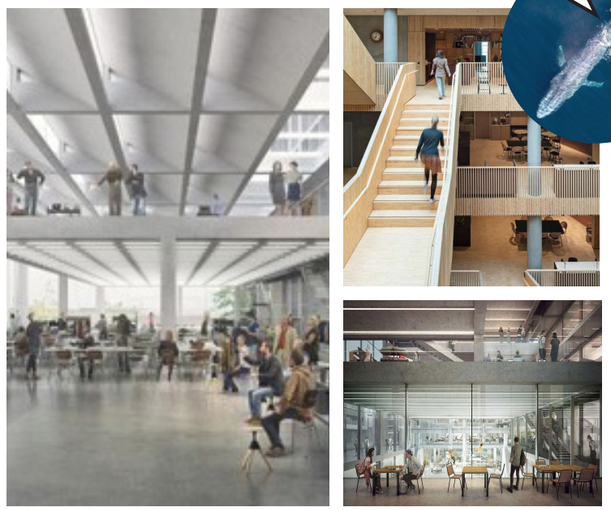


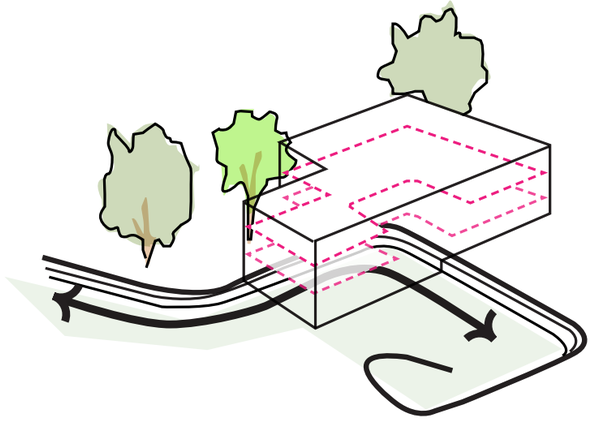
RESISTANCE
TOUCH THE GROUND LIGHTLY
PATHWAYS OF CONNECTION
ENOUGHNESS



FREE FLOWING LANDSCAPE WEAVING
BENEATH BUILT FORM

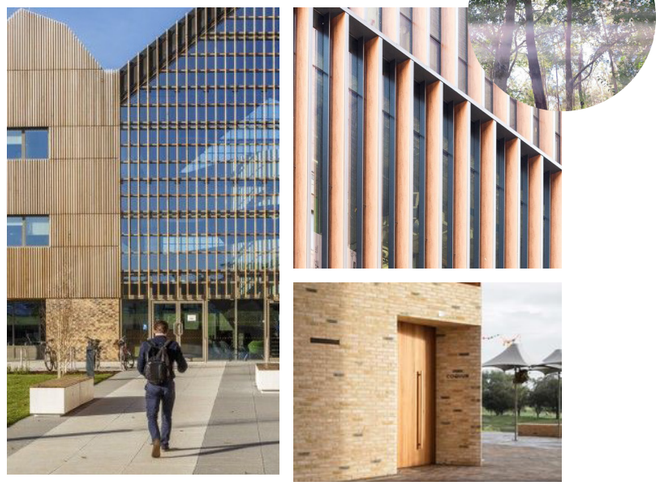
WHALE STORY
COLLABORATIVE SPACES -SHARE IDEAS & RESOURCES
SAFE MEETING PLACE
AVOID SILOS - FLOW OF INFORMATION

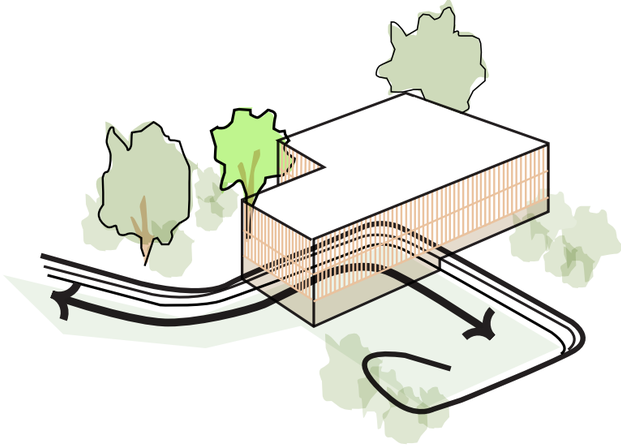




A PLACE OF BELONGING & LEARNING ON SHOW
CENTRAL ATRIUM

SPIRIT OF THE TREES
CANOPY - LET THE LIGHT IN
HARDWOODS - USE SUSTAINABLE TIMBERS





CELEBRATE UNIQUE SETTING & CHARACTER
BUSHLAND & COURTYARD TYPOLOGY

04.13 TREES + LANDSCAPING

Refer to the Landscape Drawings and Design Report prepared by Taylor Brammer for detailed information.

The landscape design aims to reintroduce native habitat to the School environment and explore how the building can seamlessly blend internal and external spaces. The proposals emphasize a productive landscape approach, featuring elements such as vegetable gardens, educational overflow spaces like the print and sculpture terrace, and hospitality terraces. The central event space extends into the centralized event courtyard, with external materials continuing from indoors to outdoors. These proposals serve as a pivotal link between the King's School courtyard style and the surrounding bushland setting. The response is thoughtfully crafted with layers of consideration, introducing indigenous flora to the heart of the School and blurring the boundary between colonial architectural styles and native landscapes.

The design of the building has been carefully sculpted to protect all existing trees on the site. The proposal not only increases tree density but also establishes a community of trees around the existing grandparent trees. On-site detention (OSD) is achieved through an open basin rather than an underground tank, providing a habitat for enhanced flora and fauna. Adjacent to the OSD tank, allotments are planned, offering students in food and hospitality programs the opportunity to actively participate in and care for food propagation.

The landscape design offers a variety of spaces for play, relaxation, gathering, learning, and cultivation. The choice of materials is tailored to each elevation's interaction with the building. The northern event space courtyard features brick pavers that seamlessly connect indoor and outdoor spaces. The eastern side incorporates durable and robust materials to accommodate the movement of industrial arts materials, juxtaposed with a lightweight net and decking around the existing Tree 433. This netting serves as a unique design feature and an enjoyable space for students beyond class hours. The eastern area also includes a scaled informal space with outdoor benches for informal learning and the food and hospitality allotments.

On the southern side, brick pavers create a sturdy base for use by the art and computing departments. To the west, an elevated deck made of concrete planks is proposed, preserving the existing levels around the large tree while providing a robust platform for sculpture and printmaking. Native plant species indigenous to the area have been thoughtfully selected, including both trees and understorey vegetation.



04.14 FACADE

FACADE DESIGN PRINCIPLES

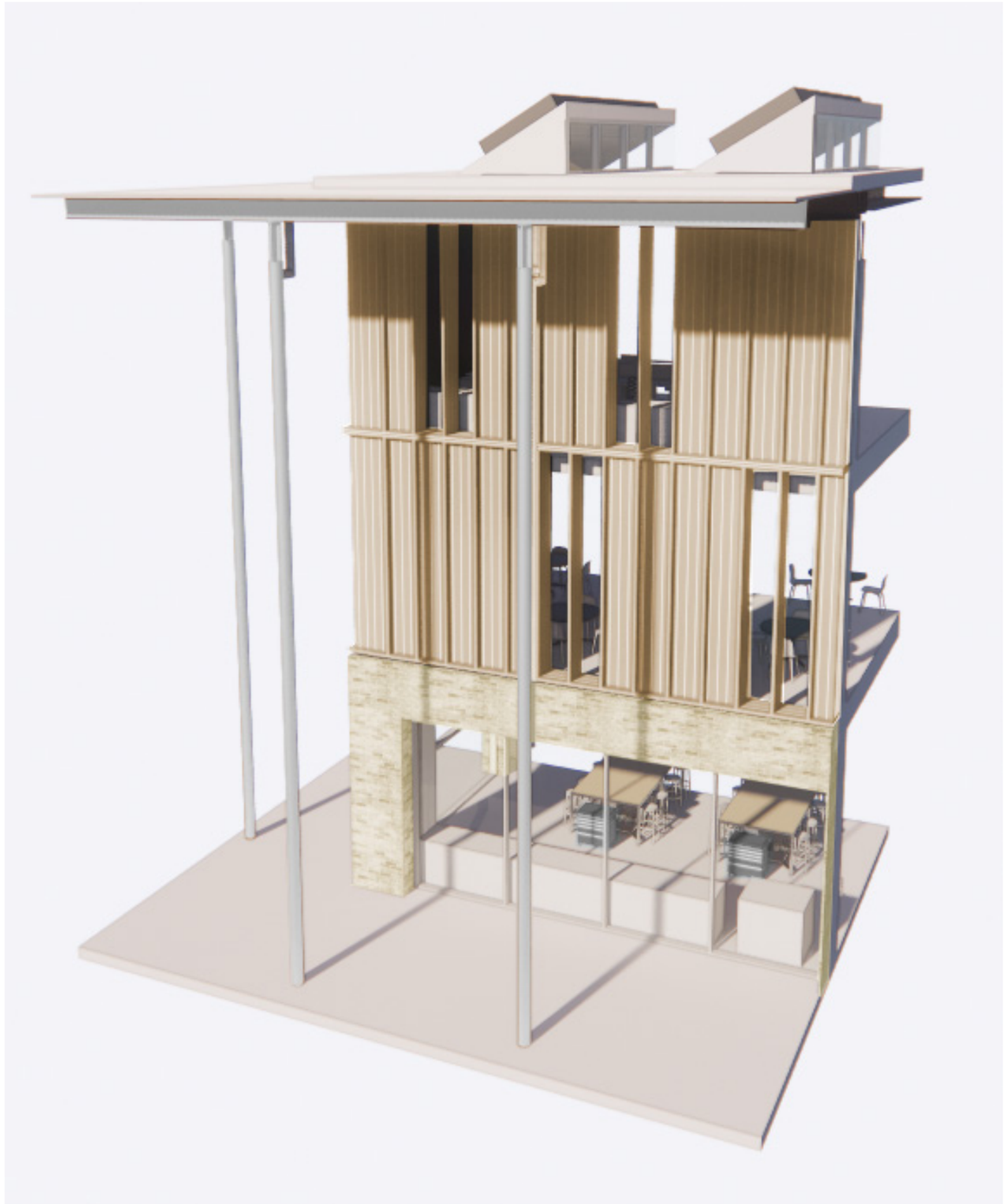
The facade design principles are aligned to help deliver the overall project principles. They provide for:

- A highly performative Facade
- Response to the School Vernacular
- Sustainability and Amenity
- Character and identity
- Low embodied Carbon in material selection

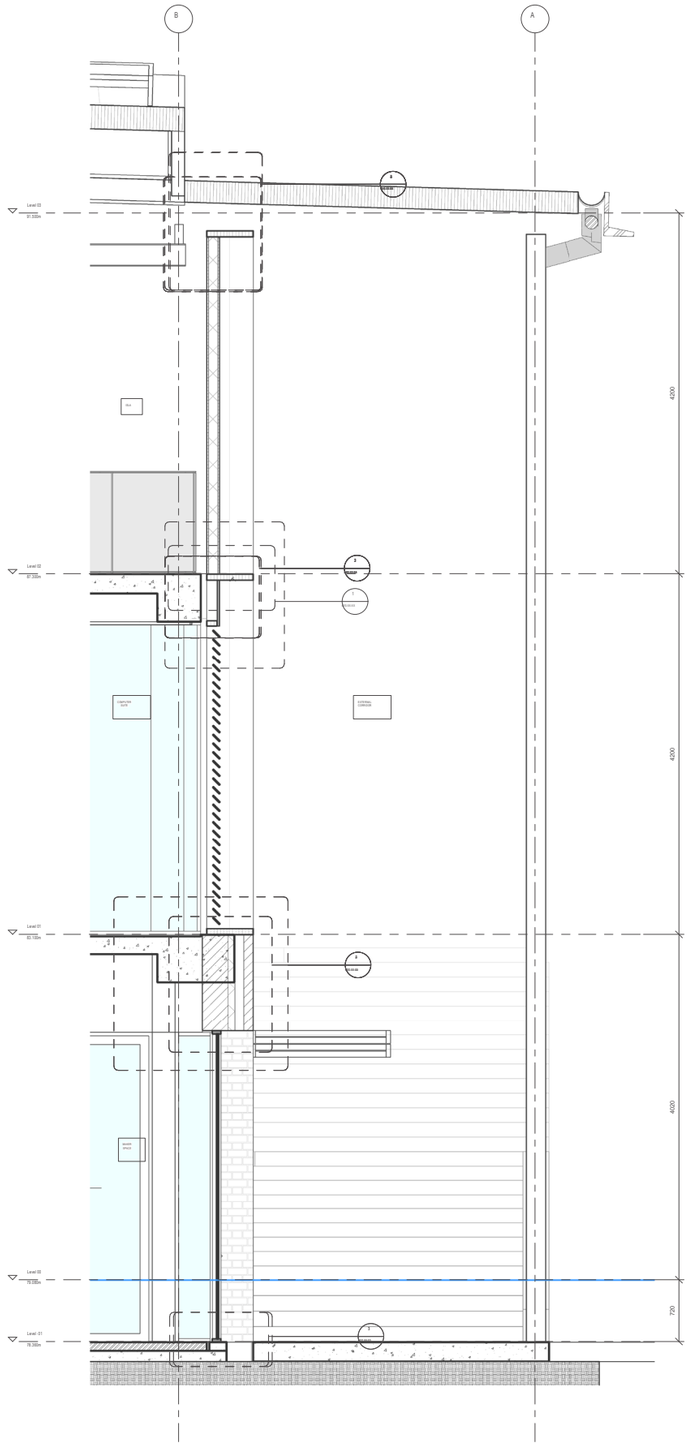
FACADE DESIGN

The facade is arranged into three main elements:

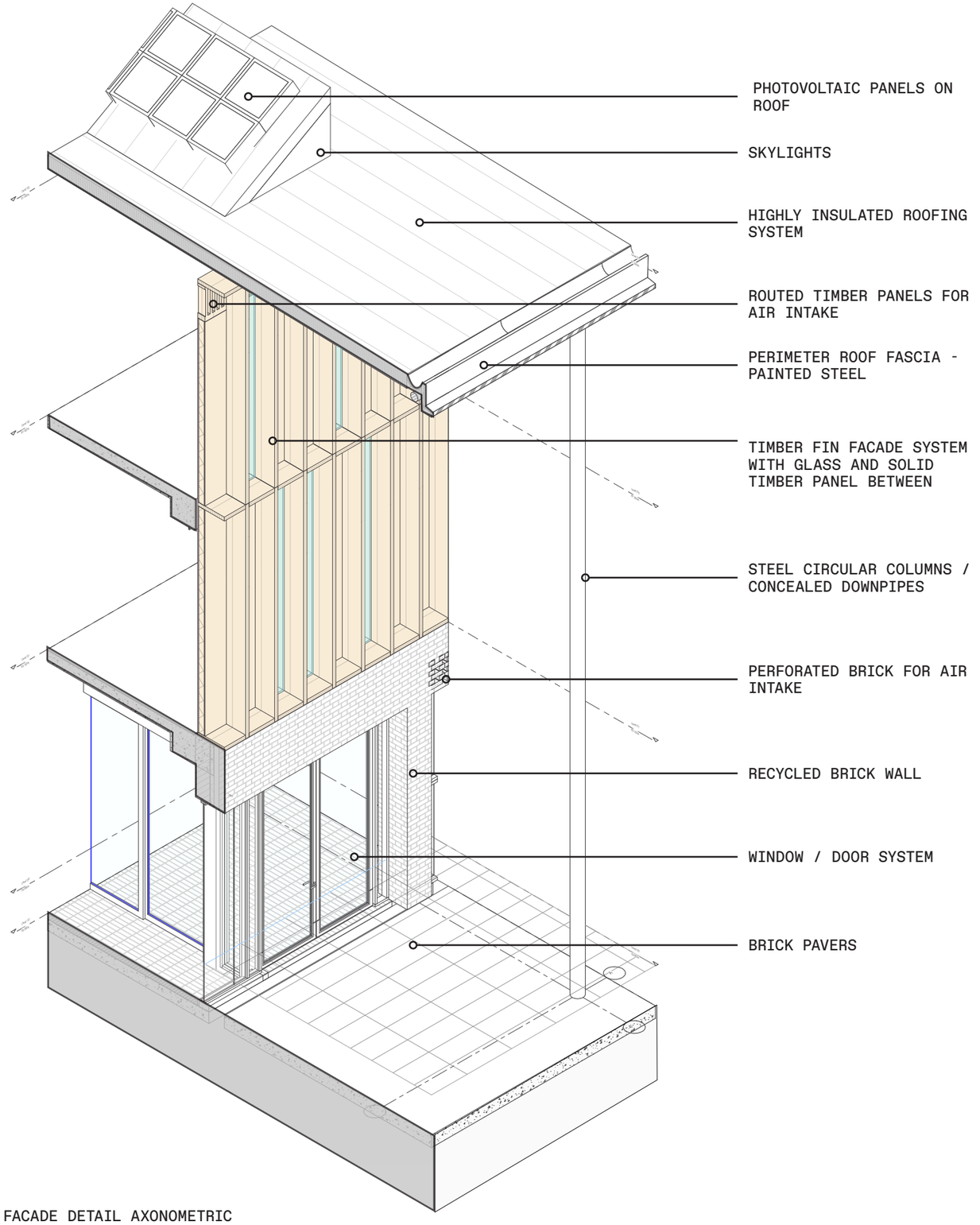
1. A brick base to the lower level engages with the ground plane. This provides visual grounding of the building, forged into the landscape to transition between the levels on site. The brick selection is reclaimed, from a local brickpit in the Sydney Region. The specification considers the embodied carbon of the material and ensures reuse rather than production. The character of the brick also helps create variance in texture. The base contrasts with the lighter facade elements of the upper level. There are areas of hit and miss brick, with weatherproof louvres to the rear of the brick. This facilitates a mixed mode ventilation system, allowing air to enter at a low level and use stack effect of the Atrium space centrally.
2. The upper stories of the building are made up of Chemically treated glulam timber planks and Solid Timber Curtainwall 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 and a low carbon, naturally sourced material.
3. The Roof Structure and Columns are exposed, Painted Steel, picking up on the School Vernacular. Roof structure is carefully considered and detailed, with every second external column being a ‘dummy’ column and containing a downpipe for water capture which is then directed into a water retention tank for re-use as grey water in the building.



04.15 FACADE DETAILS

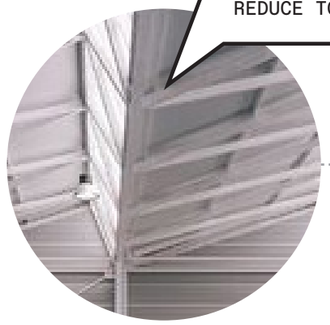


FACADE DETAIL SECTION



FACADE DETAIL AXONOMETRIC

04.16 MATERIALS



HIGHLY ENGINEERED & EFFI-
CIENT STEEL STRUCTURE TO
REDUCE TONNAGE



SCREENING AND CLIMATE
RESPONSIVE
TIMBER VERNACULAR



THERMALLY ENGINEERED
TIMBER (FSC)

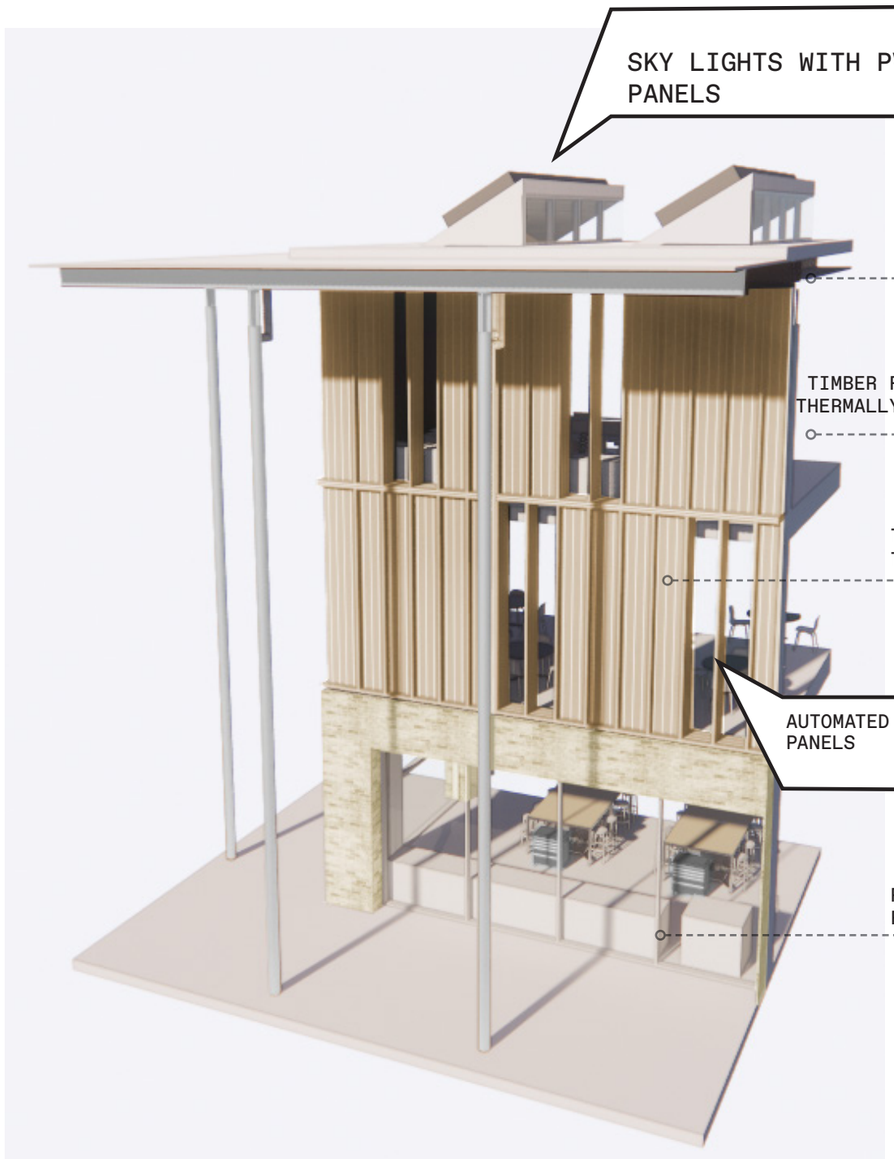


SEAMLESS MATERIAL FROM
EXTERNAL TO INTERNAL

RECLAIMED BRICK
FROM LOCAL PIT



04.17 MATERIALS



EXPOSED STEEL STRUCTURE



TIMBER FINS
THERMALLY ENGINEERED / GLULAM TIMBER

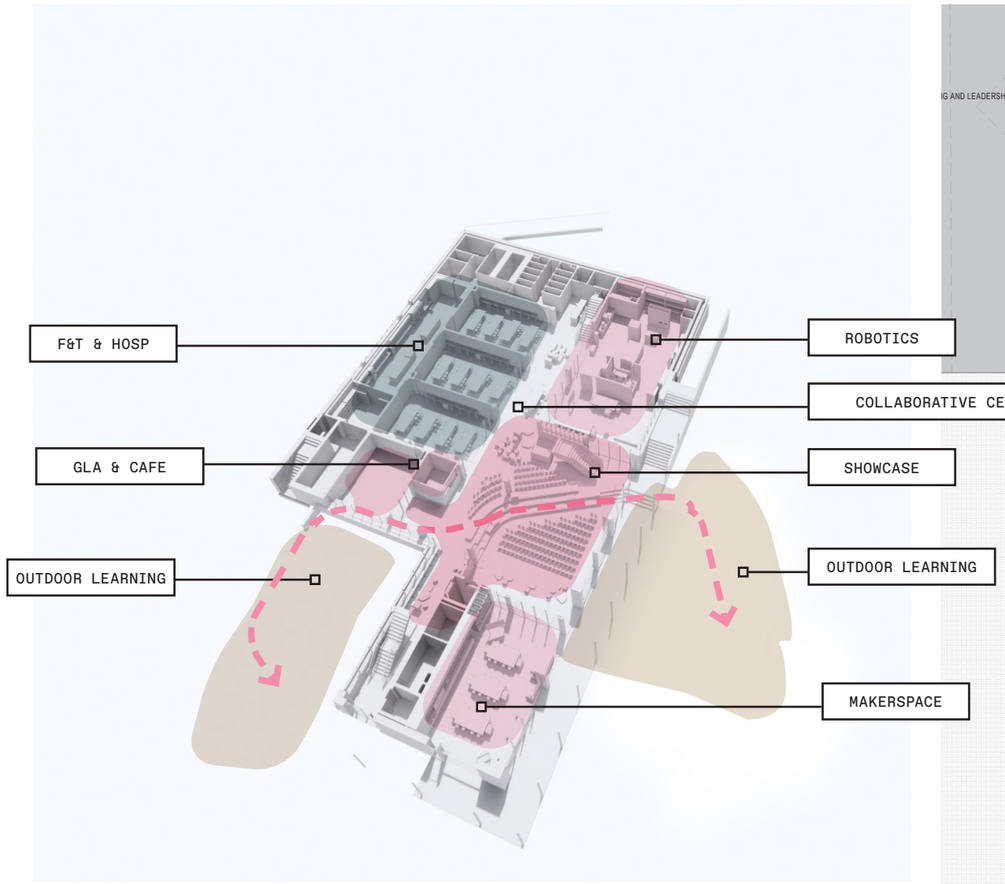
THERMALLY ENGINEERED
TIMBER PANELS

RECLAIMED BRICK
FROM LOCAL PIT





04.18 LEVEL 0



Shared Resource | Visual Arts | Industrial Arts | CSL | Staff | Outdoor Learning



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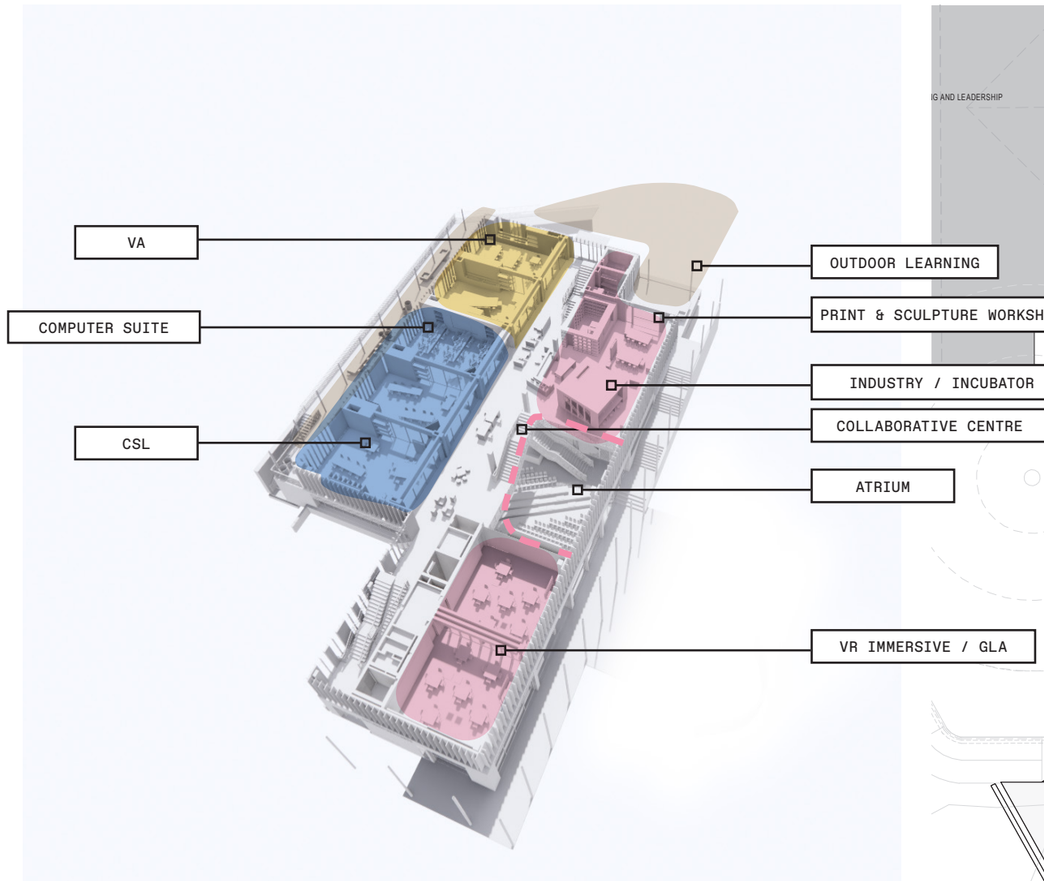
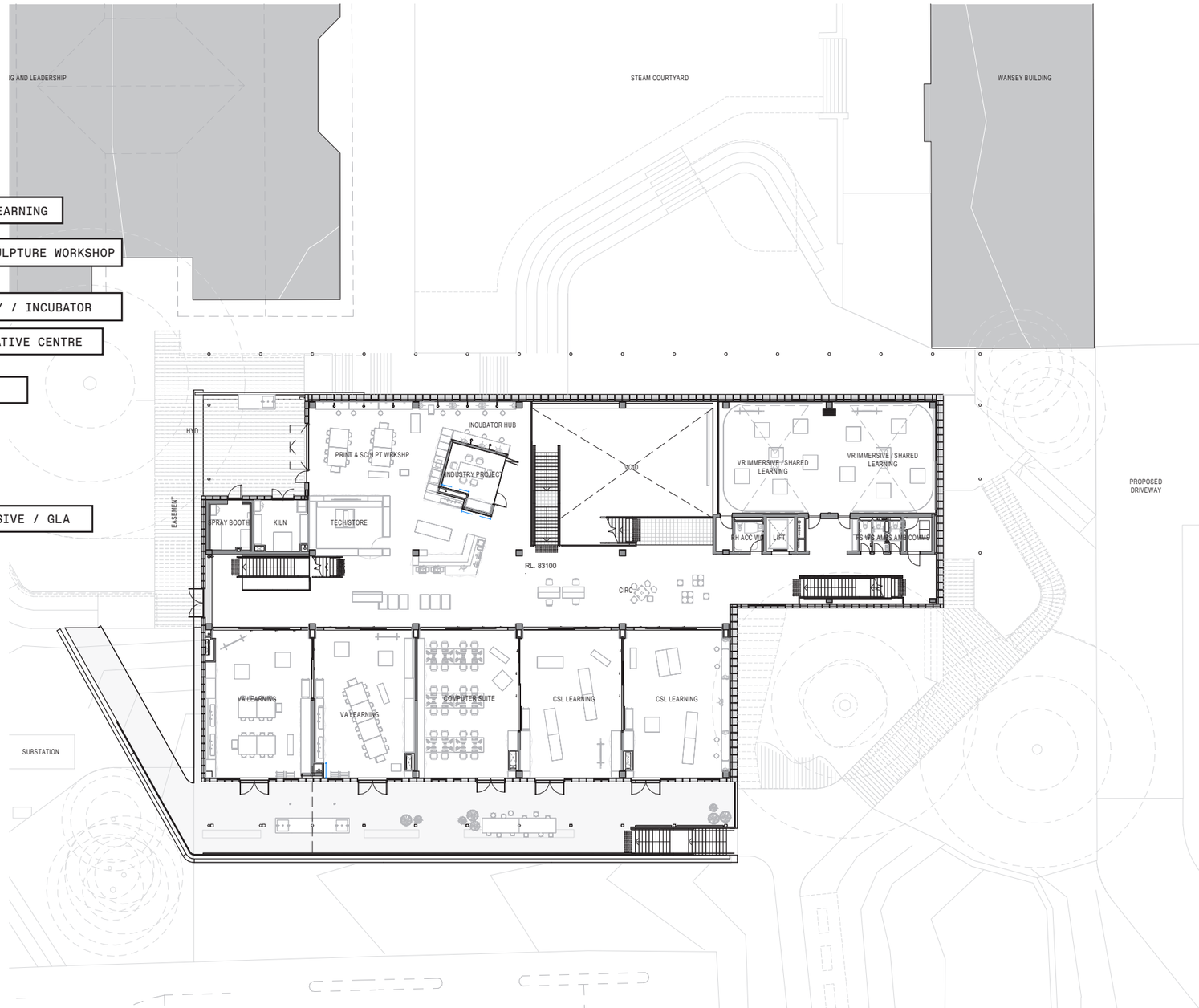
04.19 LEVEL 1





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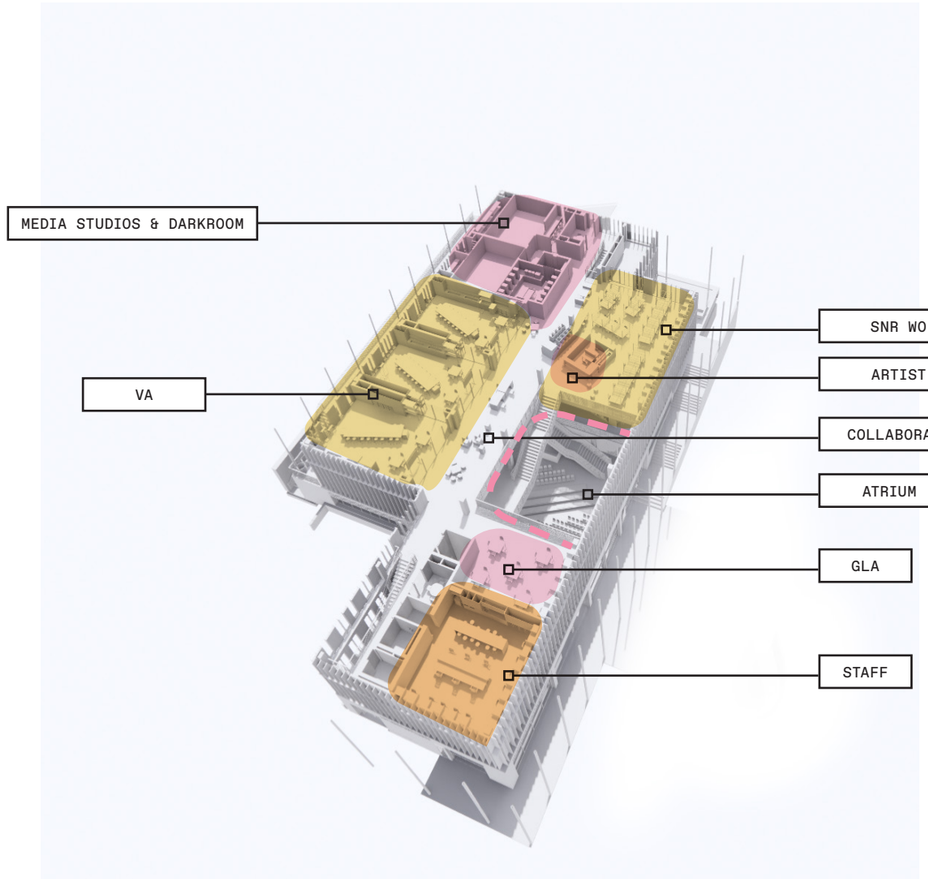
04.20 LEVEL 2





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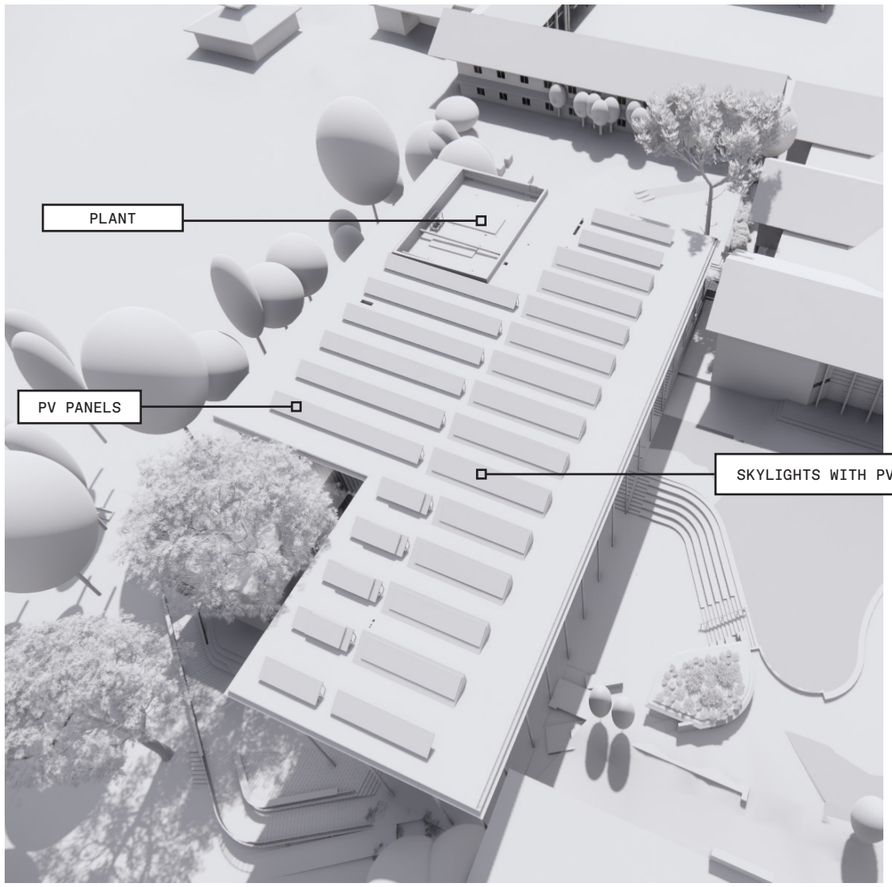
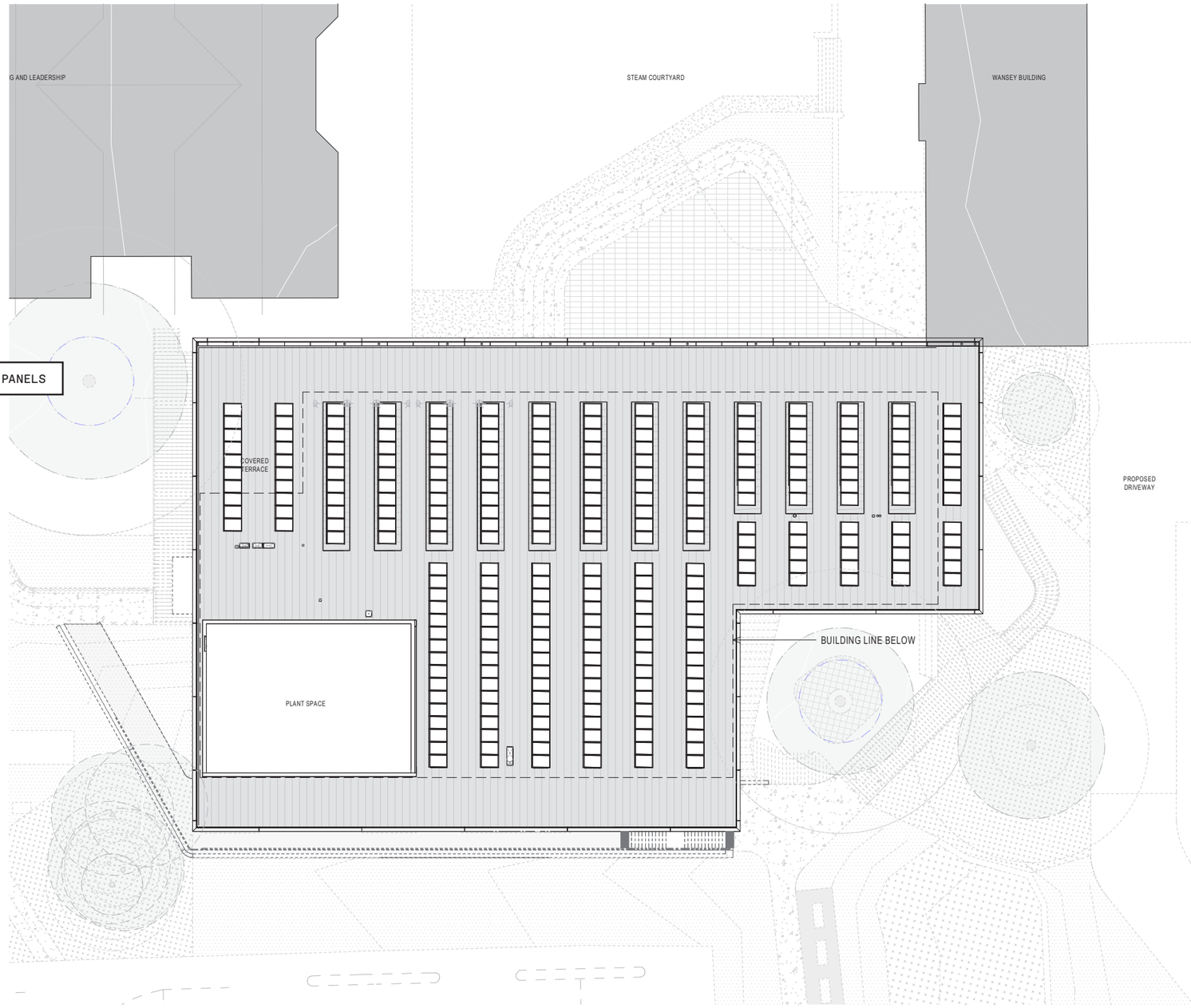
04.21 ROOF





Shared Resource | Visual Arts | Industrial Arts | CSL | Staff | Outdoor Learning

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04.22 ENVIRONMENTALLY SUSTAINABLE DESIGN TARGETS

ESD

The King's School (TKS) aspires to be sustainable in the design and operation of their new STEAM Building. As part of the school's environmental commitment TKS have developed a Sustainability Policy aiming to practise waste wise initiatives, promote energy efficiency, reduce water usage, increase biodiversity in the school grounds and encourage community practice in sustainability.

In addition, as the school masterplans for the next 20-30 years of building, there is an aspiration to incorporate environmentally sustainable design principles into the design philosophy.

The school's sustainability policy identifies four core areas of sustainability which are:

- Energy
- Water
- Waste
- Biodiversity

(Refer to ESD consultant documents for more information)

To ensure a sustainable outcome, the following are key strategies being addressed within the proposed design:

- Incorporate a high-performance building envelope, to ensure energy efficiency as well as occupant comfort (including thermal, visual, and acoustic comfort);
- Incorporate appropriate passive and active design strategies to ensure a low-energy as well as low-maintenance design outcome;
- Adopt water sensitive urban/landscape design principles; and Adopt practices to minimise demolition, construction and operational waste including recycling of demolition and construction waste; and
- The selection of environmentally preferable materials.

Energy and Carbon

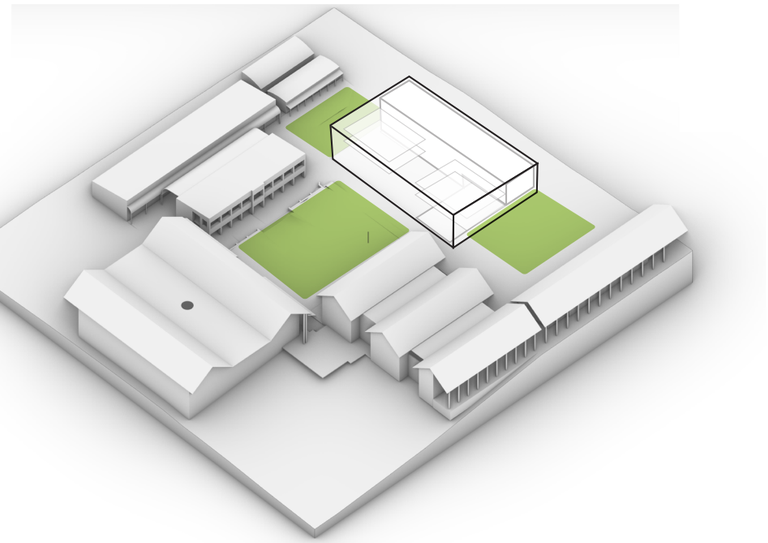
- Reduced embodied Carbon
- Resource efficiency
- No gas for heating
- Green power
- Maximise PV on roof area
- LEDs used throughout
- Specification of external and internal materials targetting low embodied carbon in production and delivery to site.

Materials

- Responsibly sourced materials
- Local materials
- Reduce finishes (exposed ceiling/ building services, exposed concrete floor)
- Insulation with low embodied environmental impact
- Use cement replacement components
- Specify high recycled content in building materials such as a fully recycled brick from local suppliers

Indoor Environmental Quality

- Thermal comfort for future climate projection
- Glare control (minimise use of blinds)
- Selection of low emitting materials (VOCs)
- No / min formaldehyde content
- Air filtration
- Quality Daylight
- Acoustic comfort



Building as teacher

- Exposed systems
- Showcase of sustainability
- Users involvement
- Data presentation
- Use efficient light fittings
- Reduce light pollution

Landscaping

- Native species
- Select deciduous or ever green trees to provide appropriate shading levels in specific locations
- Low water demand plants
- Drip irrigation
- Use of recycled water for irrigation
- Storm water management through landscaping
- Integrated pest management, use of non toxic chemical for the landscape
- Selections to reduce urban heat island for embodied carbon reduction and visual comfort
- Use of recycled content in materials

Facade

- Appropriate WWR per orientation
- Direct solar control
- Appropriate level of glazing depending on orientation
- Good air permeability
- Good thermal fabric performance
- Efficient detailing to limit thermal bridging, including thermally broken window systems
- Mixed Mode ventilation system, with the default being set to naturally ventilated

Waste

- On-site composting for food tech
- Dedicated waste storage with easy truck access
- Waste separation, clear bins signage
- Re-Use bins for art and IA departments, for off cuts

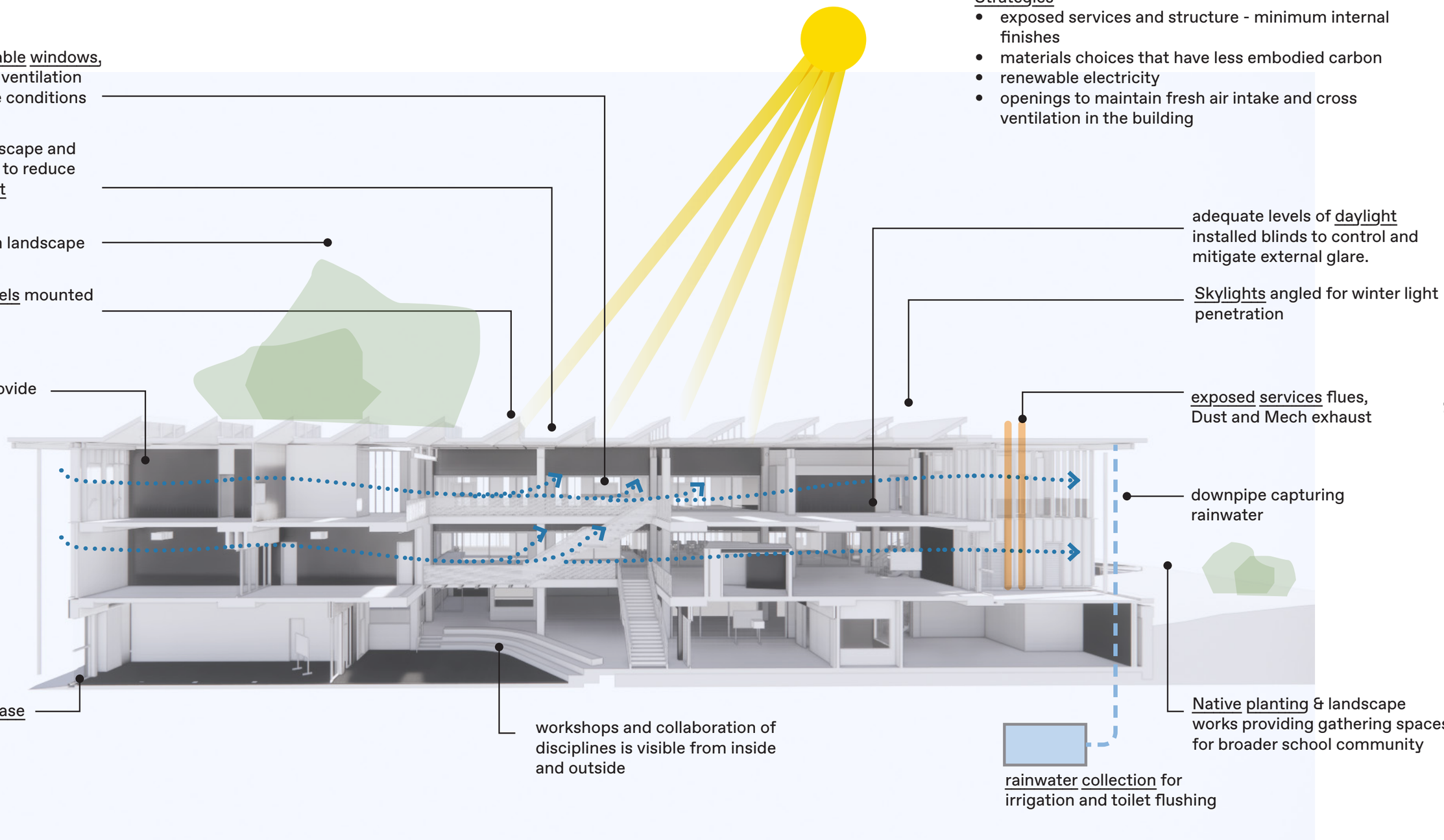
Water

- Rainwater collection and reuse
- Water runoff reduction and collection in on grade bio retention basins to promote natural habitat
- Passive water treatment
- Drinking water taps
- High water quality
- Reduced flow rate for fixtures throughout

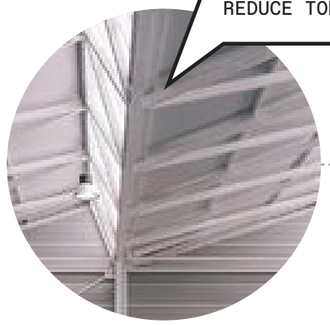
04.23 ENVIRONMENTALLY SUSTAINABLE DESIGN PRINCIPLES

Strategies

- exposed services and structure - minimum internal finishes
- materials choices that have less embodied carbon
- renewable electricity
- openings to maintain fresh air intake and cross ventilation in the building



04.24 VIEW FROM THE COURTYARD



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THERMALLY ENGINEERED
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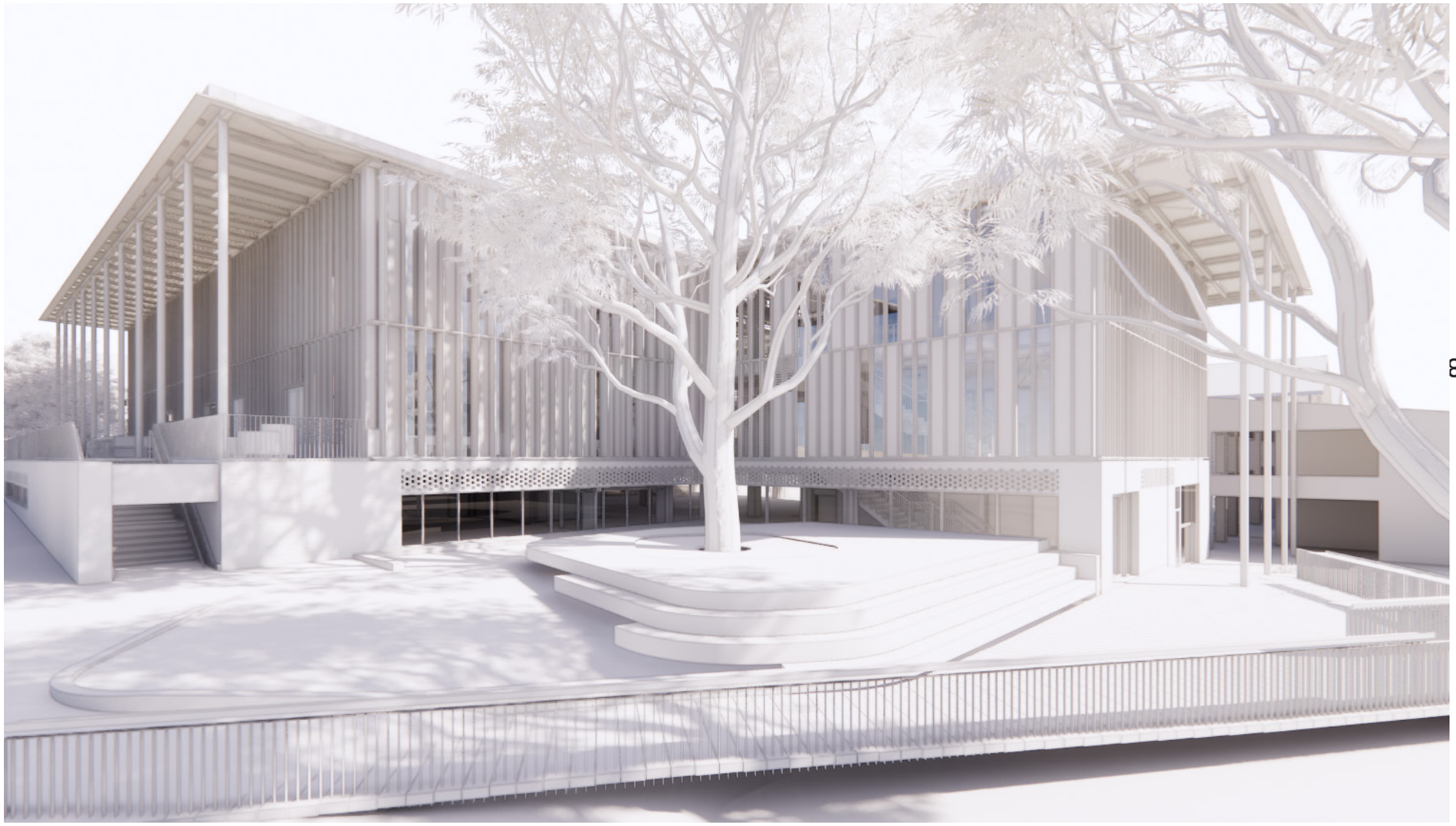
SEAMLESS MATERIAL FROM
EXTERNAL TO INTERNAL

RECLAIMED BRICK
FROM LOCAL PIT



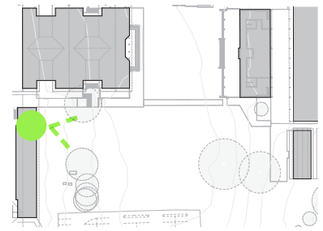
04.25 VIEW ANALYSIS







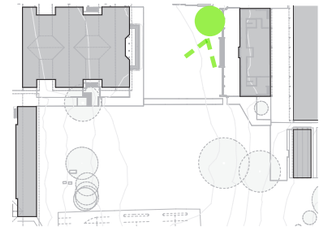
04.25 VIEW ANALYSIS



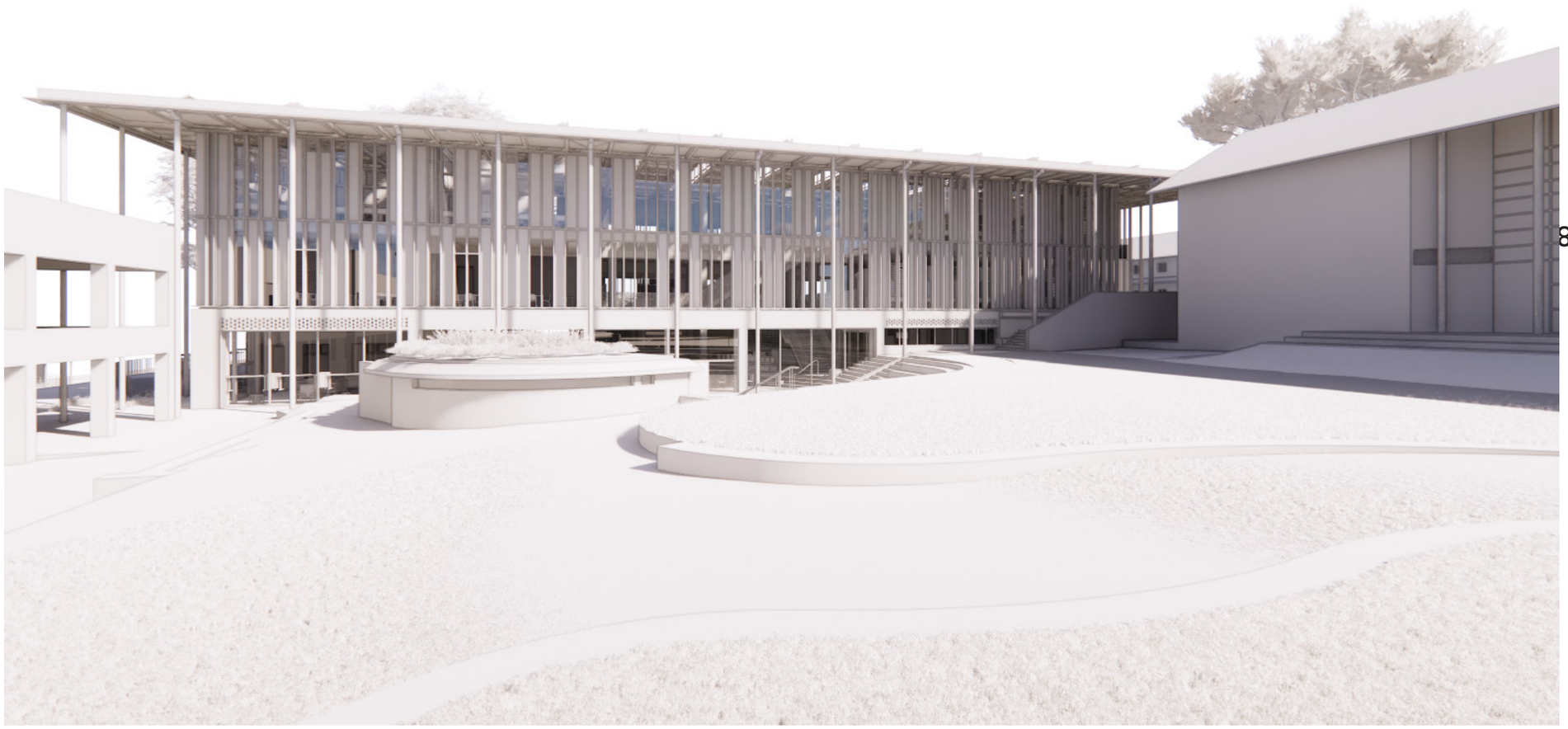




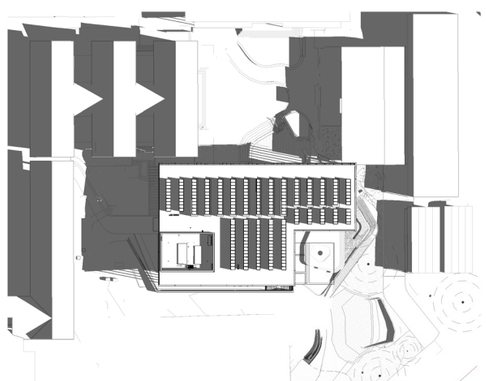
04.25 VIEW ANALYSIS







04.26 SHADOW DIAGRAMS - JUNE 21



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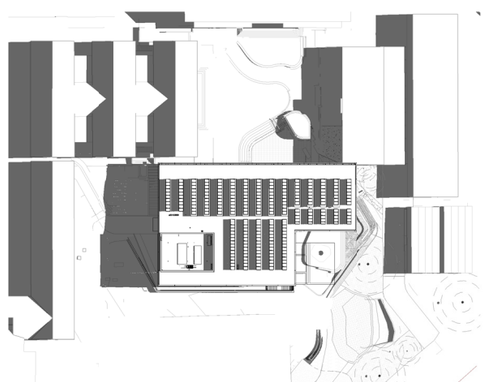

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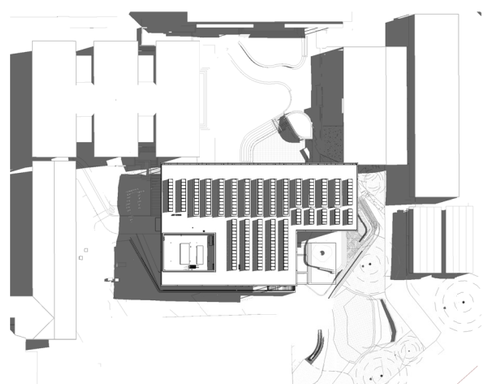

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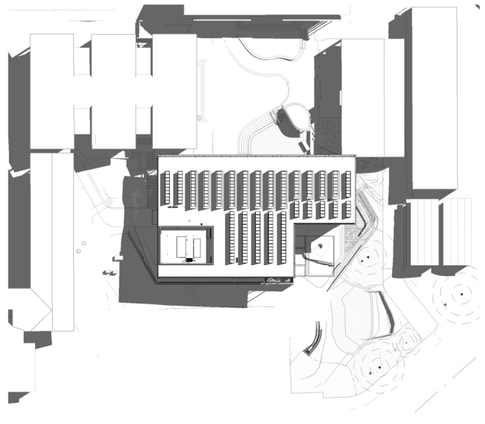

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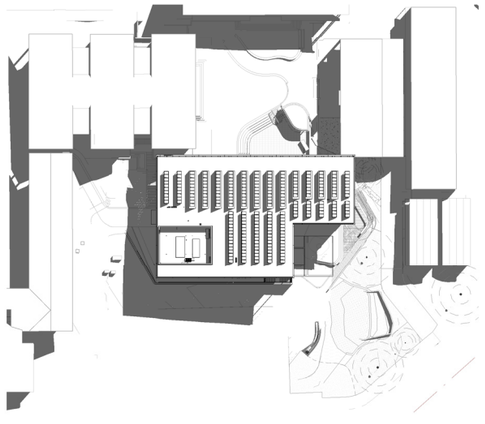

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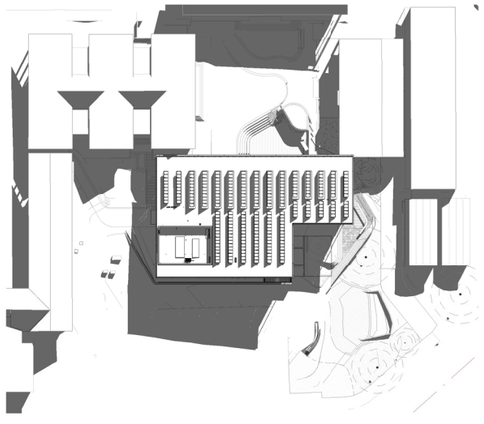

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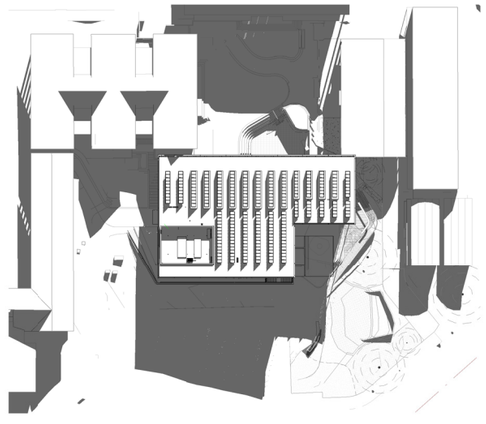

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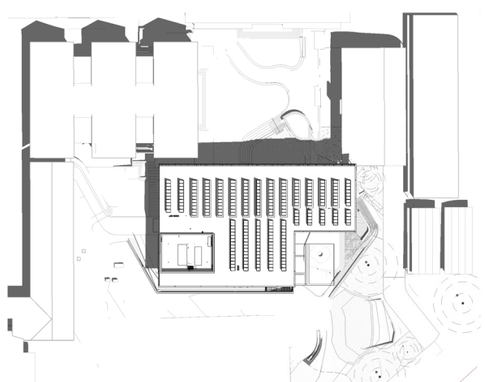
04.27 SHADOW DIAGRAMS - DECEMBER 21



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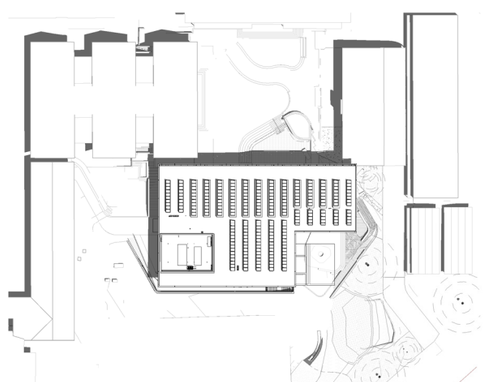

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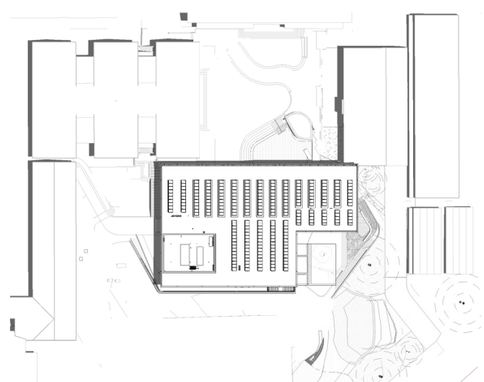

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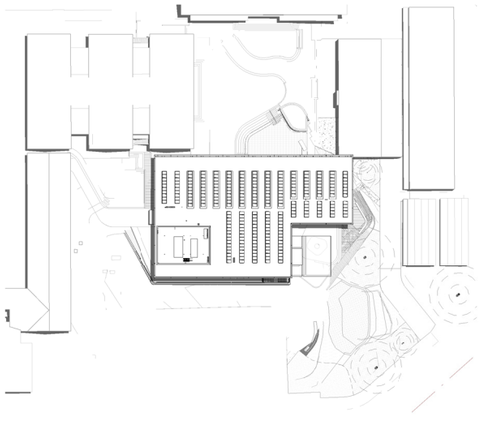

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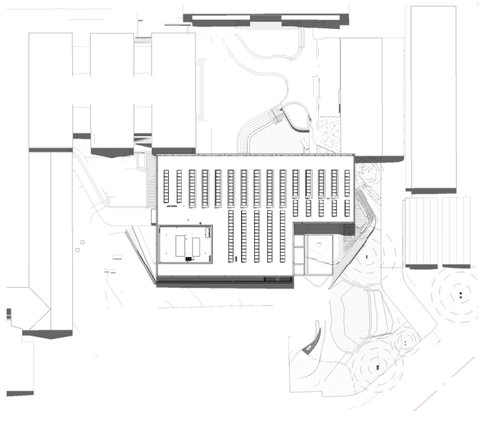

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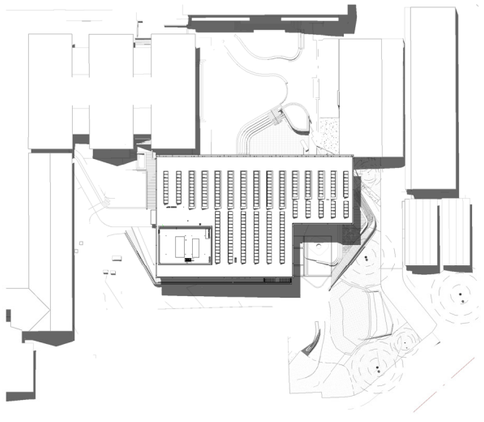

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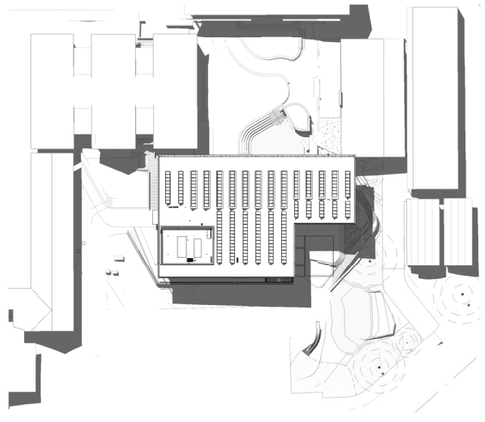

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04.28 CPTED

Consideration of Crime Prevention Through Environmental Design has been considered during the development of the scheme. The location and shared use of the facility throughout the day are aligned to the four principles of CPTED. The descriptions and responses below are based on the NSW Police Safer by Design information to help create the perception and reality of capable guardianship

SURVEILLANCE

The STEAM building is located well within the School campus. The Schools surroundings are characterised as an affluent community with low crime rates.

The site currently have extensive Technical/mechanical surveillance via CCTV coverage as part of its Operational Plan, with a 24 hour on-site presence from security as well as staff and families living on site in private accommodation.. It is proposed the new building and surrounding landscape will incorporate CCTV as part of design.

ACCESS CONTROL

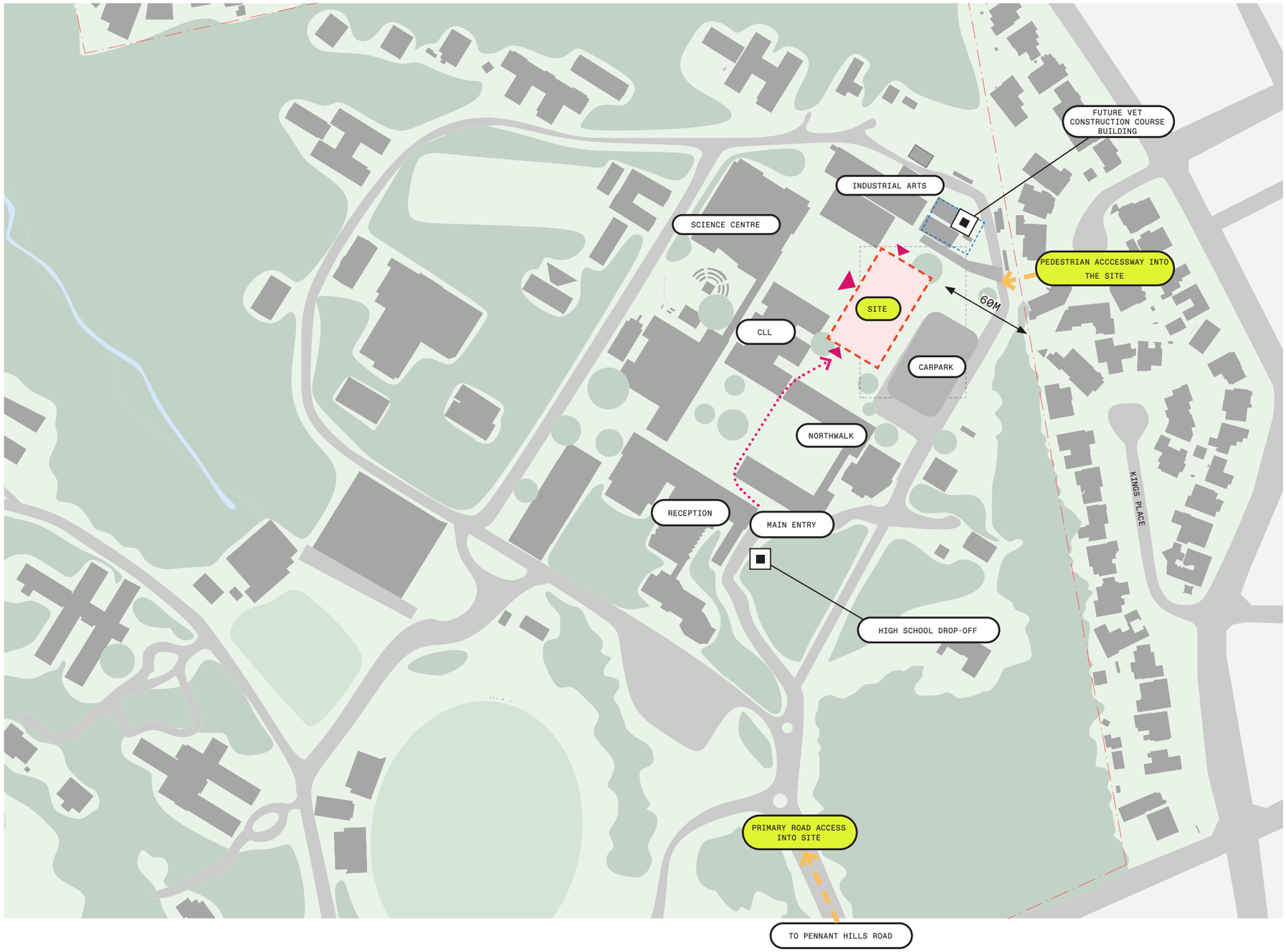
Lines-of-sight through the site have been considered. The nature of the changing security level throughout the day means that physical and managed access control is required. All doors into the building itself have electronic access control systems which will be programmed to close outside of School hours.

TERRITORIAL REINFORCEMENT

The King's School has substantial grounds staff actively managing the building and its external spaces, areas will be cleaned and maintained as part of the Operational Plan, maintaining the level of quality and care of the facility.

SPACE MANAGEMENT

The facility will host a series of alternate events during an academic year, with the event space proposed to be an active and important facility for external visiting parties. Events such as art showcase nights, robotics tournaments as well as TAD talk type speakers will utilise the open plan areas of the building. This will be managed by the Operational Plan and promote active usage of the site through the day and evening - as a sustainable and effective use of resources. With its continual occupation of the site as well as its siting within the campus, it is assumed there will be very little opportunity for crime within the precinct.



04.29 BUILDING SERVICES

Please refer to NDY's reports for further information.

MECHANICAL SERVICES

The building has a sophisticated mixed-mode air-conditioning and ventilation system, that is default set to natural ventilation mode. Automated operable windows and user display systems define when the building can be operated with the windows open. An override is present for each individual space to enable ultimate flexibility. Specific extract and Ventilation systems are provided to specialist support spaces in accordance with relevant standards and briefed requirements.

ELECTRICAL SERVICES

The building is supplied power from a proposed new substation (relocating and replacing an existing substation that sits adjacent to the proposed building site). The building main switch room is located on Level 0 and distribution boards are provided as required. Lighting is provided to building code and architectural requirements, with LED's fitted throughout. The building has a substantial photovoltaic array located on the roof, generating up to 99KW of power to the building.

HYDRAULIC SERVICES

The roof drains to the North of the building, with downpipes to the same size as the structural columns on the verandah. Pipes distribute water to a water retention tank for reuse in the building and for irrigation. Storm water is to falls as required and captured in an overland bio retention basin, facilitating habitat for flora and fauna. Toilets are situated at each level to BCA standard and wet areas for the Art department in internal and external locations.

FIRE PROTECTION SERVICES

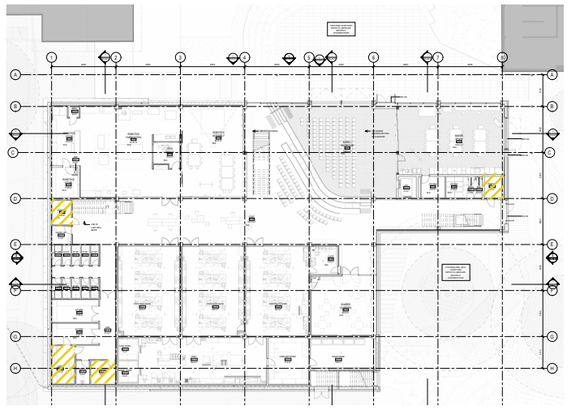
The building is sprinkled to enable concession on selection of building materials and assist in providing a single fire rated compartment for the building. Fire hydrants are located as required to regulation.

PLANT ROOM LOCATIONS

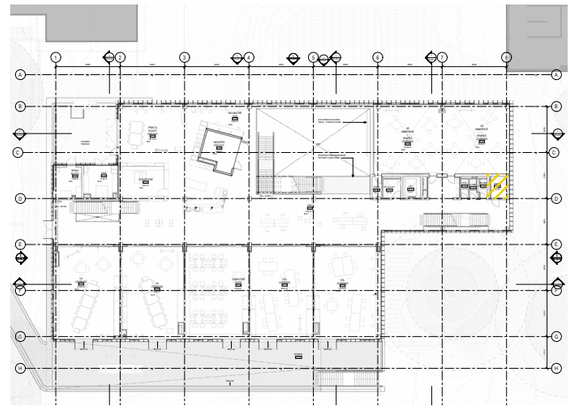
Major Plant equipment is located on the level 0 and the roof:

- Boiler Room and Main Switch Room on Level 0 South West corner
- Fire Pump Room to the East of Level 0
- Building Communications Rooms Level 1 and 2 East
- Mechanical and Electrical Plant within the roof top plant area

PLANT ROOM



LEVEL 00



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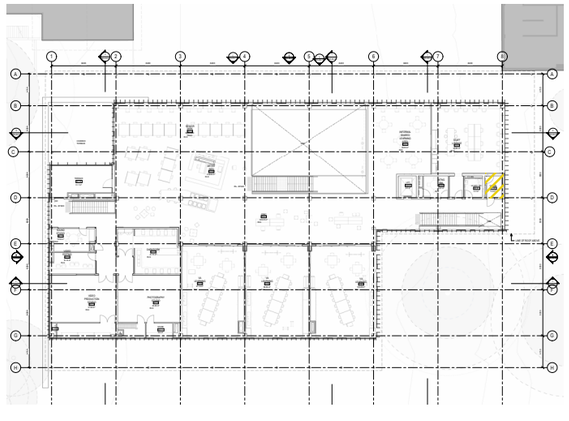

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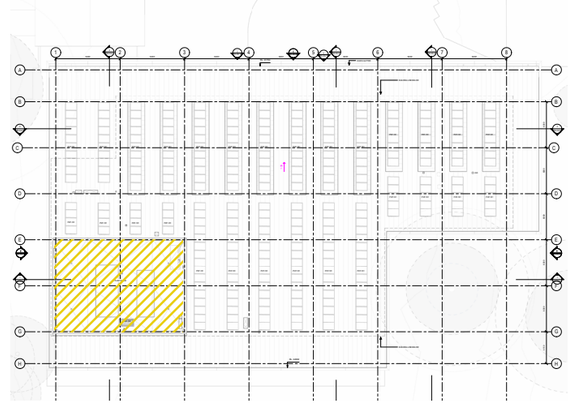


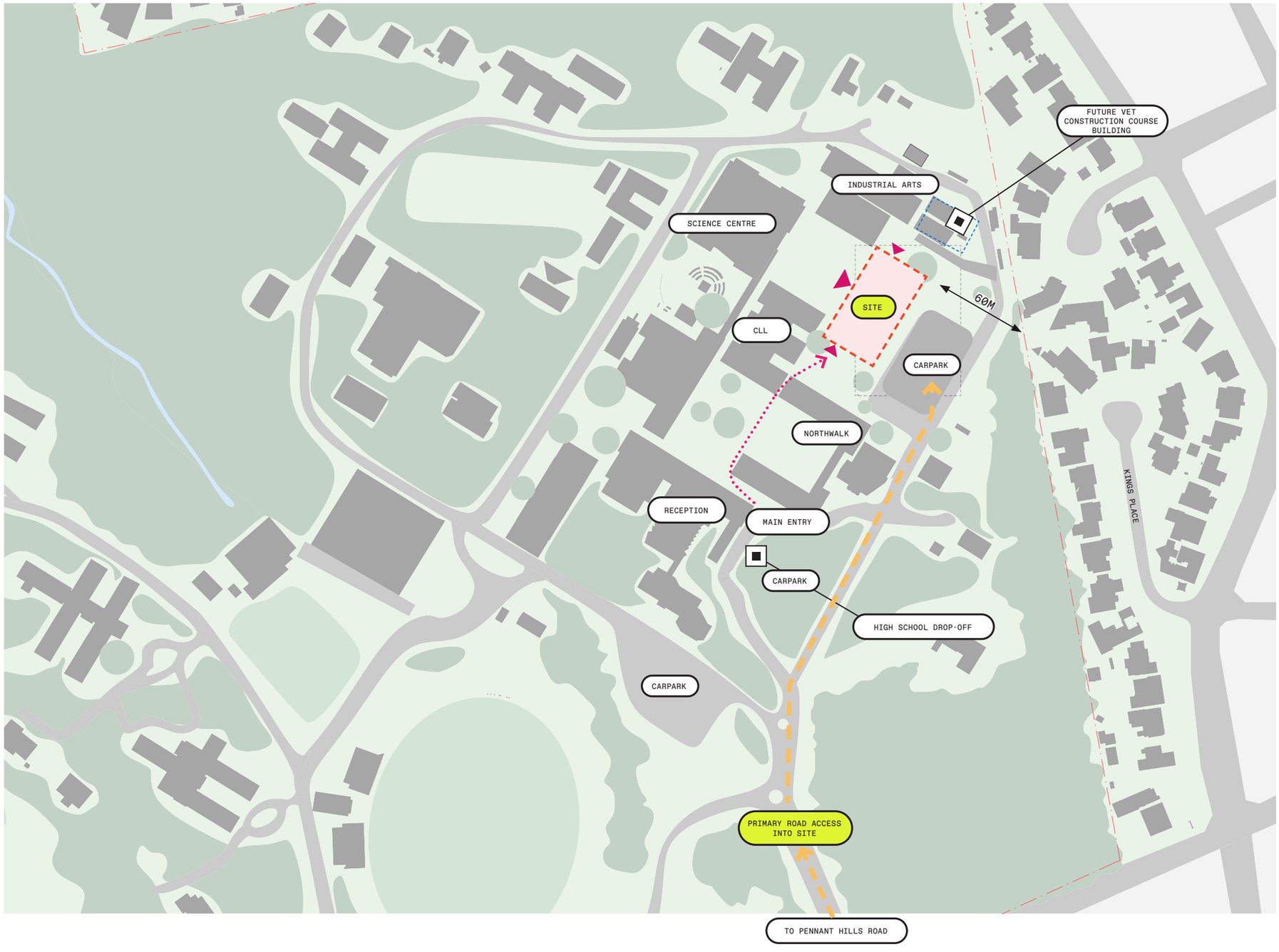
LEVEL ROOF

04.30 ENTRIES, ACCESS + SECURITY

The STEAM building will not alter the school community's entry points onto the site, nor alter the way in which they commute to the site.

The project proposes to utilise the existing parking spaces (including one accessible space) on site, with 1 x additional Accessible space to be provided in the existing car park to the South of the STEAM building.

All parking spaces on site as serviced from a primary road from Pennant Hills Road, with a secondary access road linking to a car park to the South of the STEAM Building.



PREP SCHOOL UPGRADE

05

05.01 DESIGN APPROACH

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. The Prep School is smaller in scale, with a varied context.

There are 3 significant heritage items to the perimeter, in the form of Gowan Brae, the oldest building on site, situated to the East of the Prep School. It has had numerous functions over the years, but is now home to the Year 7 boarding house. It is a well proportioned example of early colonial architecture. To the West of the campus is the Cedars residence, which is the current residence of the Prep School Headmaster, The is also the Stables building, a stone small scale ex stable, which has been converted into an Arts building.

The Prep School has a heritage curtilage fronting onto Pennant Hills Road, which has a topographical swath of lawns and significant trees, this creates significance in approach, with the School appearing after meandering through the roadway and pedestrian links to the site.

A dam is present on site, with trees and vegetation to it's borders. To the North, sports pitches lay flat with a backdrop of the bushland to the North containing hunts creek and walkways which are utilised by the School and visitors trekking through the site.

A number of learning buildings on site are tired and sporadic development has led to poor legibility when within the School grounds. This is something which triggered the need for a long term view for the prep campus as well as development of the GLU and Performing Arts Buildings.

To the West is Tara Anglican School for Girls and Burnside Public School. The campus is barely visible from surrounding developments, with the bushland setting and heritage curtilage providing a substantial landscape buffer to most of the perimeter.

EXTENT OF DEVELOPMENT

The design has been approached by first formulating a long term vision for the site which proposes a conceptual framework for the development of the site over time. One of the restrictions currently, is that the campus has developed within a notional boundary previously, which has led to awkward development. A key component of long term thinking, is to open up the campus and interact more with the abundant and beautiful bushland setting to the North and North West.

Following development of the general upgrade, two priority projects have been identified for Stage 1 works:

- A General Learning Building - comprising of 8 classrooms and a series of breakout and support areas
- Performing Arts Centre - An expansion of the current music department, with new tuition rooms, a small performance space and refurbishment to a proportion of the existing music department





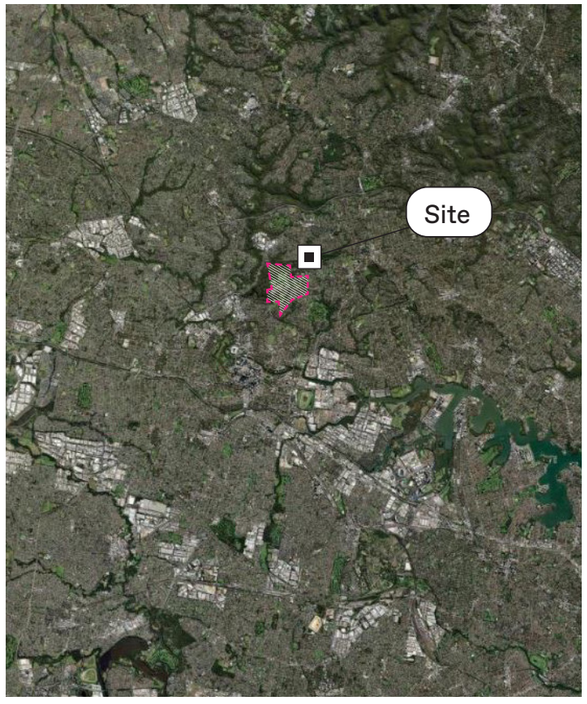


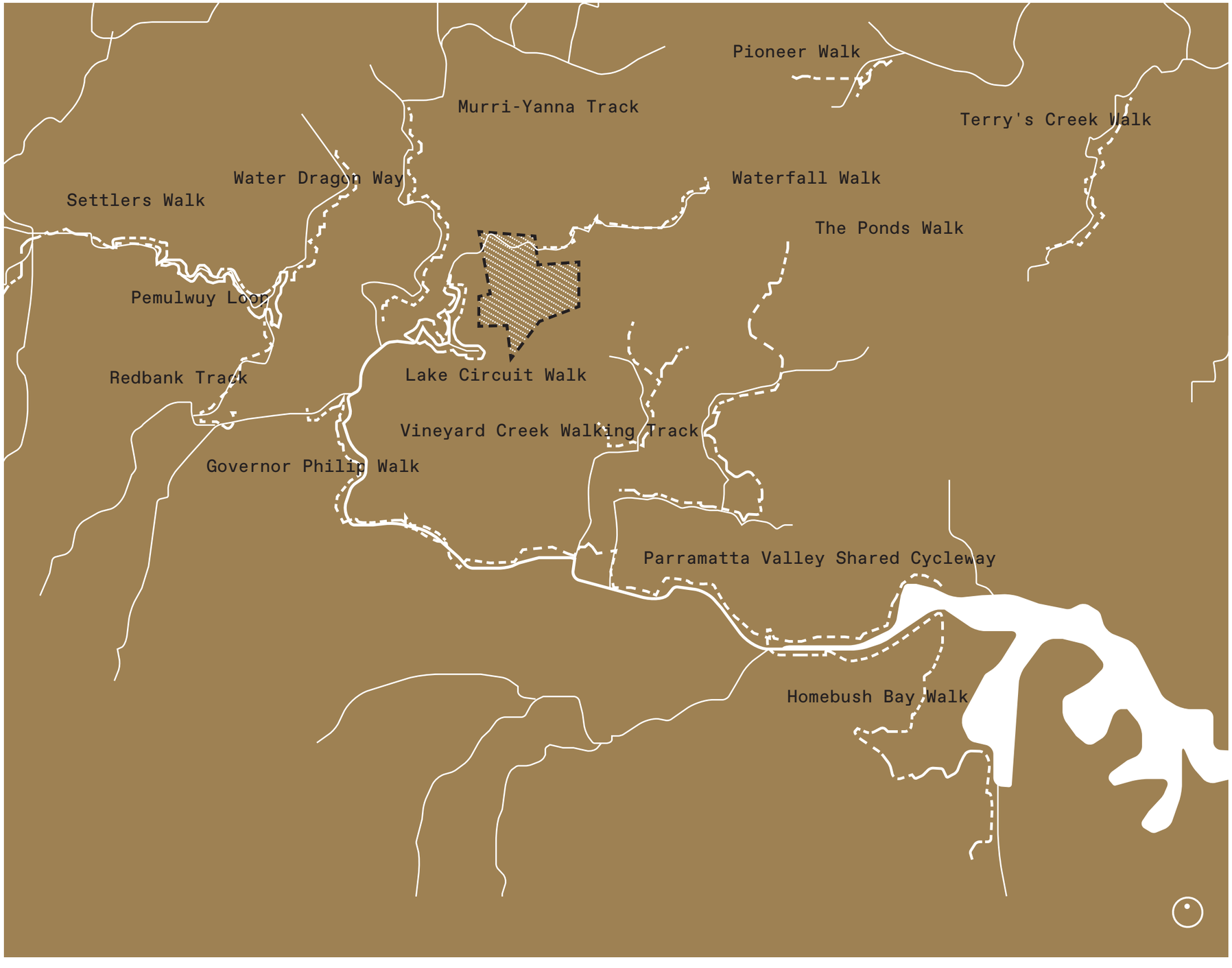






05.02 EXISTING PATHWAYS MACRO





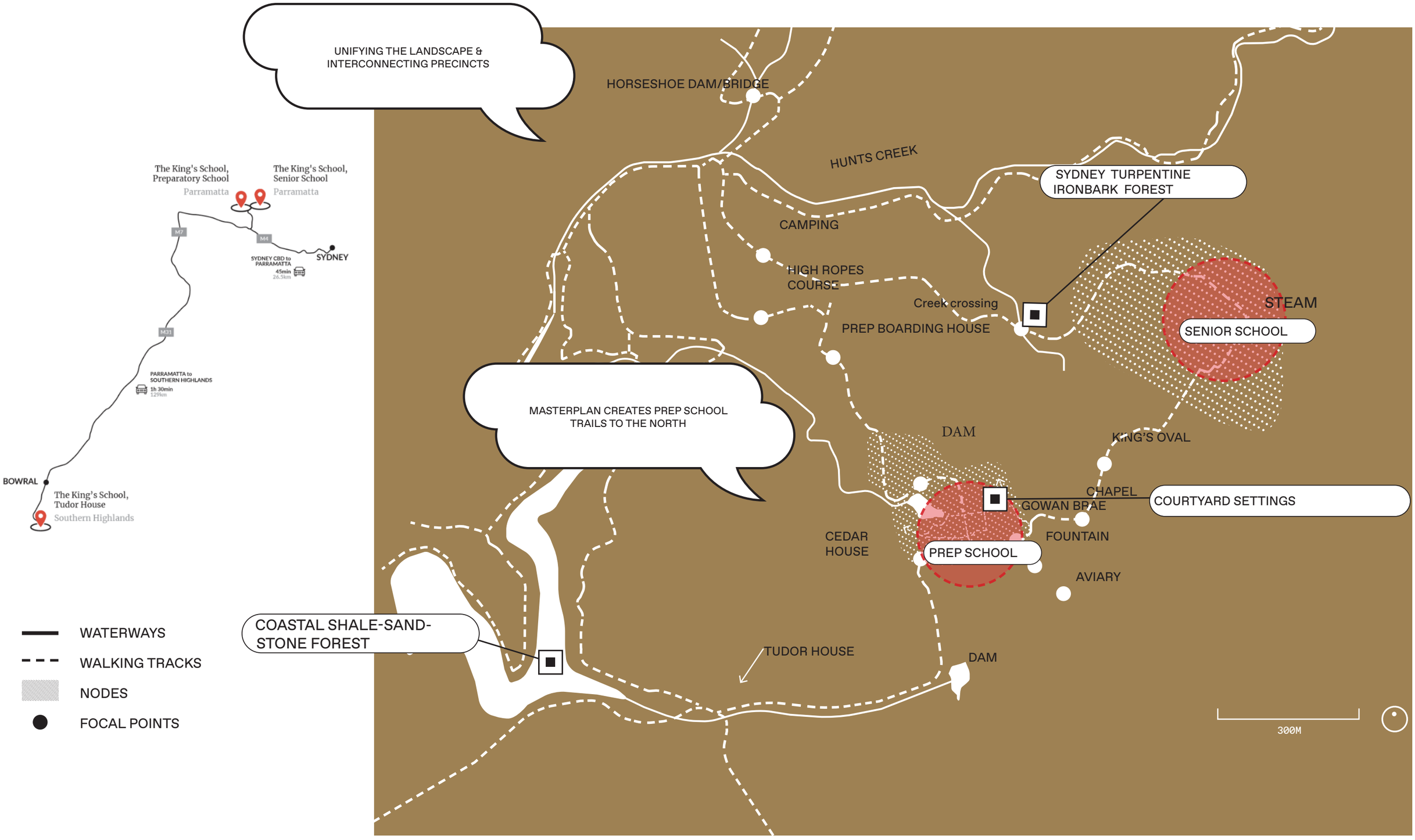
WATERWAYS

WALKING TRACKS

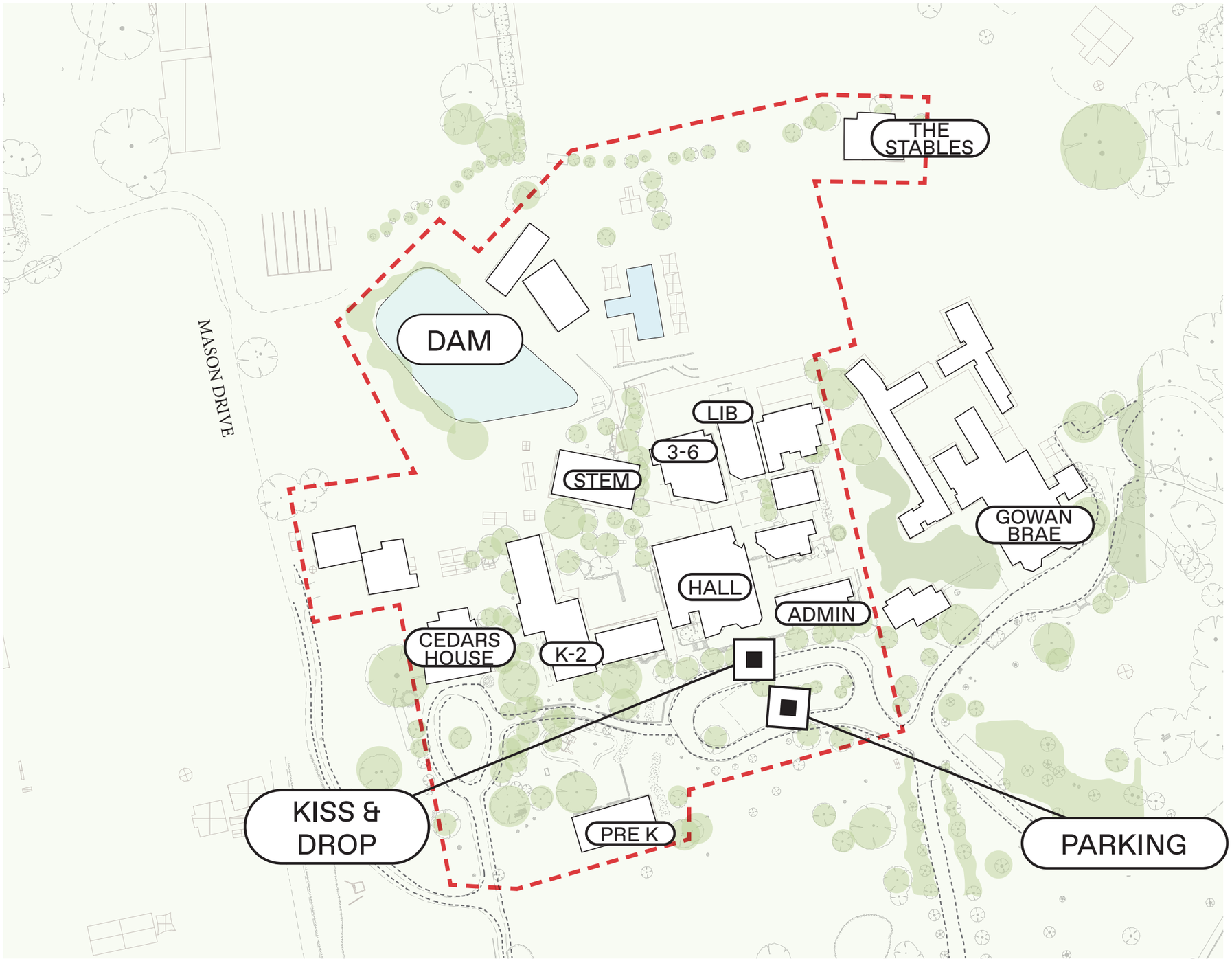
NODES

FOCAL POINTS

05.03 PATHWAY EXTENSIONS



05.04 EXISTING PREP SCHOOL CAMPUS PLAN

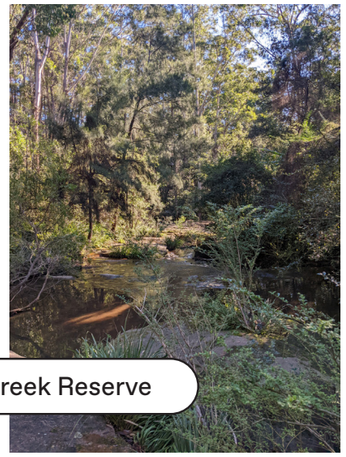


05.05 EXISTING PREP SCHOOL CONDITION

Strengths



Courtyard typology



Hunts Creek Reserve



Dam



Heritage



Views over Parramatta

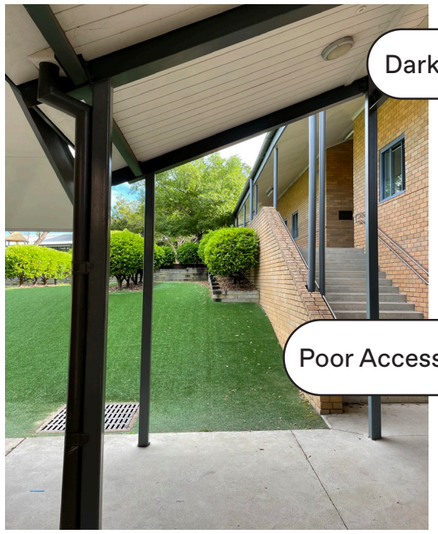


Weaknesses



Legibility





Dark



Poor Accessibility



Congested



05.06 PROJECT PRINCIPLES



CONNECTION TO PLACE

- Visual and physical connection to the outside
- Learning from nature
- Connecting with Country narratives to inform design



ENERGY

- Joy, play, discovery and adventure
- Immersive experience
- King's identity
- Forming long term relationships



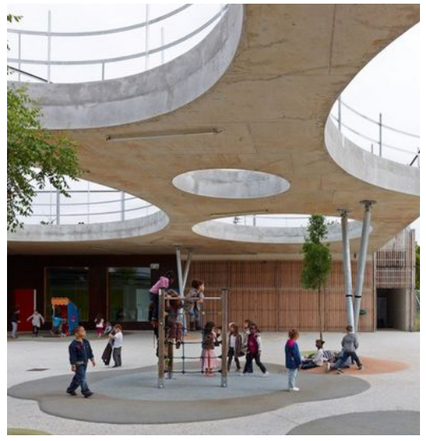
CELEBRATING UNIQUE SITE SETTING

- Interact with the dam
- Provide learning with outlook to country
- Connect to bushland setting to the North
- Working with CwC Principles to assist in informing design of landscape and built form



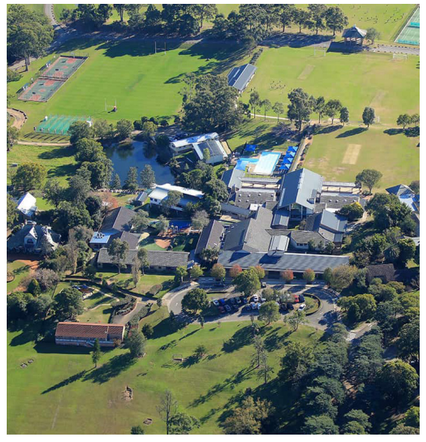
EXEMPLAR LEARNING FACILITIES

- Modern learning facilities
- Sustainable built form for longevity
- Flexibility
- Visible learning
- Emphasis on Outdoor Learning opportunities



PREP COMMUNITY

- Interaction between the years
- Provide nodes away from home-bases for interaction between year groups
- Reinforcing the heart of the school - hierarchy of spaces
- Age appropriate - Unique to Prep - Own vernacular - Fun/Inquiry/Discovery



COURTYARD TYPOLOGY

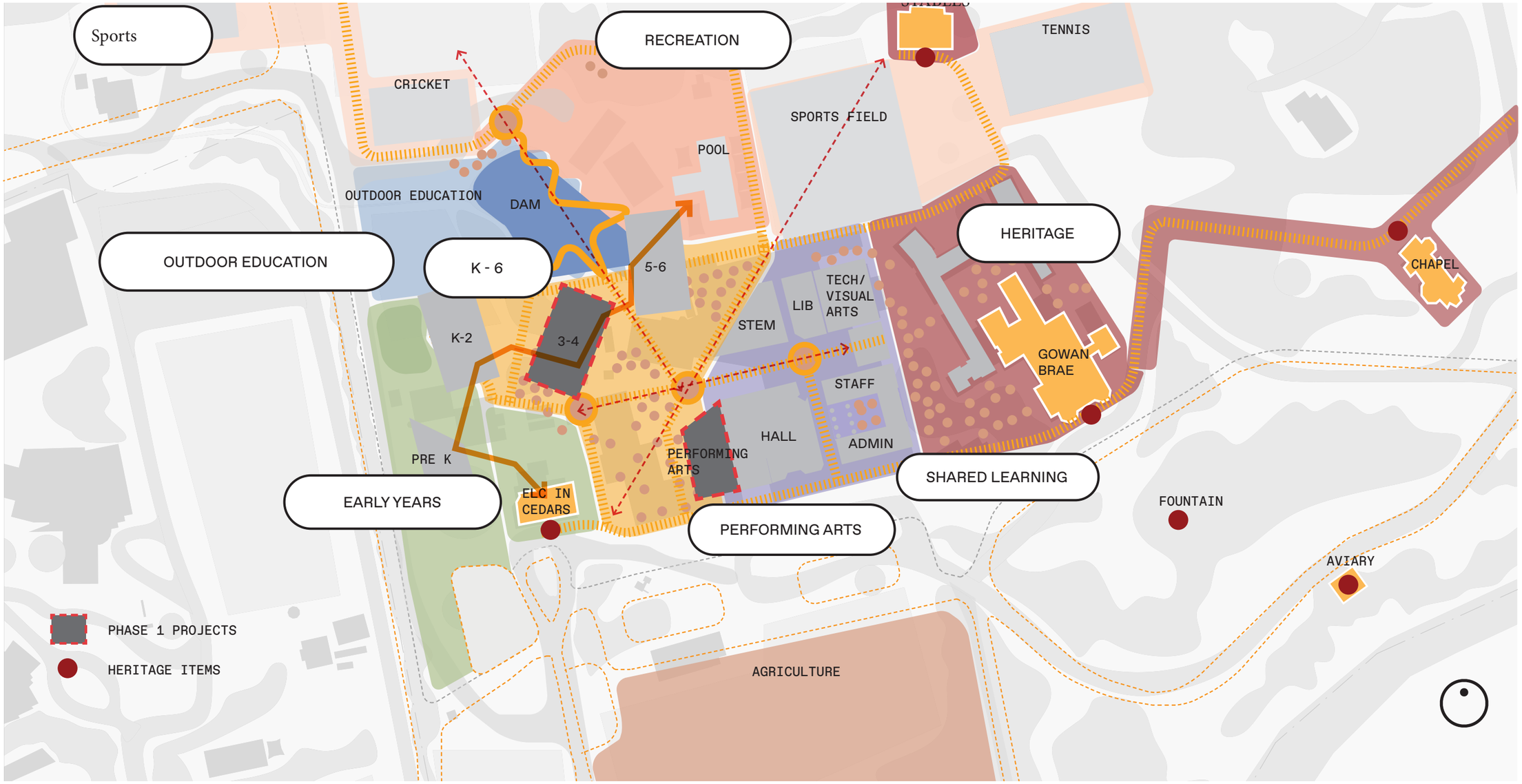
- Free up space for extending courtyard typology
- Enhance colonnade backdrops to exterior spaces



COLONIAL HERITAGE SETTING

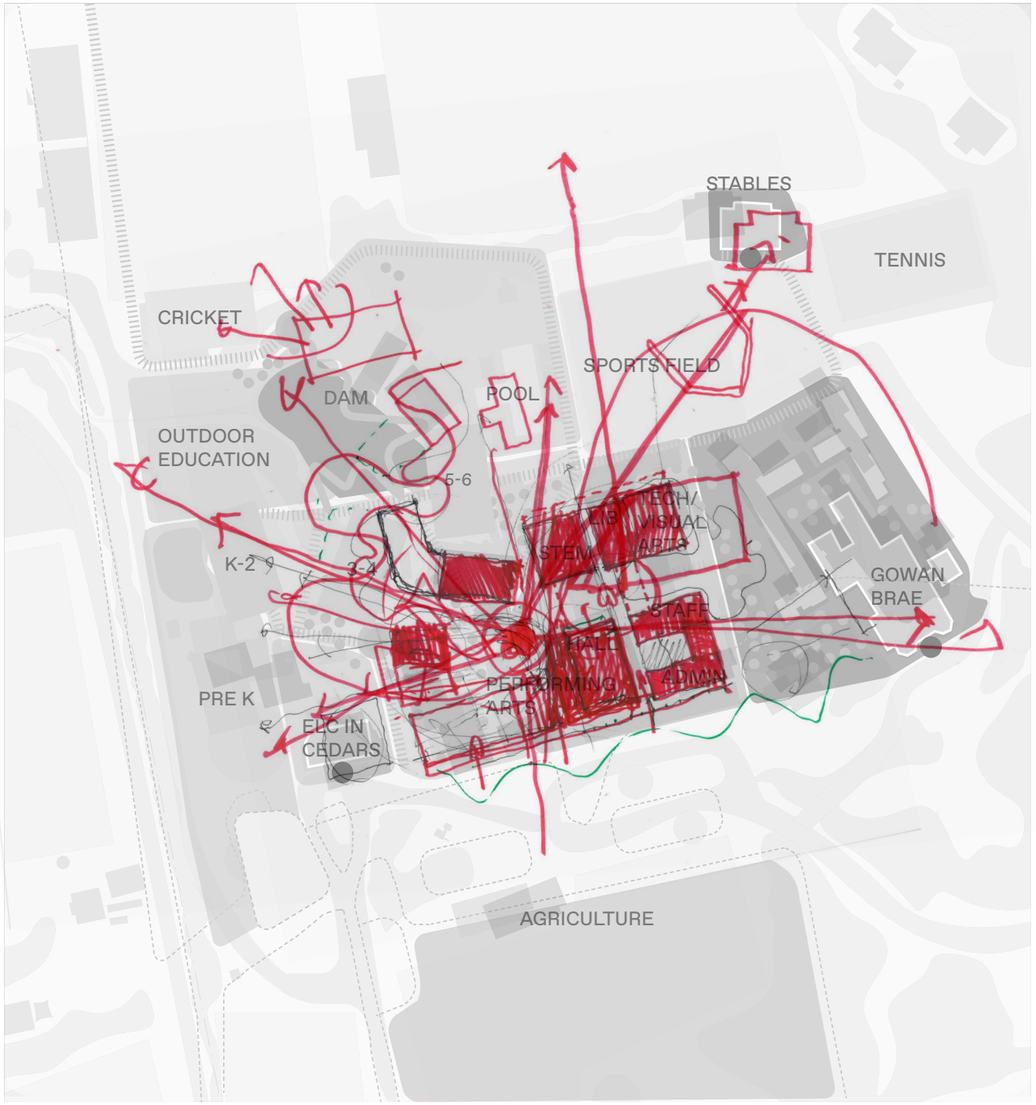
- Make heritage buildings visible backdrops and destinations

05.07 LONG TERM UPGRADE VISION

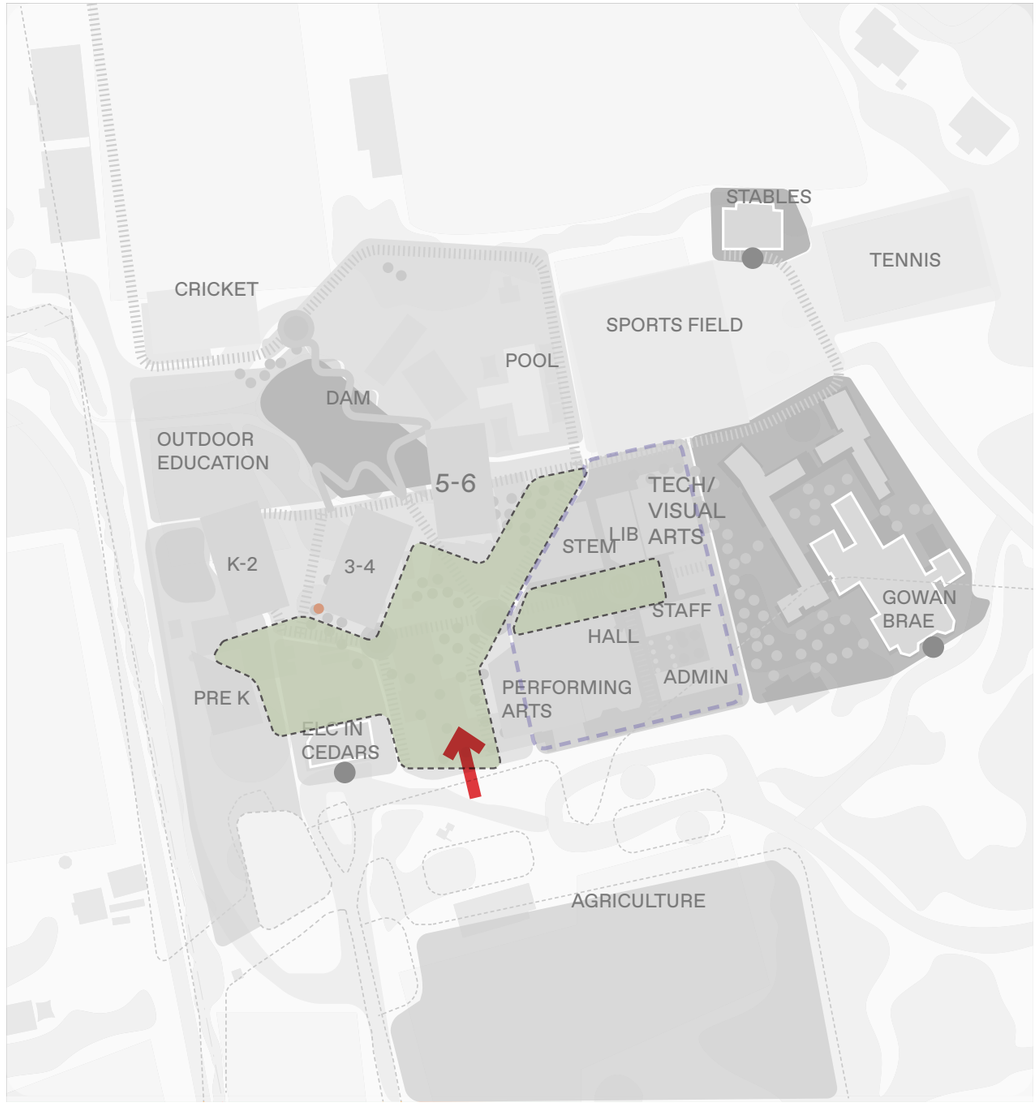


The SSDA application does not seek permission for the future Masterplan of Prep School, however, for the School strategic direction, BVN have developed a vision for the future in close collaboration with the King's School

05.08 PREP SCHOOL UPGRADE CONCEPT



1.
- Free up space within the Campus through pushing the prep school urban boundary to the West, linking more closely with the bushland settings to the North
- Create a new arrival experience and expanded landscape area with the primary entry to the Campus moved to the West



2.
- Free up space within the Campus through pushing the prep school urban boundary to the West, linking more closely with the bushland settings to the North
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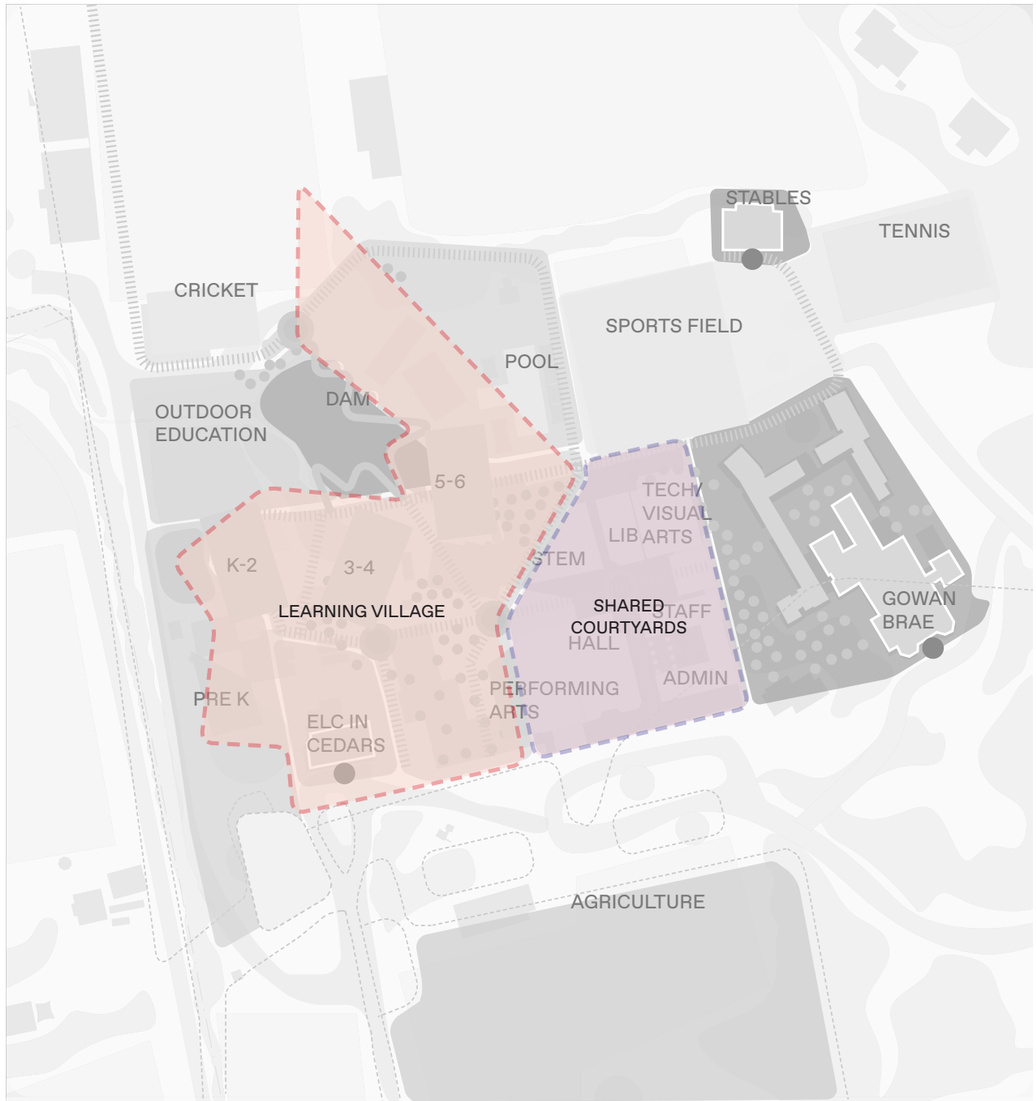
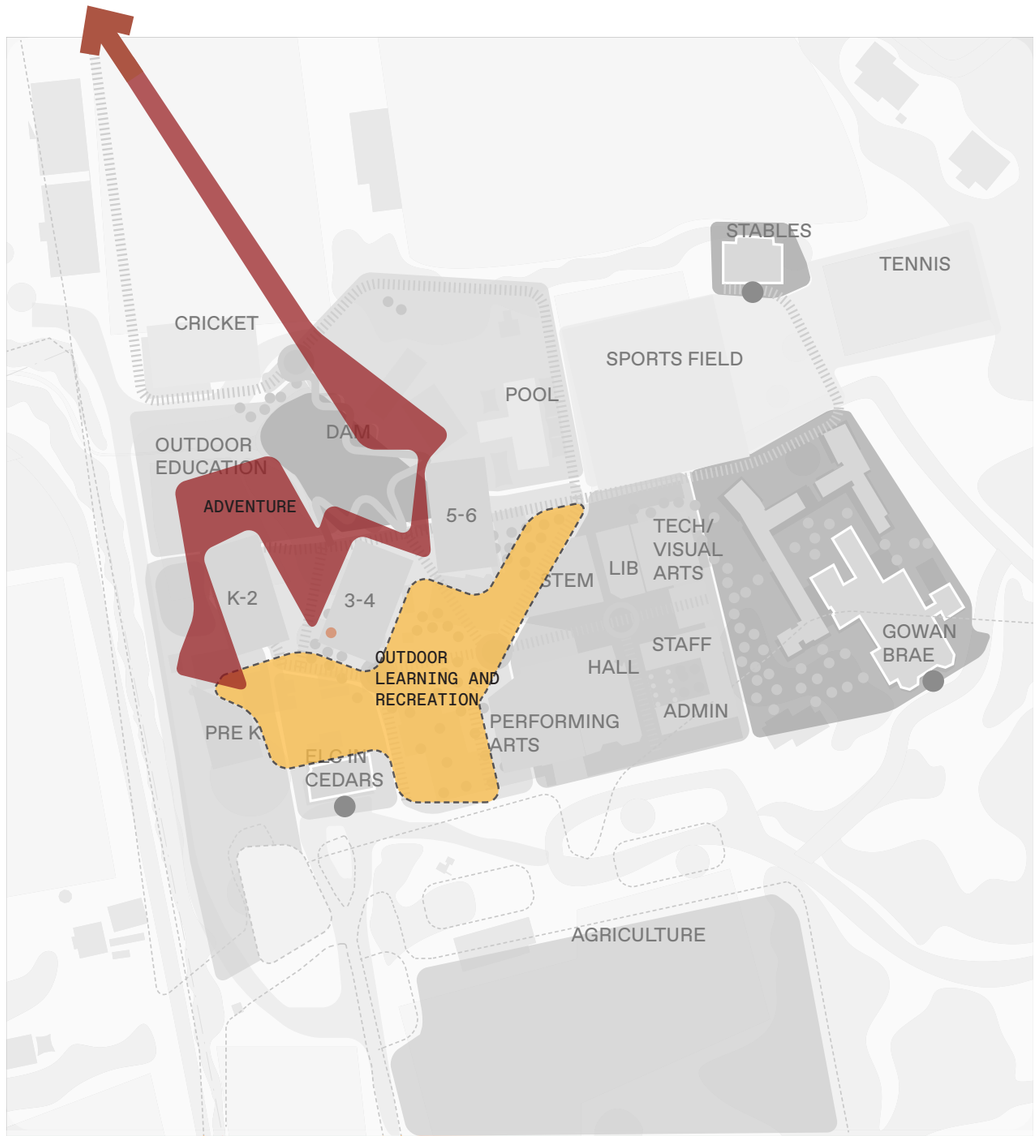
05.08 PREP SCHOOL UPGRADE CONCEPT

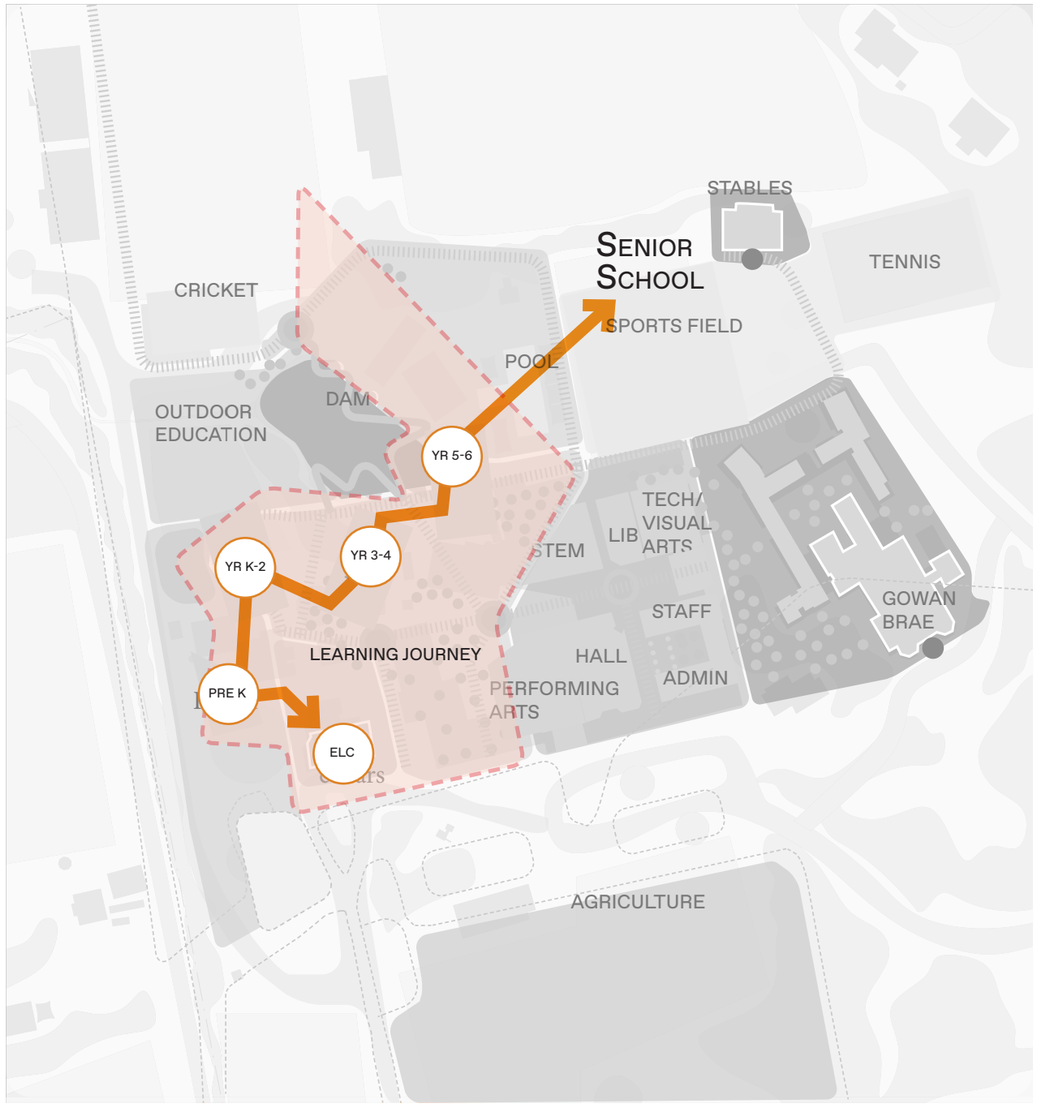


3.
- Maintain the courtyard typology to the East, with centralised shared learning buildings and establish a more informal arrangement of buildings to the West
- Create a new vernacular associated to landscape to the West

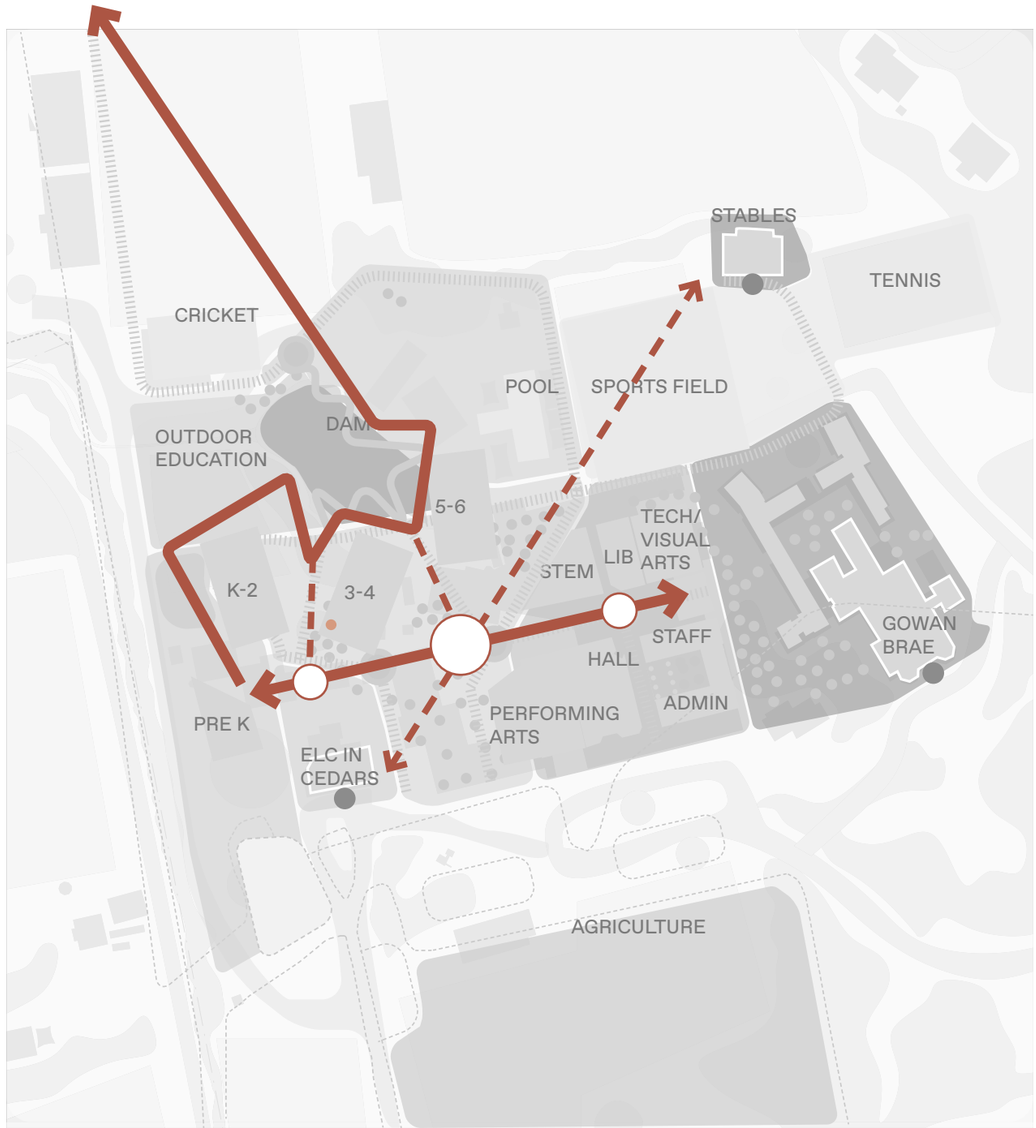


4.
- Create a new vernacular to the West with inward facing learning spaces to contribute to a village type community of buildings
- Release space for outdoor learning, recreation and play. Increase areas f adventure play associated to the Bushland tracks and abundant natural landscapes to the North

05.08 PREP SCHOOL UPGRADE CONCEPT



4.
- Create a story telling pathway from Early years through all years, culminating in year 5-6 with closer association to the Bushland setting and Senior School



5.
- Establish nodes and pathways throughout the Campus
- Amplify connections to the bushland setting to the north, create legible walking tracks linking into the existing tracks throughout Hunt's creek and beyond
Create visual Links to the heritage items on site (Cedars and the Stables)

05.09 PREP SCHOOL EXISTING



05.10 PREP SCHOOL PROPOSED



05.11PREP SCHOOL EXISTING PLAN





05.12 PHASE 1.1 - SITE PREPARATION

PHASE 1.1 - SITE PREPARATION

The new GLU is placed adjacent to the existing Dam on site. To facilitate development, a series of outbuildings, which are currently used for low scale agriculture will be removed or relocated. Some of the outbuilding are beyond their service life, however where possible the design looks to reuse and reposition the structures to the South of their current location. Refer to Landscape Report for more information.



05.13 PHASE 1.2 - GENERAL LEARNING UNIT

PHASE 1.2 - GENERAL LEARNING UNIT

The new GLU is the first major development as part of the SSDA. The location has been selected due to it's minimal impact on the School during construction, it's limited impact on tree and landscape structures, and it's key adjacencies with the existing School. The orientation also creates a first move as part of a longer term vision to create a more informal language to the placement of buildings. The orientation works within the current setting, as well as enabling development of adjacent areas as part of the future upgrade.

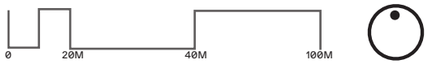


05.14 PHASE 1.3 - SITE PREP FOR PA BUILDING

PHASE 1.3 - SITE PREPARATION FOR PERFORMING ARTS BUILDING

The location of the new PA building requires removal of a proportion of the existing K-2 classrooms. The GLU allows top up of learning facilities on site, which will allow removal of the 2 classrooms as part of the enabling works. The building to be removed is a fairly utilitarian brick building with little significance on site. Following completion of the PA building, the Western portion of the K-2 block to create a new entrance courtyard into the site.



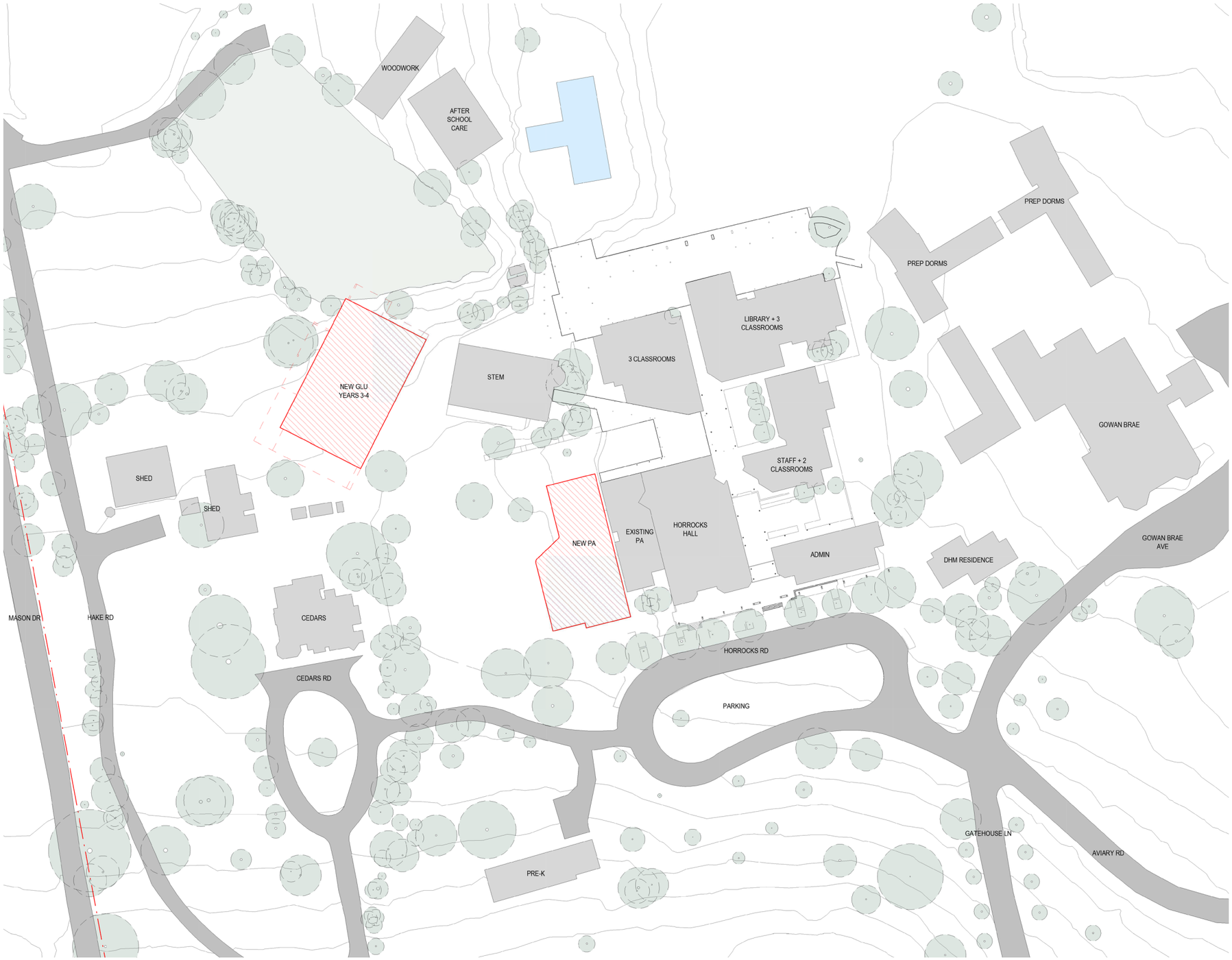


05.15 PHASE 1.4 - PERFORMING ARTS BUILDING

PHASE 1.3 - PERFORMING ARTS BUILDING

The location of the new PA building plugs into the existing music department at Level 1. This requires minor modification and make good work to the existing building.

Level 0 works with the existing levels to the South, providing clear accessible routes at the two levels of the building. The development sits adjacent to a new landscape area to the West.





05.16 CPTED

Consideration of Crime Prevention Through Environmental Design has been considered during the development of the scheme. The location and shared use of the facility throughout the day are aligned to the four principles of CPTED. The descriptions and responses below are based on the NSW Police Safer by Design information to help create the perception and reality of capable guardianship

SURVEILLANCE

The developments are located well within the School campus. The Schools surroundings are characterised as an affluent community with low crime rates.

The site currently have extensive Technical/mechanical surveillance via CCTV coverage as part of its Operational Plan, with a 24 hour on-site presence from security as well as staff and families living on site in private accommodation. The Prep School headmaster is located in the Cedars residence directly to the West of the main School. It is proposed the new building and surrounding landscape will incorporate CCTV as part of design.

ACCESS CONTROL

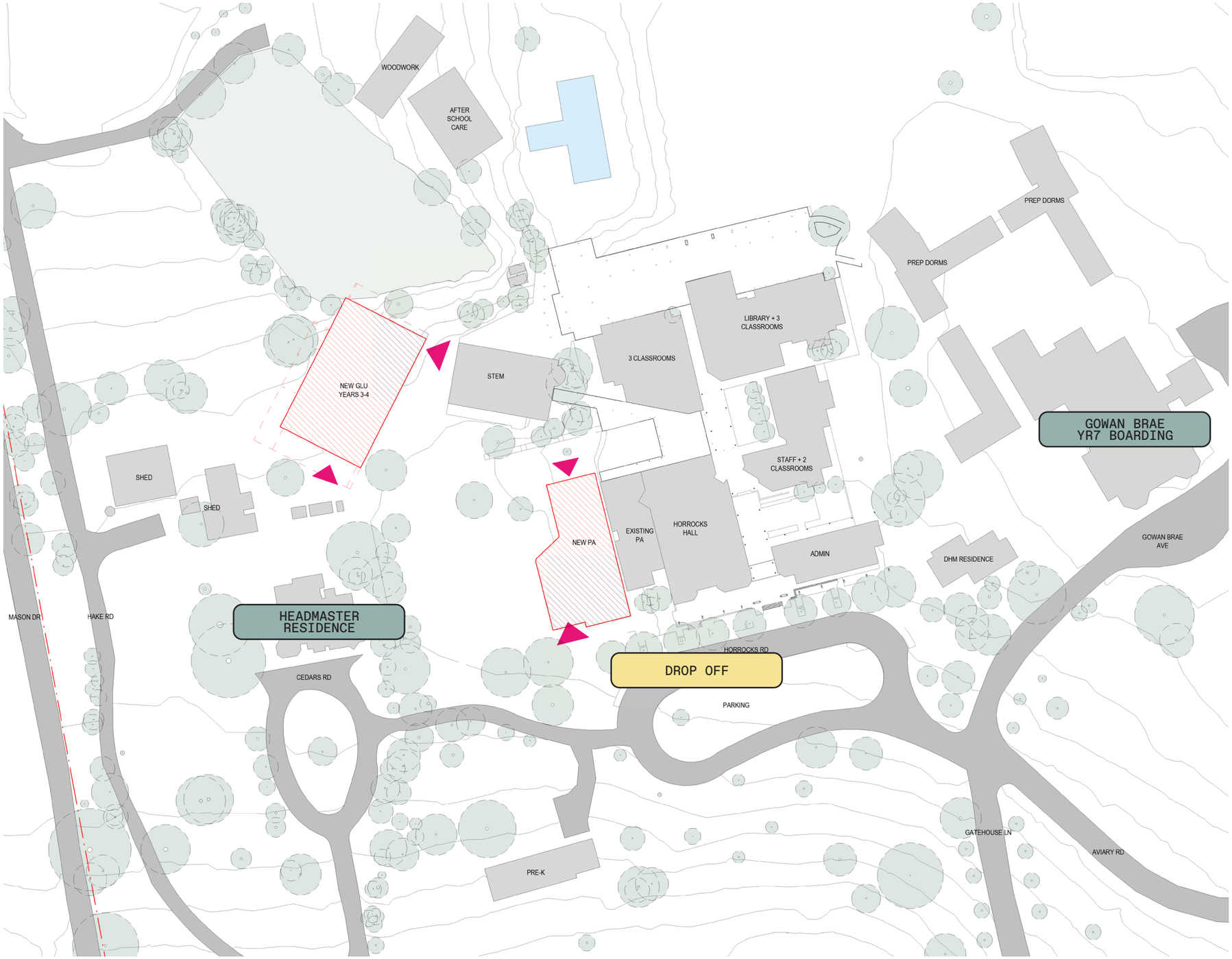
Lines-of-sight through the site have been considered. The proposed development does not alter the current security protocols on site

TERRITORIAL REINFORCEMENT

The King's School has substantial grounds staff actively managing the building and its external spaces, areas will be cleaned and maintained as part of the Operational Plan, maintaining the level of quality and care of the facility.

SPACE MANAGEMENT

The Prep Campus hosts a series of alternate events during an academic year, These are managed by the School as required and the Phase 1 developments do not alter current arrangements on site. With continual presence of staff and personnel on site, it is assumed there will be very little opportunity for crime within the precinct.

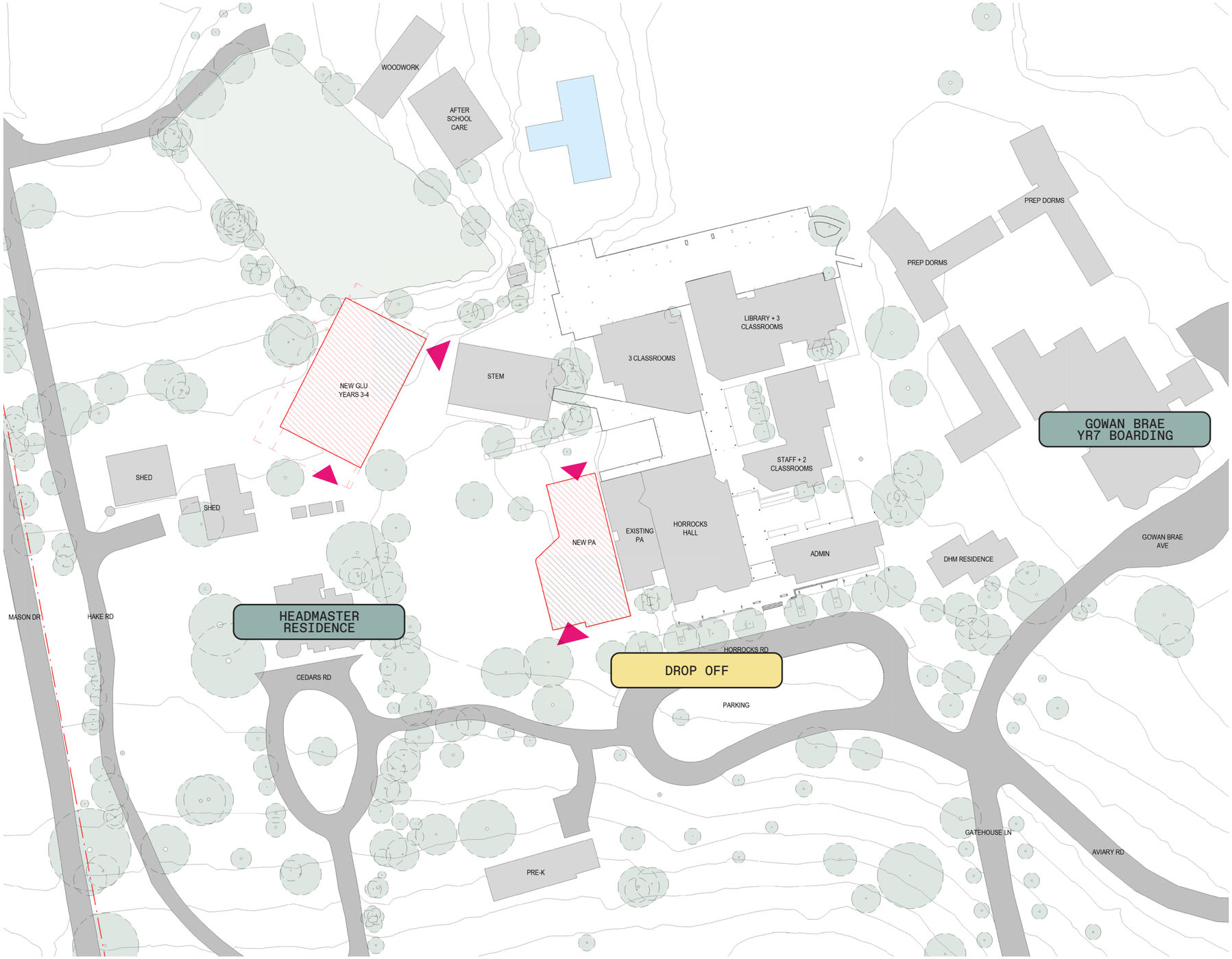


05.17 ENTRIES, ACCESS + SECURITY

The Prep Campus Phase 1 developments will not alter the school community's entrypoints onto the site, nor alter the way in which they commute to the site.

The project proposes to utilise the existing parking spaces on site. All parking spaces on site as serviced from a primary road from Pennant Hills Road.

The development of the site is not expected to have any adverse impact to the existing parking conditions and no amendment to the road network is proposed as part of the phase 1 building developments.



05.18 ENVIRONMENTALLY SUSTAINABLE DESIGN PRINCIPLES

ESD

The King's School (TKS) aspires to be sustainable in the design and operation of their new Prep School developments. As part of the school's environmental commitment TKS have developed a Sustainability Policy aiming to practise waste wise initiatives, promote energy efficiency, reduce water usage, increase biodiversity in the school grounds and encourage community practice in sustainability.

In addition, as the school masterplans for the next 20-30 years of building, there is an aspiration to incorporate environmentally sustainable design principles into the design philosophy.

The school's sustainability policy identifies four core areas of sustainability which are:

- Energy
- Water
- Waste
- Biodiversity

(Refer to ESD consultant documents for more information)

To ensure a sustainable outcome, the following are key strategies being addressed within the proposed design:

- Incorporate a high-performance building envelope, to ensure energy efficiency as well as occupant comfort (including thermal, visual, and acoustic comfort);
- Incorporate appropriate passive and active design strategies to ensure a low-energy as well as low-maintenance design outcome;
- Adopt water sensitive urban/landscape design principles; and Adopt practices to minimise demolition, construction and operational waste including recycling of demolition and construction waste; and
- The selection of environmentally preferable materials.

Energy and Carbon

- Reduced embodied Carbon
- Resource efficiency
- No gas for heating
- Green power
- PV on roof area

Materials

- Responsibly sourced materials
- Local materials
- Reduce finishes
- Insulation with low embodied environmental impact
- Use cement replacement components
- Specify high recycled content in building materials
- Timber Structure for GLU
- Use of pre-fabricated materials for GLU
- Sustainably sourced timbers internally and externally

Indoor Environmental Quality

- Thermal comfort for future climate projection
- Glare control (minimise use of blinds)
- Selection of low emitting materials (VOCs)
- No / min formaldehyde content
- Air filtration
- Quality Daylight
- Acoustic comfort





Building as teacher

- Exposed systems
- Showcase of sustainability
- Users involvement
- Data presentation
- Use efficient light fittings
- Reduce light pollution

Landscaping

- Native species
- Low water demand plants
- Drip irrigation
- Use of recycled water for irrigation
- Storm water management through landscaping
- Integrated pest management, use of non toxic chemical for the landscape
- Porous pavement for storm water management
- Selections to reduce urban heat island for embodied carbon reduction and visual comfort
- Use of recycled content in materials
- High reflectance values for surfaces

Facade

- Appropriate WWR per orientation
- Direct solar control
- Appropriate level of glazing depending on orientation
- Good air permeability
- Good thermal fabric performance
- Efficient detailing to limit thermal bridging
- Consider condensation controls for a mixed mode building

Water

- Rainwater collection and reuse
- Water runoff reduction
- Water capture as education tool
- Drinking water taps
- High water quality

PREP SCHOOL
GENERAL LEARNING UNIT

06

06.01 DESIGN APPROACH

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. The Prep School is smaller in scale, with a varied context.

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A number of learning buildings on site are tired and sporadic development has led to poor legibility when within the School grounds. This is something which triggered the need for a long term view for the prep campus as well as development of the GLU and Performing Arts Buildings.





To the West is Tara Anglican School for Girls and Burnside Public School. The campus is barely visible from surrounding developments, with the bushland setting and heritage curtilidge providing a substantial landscape buffer to most of the perimeter.

HERITAGE

The Prep School has a series of buildings and structures with heritage significance, proposals have carefully considered the siting of development, scale and mass, as well as creating a long term vision to create key vistas to important landmarks and amplify their importance in the context of the prep Campus

Refer to the Heritage Report

SAFETY AND SECURITY

The site is situated well within the School Campus, with the School 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. Refer to the CPTED section of this report

SUSTAINABILITY

The GLU proposes timber GLulam structure, and is designed as a new learning typology for the School which will be replicated for future learning buildings. The design proposes a timber fin facade and highly performative thermal envelope. This proposal uses passive solar design principles to reduce heat load on the building. A mixed mode ventilation system is proposed to enable teachers to open windows whilst ensuring a suitable mech system is present in the event of high heat loads.

Skylights bring natural light to deeper areas of the floorplate, eleviating the need for artificaial light as much as possible. roof provides opportunity for PV arrays to assist in renewable energy generation for the building. Refer to the ESD report prepared by Steensen Varming for further information. The selection of materials has been carefully considered to provide selections which have low embodied carbon.

ACCESSIBILITY

The building plugs into the existing levels on site. the 2 storey building is serviced by a lift for those needing assistance. All graded ramps externally are designed to code

The site has a significant fall across it, hence landscape levels are managed to provide accessible pathways. Refer to the Access Report.

FORM, MASS AND HEIGHT

The proposal is a 2 level building with its lower level aligned to the existing site level. The building projects over the Dam, creating an engaged frontage to the water reserve. The pitched roof links into the exsiting School vernacular, which is aprticularly previlent to the North of the site. The Tiered steps create a space for 2 year groups to sit, having a view out to the open dam and a place for teacher address.

MATERIALS AND COLOUR

The facade is proposed to be a timber fin system with a metal clad roofing system. The palette is selected to fit into it's natural context. The facade is performative, articulated, and a natural material which can adapt over time.



EDUCATION MODEL

The building will allow for alternate pedagogical arrangements. With a key component to allow for current learning setup, but with the opportunity of the internal environments allowing for team teaching by utilising spill out space outside of the more traditional classrooms.

LANDSCAPE

The Landscape has been considered as a first phase development, with spaces provided to enhance those currently on site. The first phase proposals have considered how these are expanded in the long term, to create a building block approach as future developments come into effect.

The North facade has a beautiful setting, where little intervention is required. To the South ans South West, relocated small scale agriculture is proposed for use by the year groups present in the new building.

Refer to Landscape Report for further information.

STRUCTURE

A Glulam structure is proposed for the scheme, for it's environmental benefits, maximised off site production and for the aesthetic and well being to users in the internal environments. Refer to structural report for further information.

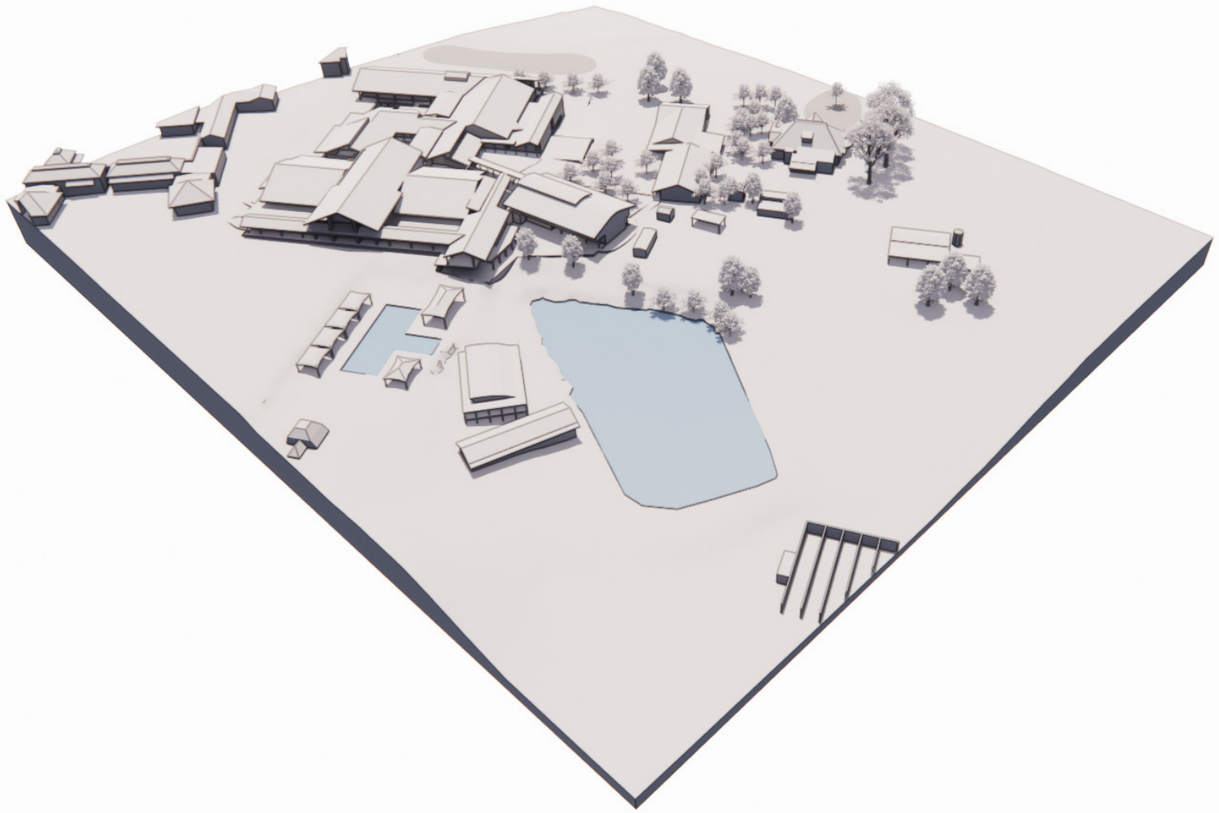
SERVICES

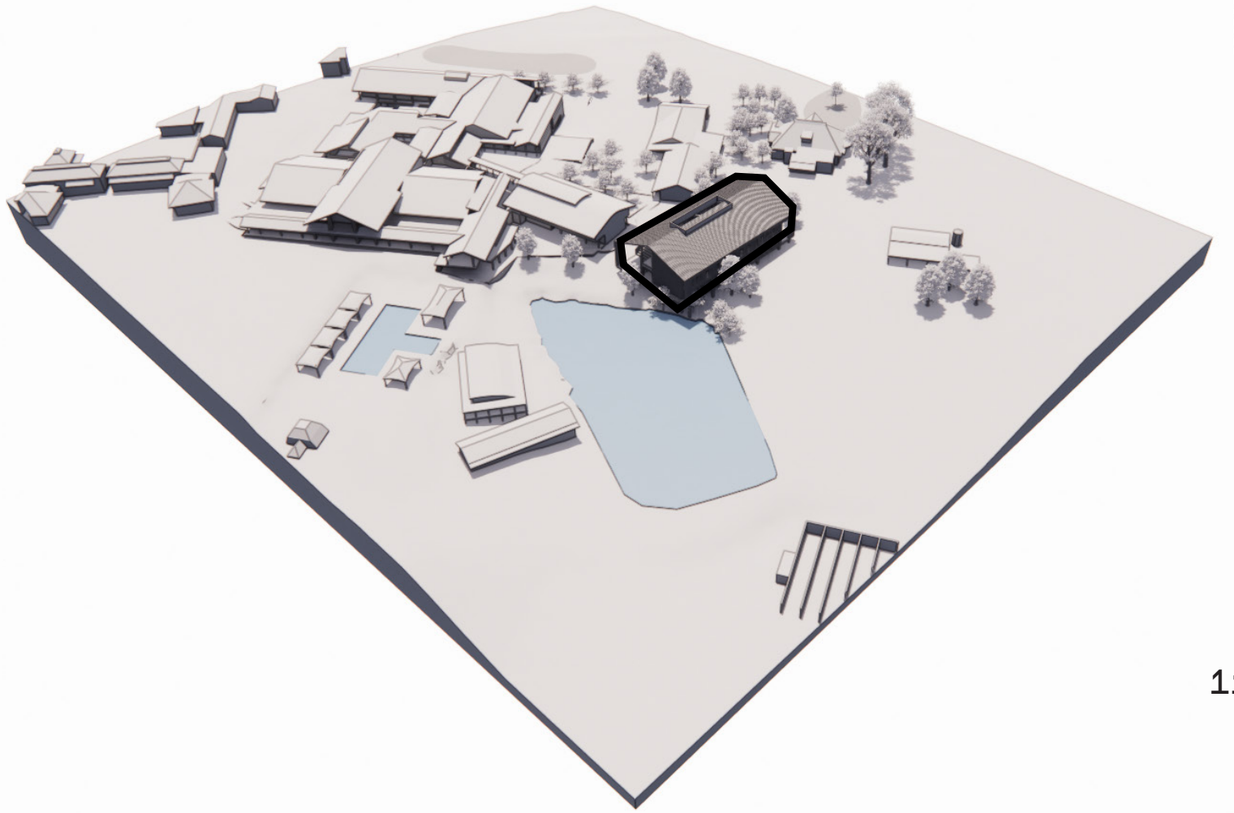
Power, communication, hydraulic and mechanical services are provided in accordance with the brief, using a light-touch, easy maintenance approach through considered and accessible locations of plant equipment. Refer to services report for further information.

AMENITY

A high level of amenity is provided for the various users of the facility through the provision of differing types and scales of space. The new learning block is earmarked for Year 3-4, but the building will be designed for all year groups. The eventual Masterplan is to have 3 modules for all year groups, with each building acting as a homebase for the students.

06.02 MASSING + FORM IN CONTEXT





EXISTING SITE

FORM

The proposal is a two level building with 8 learning units spilling onto breakout space.

The form, with a centralised pitched roof, picks up on the campus pitch roof typology, but uses a new material to the campus, in the form of timber fins and an exposed timber structure

The building sits comfortably within the landscape, with Cedars house a taller development to the South and the neighbouring buildings being similar in volume.

The facade is light and transparent through a consistant unfussy material application. The building ties into existing ground floor levels, providing clear accessibility into the building. To the North, the building canteilevers over the Dam

MASS

Due to the steep slope of the site, the building is conceived as a floating plane, with landscape falling away into the dam beneath. This creates a harmonious siting of the building, a development sitting and respecting the landscape it occupies.

The building mass is articulated by:

- A consistent facade material around it’s perimeter
- A building cantilevering over the Dam
- A pitched roof, linking to the School Vernacular
- A large external tiered seat area, creating a unique environment overlooking the Dam and bushland to the North

PROPOSED GLU

BULK

Nestled above the dam, the scale of the developed has been considered to sit amongst some of the larger trees on site. The existing learning blocks (classrooms) on site are single storey. An early decision was made to increase the learning blocks to two storey and allow landscape areas to be ‘rediscovered’, Where buildings are backdrops to more generous landscape areas appose to built form dominating the footprint of the campus.

The GLU creates a new learning typology, where 2 year groups occupy a learning building and have large volume tiered seating areas to enable group gathering up to 150 students, something the School is not currently able to facilitate.

HEIGHT

The 2 storey structure matches the volumn of the newer developments on site such as the Stem building and Library, picking up on the pitched roof vernacular.

Although there is clear seperation, The height of Cedars to the South has been considered, with the new learning building sitting comfortably in scale to the rear of the Cedars development.

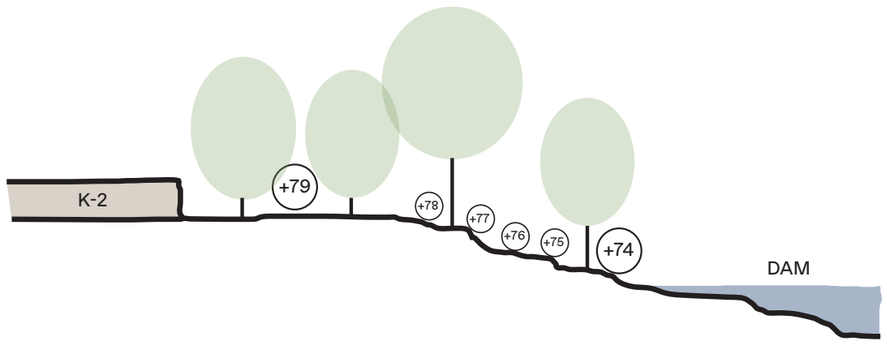
The Northern elevation of the building fits in with the Northern most buildings on campus. The GLU has a top of pitched roof height to the North of RL 90.650 AHD. The library building is the tallest structure on site (2 storey with pitched roof) the upper upper line is RL. 92.494 AHD.

To the South, although a significant distance away, the projecting terrace at level 1 has a upper most height of RL 89.337 AHD which sits comfortable with Cedars which has an upper most height of RL 89.049

06.03 GLU SITE ANALYSIS

The existing site has small scale agriculture at present which will be relocated as part of the development works. There are a number of existing trees which the design looks to retain as much as possible. This has determined the siting fo the development.

There is a substantial fall across the site from the upper level of +79, which ties into the existing K-2 Level to the South. The landscape then falls away to the Dam to the North. The building will be positioned to align with the upper level and canteliever over the Dam





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②



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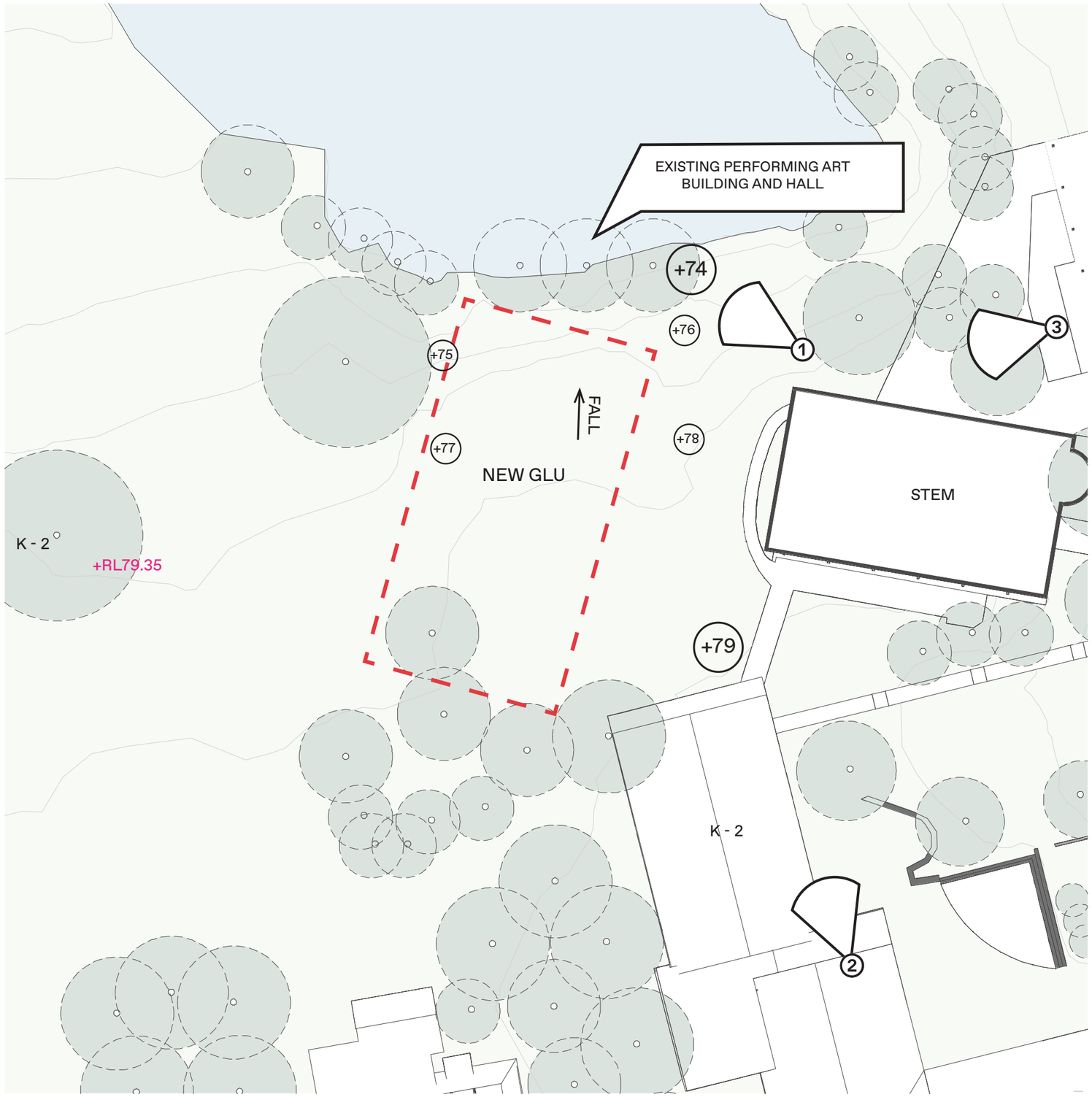
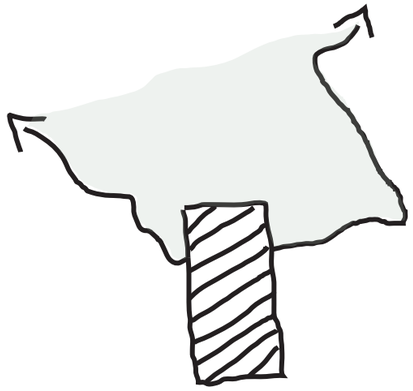


06.04 PROJECT PRINCIPLES

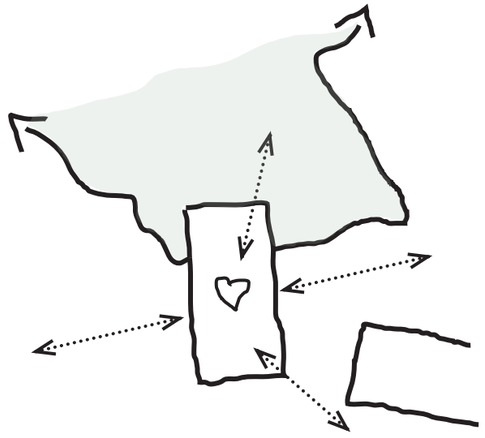




CELEBRATE UNIQUE SITE SETTING

- The location provides opportunity for external learning platforms interacting with a dam

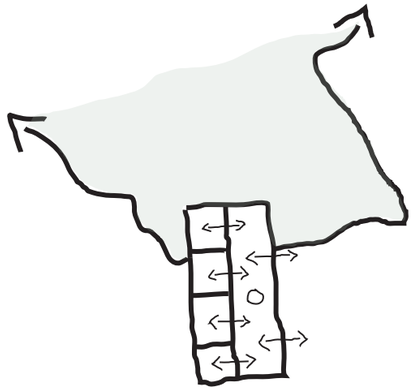




PREP COMMUNITY

- The building looks to cluster years for closer integration and is a first phase of a new vernacular for the campus

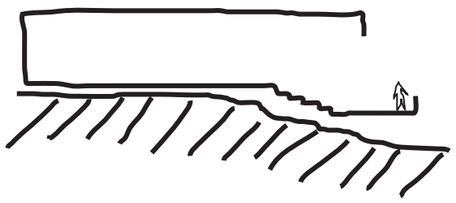




SEE AND BE SEEN / VISIBLE LEARNING / FLEXIBLE

- More varied learning opportunities by creating a typology based on cellular spaces associated to larger breakout areas

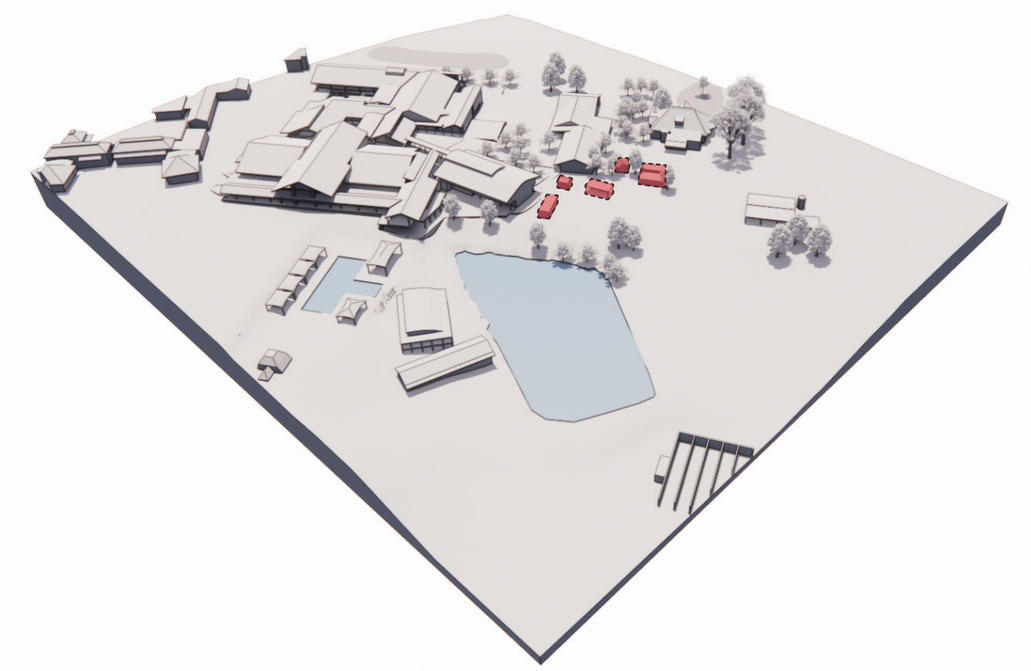


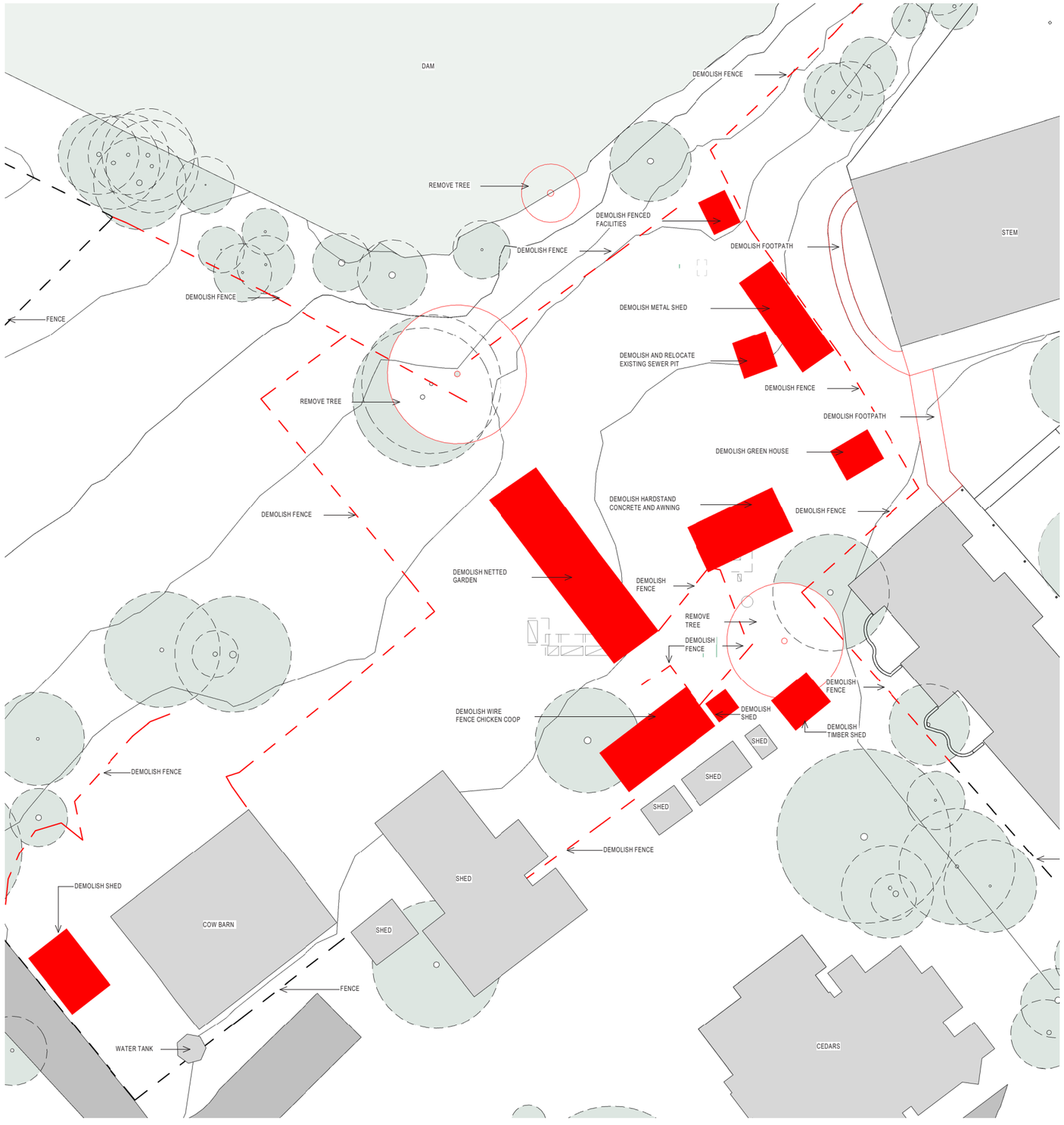


CONNECTION TO PLACE / ENERGY

- Touching the ground lightly and creating physical and visual connection to place.

06.05 DEMOLITION / TREE REMOVAL





DEMOLITION EXTENT

The existing site contains a series of small scale agriculture outbuidings, netted gardens, a greenhouse and sheds. Some of these are distressed and in need of removal. The small scale sheds to the South are to be retained and re-purposed, acting as a backdrop to new allotment areas.

The building has been positioned to retain as many trees as possible, however some trees are removed to facilitate the works - refer to arborist assessment for further detail.

06.06 TREE ASSESSMENT

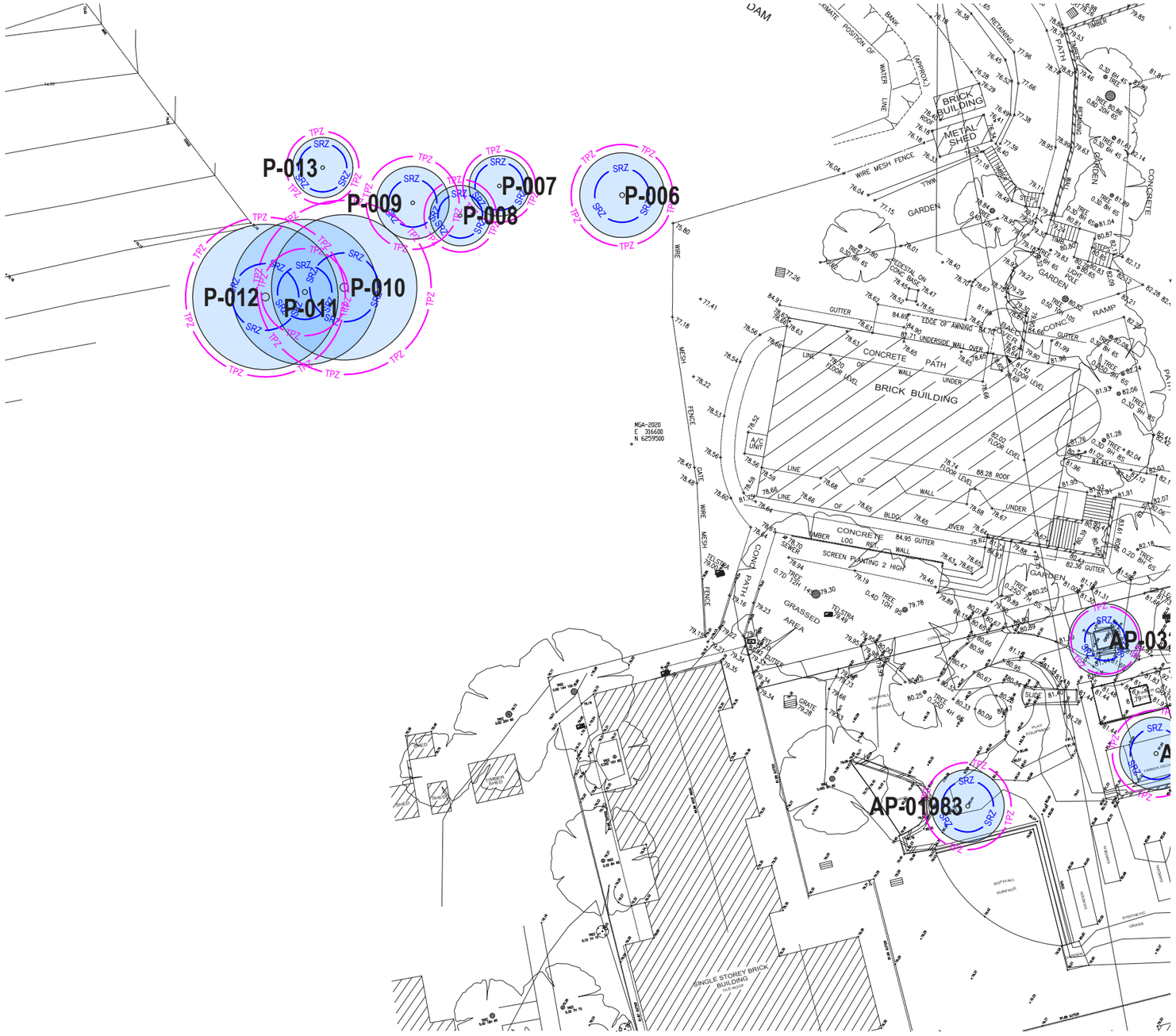
Several trees are located in close proximity to the proposed site, and have been identified as of moderate or low retention value.

The location of the development requires removal of 2 tree - P-010 and p-007 which is considered to have medium retention value.
To compensate for tree loss the landscape developments look to introduce extensive new tree planting, refer to landscape reports.

Tree No.	*Genus & species* Common Name	Height (m)	Crown Spread (m)	Structure/ Condition	Landscape Significance	Retention Value
P-005	***Tibouchina 'Alstonville'*** Tibouchina	4	3	Fair	Low	Low
P-006	***Grevillea robusta*** Silky Oak	12	7	Average	Medium	Medium
P-007	***Grevillea robusta*** Silky Oak	10	5	Fair	Medium	Medium
P-008	***Grevillea robusta*** Silky Oak	9	5	Fair	Medium	Medium
P-009	***Grevillea robusta*** Silky Oak	12	6	Fair	Medium	Medium
P-010	***Cinnamomum camphora*** Camphor Laurel	13	12	Average	Medium	Medium
P-011	***Cinnamomum camphora*** Camphor Laurel	12	12	Fair	Low	Low
P-012	***Cinnamomum camphora*** Camphor Laurel	12	12	Fair	Low	Low

T1 EXISTING TREE:
MEDIUM RETENTION VALUE

T1 EXISTING TREE:
LOW RETENTION VALUE

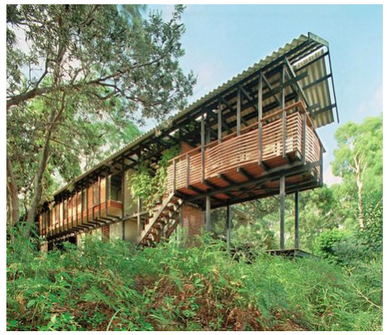


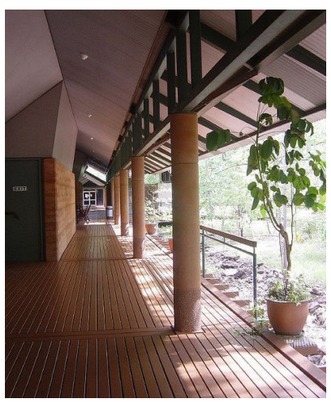
06.07 CONCEPTUAL FRAMEWORK











Whale Story
Collaborative spaces -Share ideas & resources
Safe meeting places

Sand Body
Create safe places to gather, rest, make and be inspired
Accessibility from many directions
Creating conditions for enoughness

LEARNING SPACES FACING ONTO COLLABORATIVE SPINE



OUTDOOR LEARNING INTERACTING WITH NATURE

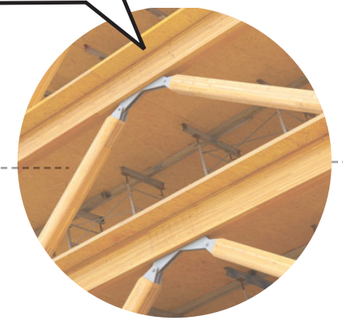
06.08 FACADE



SCREENING AND CLIMATE RESPONSIVE
TIMBER VERNACULAR



GLULAM STRUCTURE



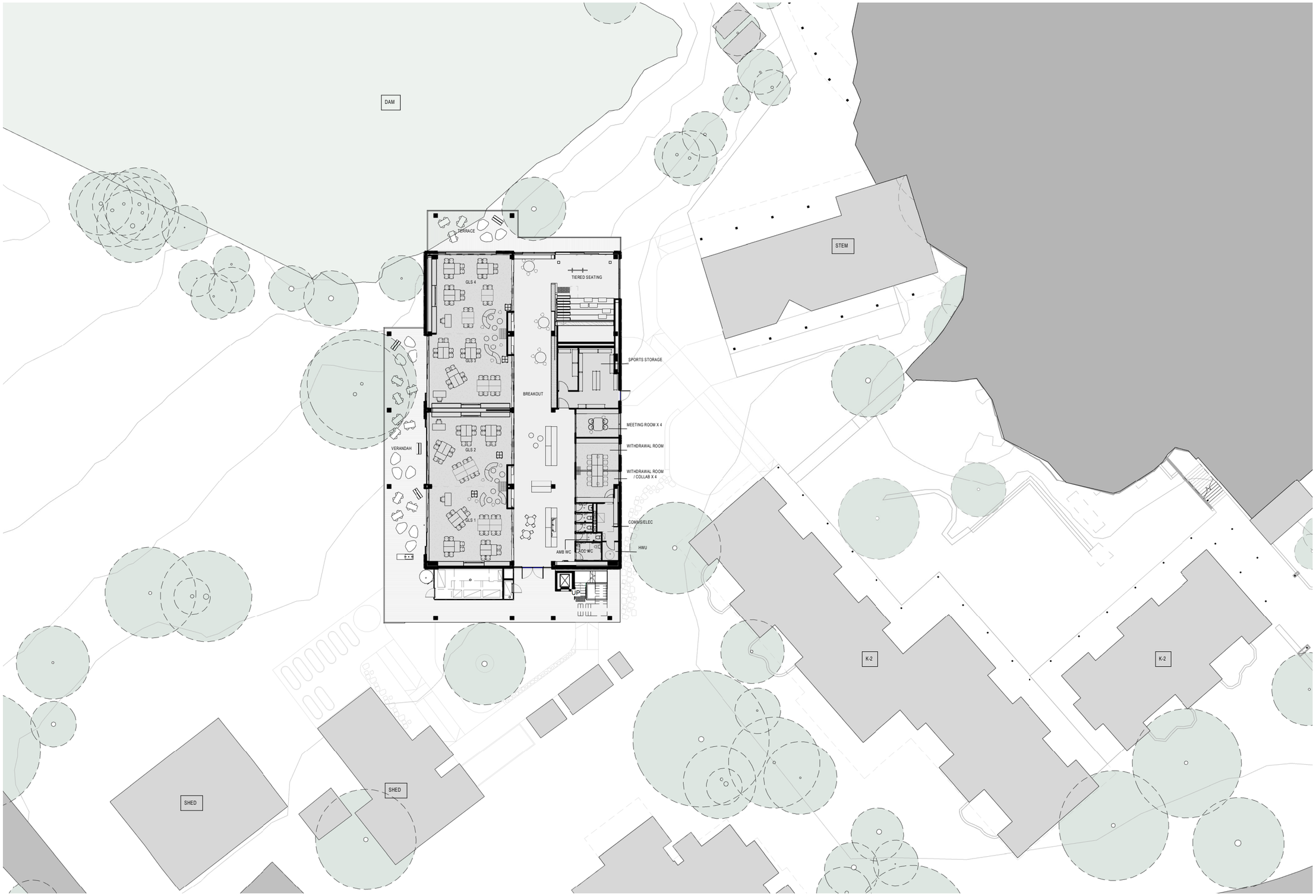
INSITU CONCRETE STAIR



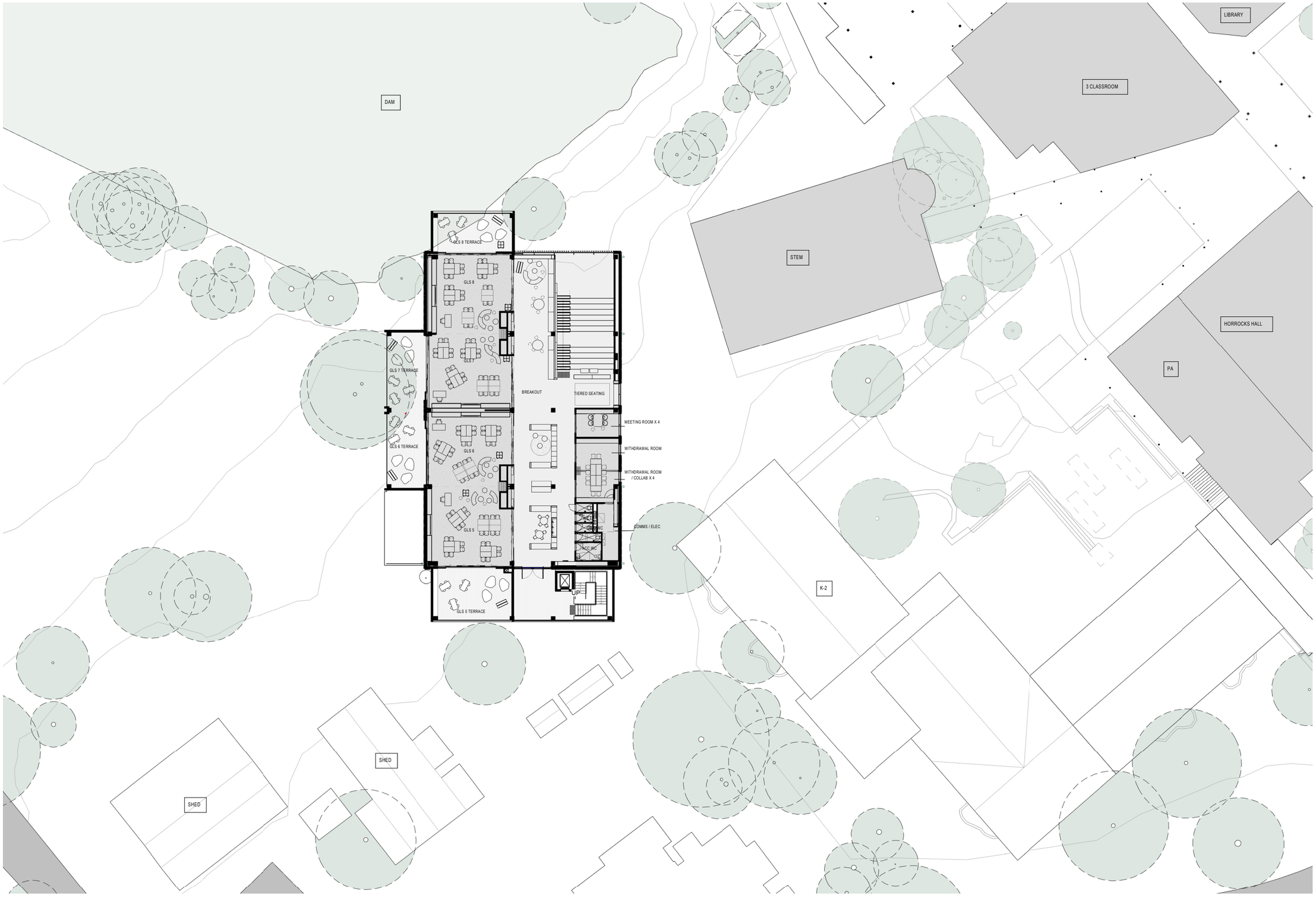
06.09 FACADE



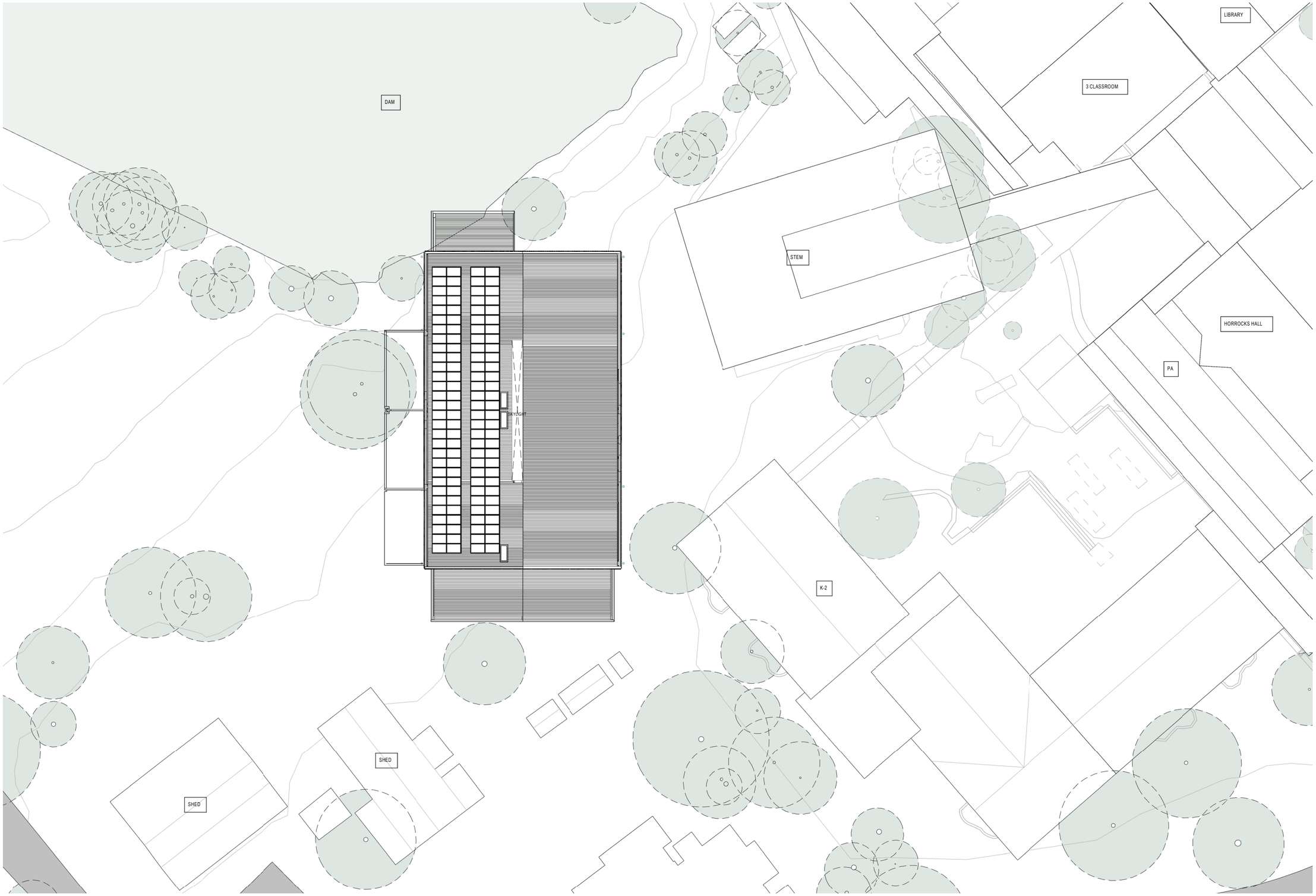
06.10 LEVEL 0


DAM
TERRACE
GLS 4
GLS 3
GLS 2
GLS 1
VERANDAH
TIERED SEATING
BREAKOUT
SPORTS STORAGE
MEETING ROOM X 4
WITHDRAWAL ROOM
WITHDRAWAL ROOM / COLLAB X 4
COMMS/ELEC
HWU
AMB WC
ACC WC
UP
STEM
K-2
K-2
SHED
SHED

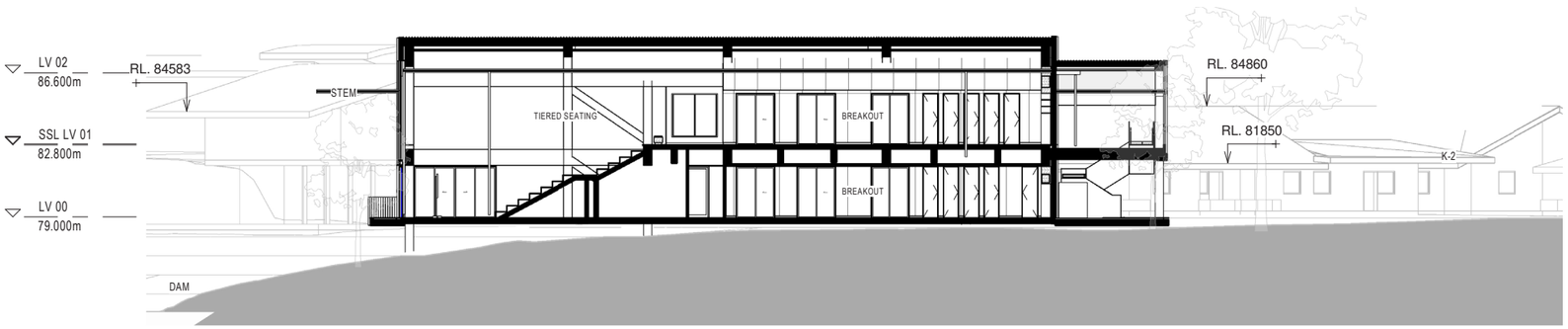
06.11LEVEL 1

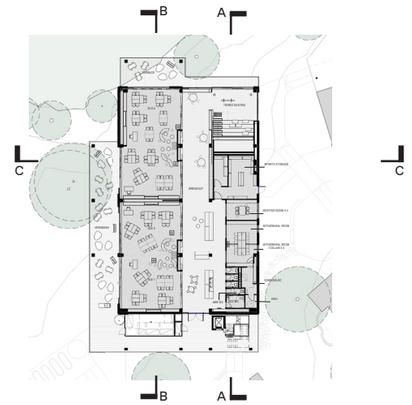

DAM
GLS 8 TERRACE
GLS 8
GLS 7
GLS 7 TERRACE
GLS 6 TERRACE
GLS 6
GLS 5
GLS 5 TERRACE
BREAKOUT
TIERED SEATING
MEETING ROOM X 4
WITHDRAWAL ROOM
WITHDRAWAL ROOM / COLLAB X 4
COMMS / ELEC
ACC WC
UP
LIBRARY
3 CLASSROOM
STEM
HORROCKS HALL
PA
K-2
SHED
SHED

06.12 LEVEL ROOF

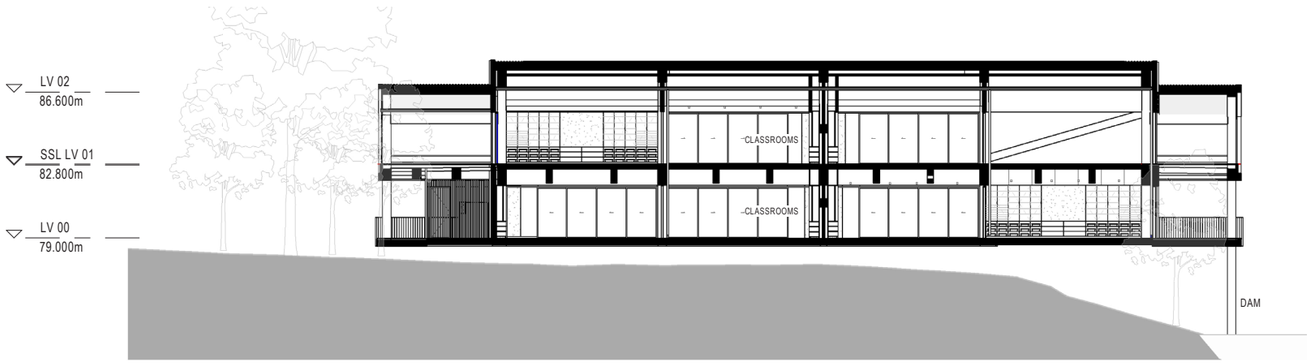


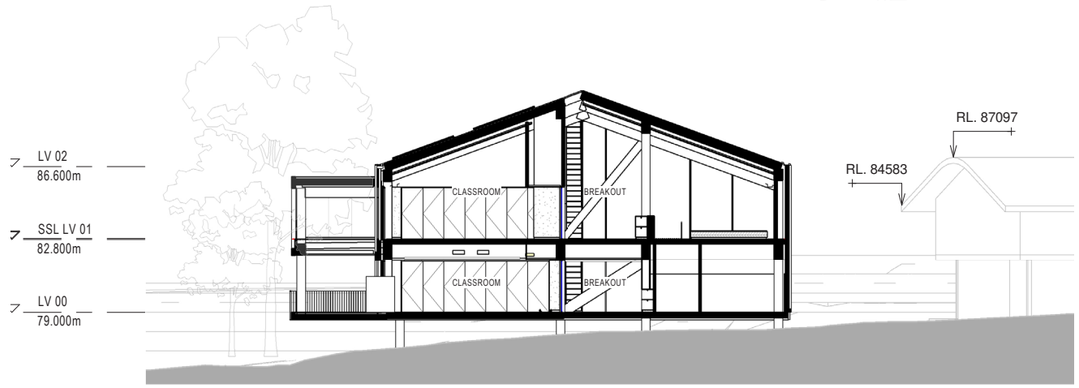
06.13 SECTIONS





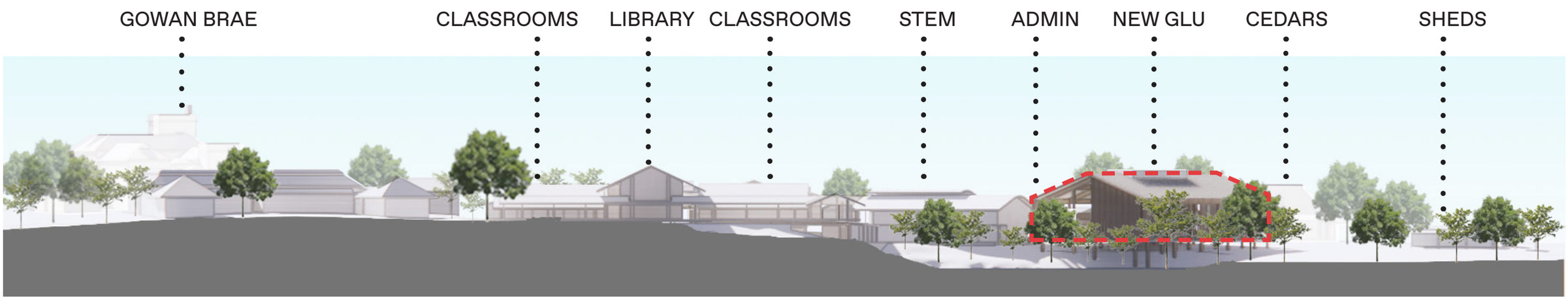
SECTION AA





SECTION BB

SECTION CC



NORTH ELEVATION - LONG

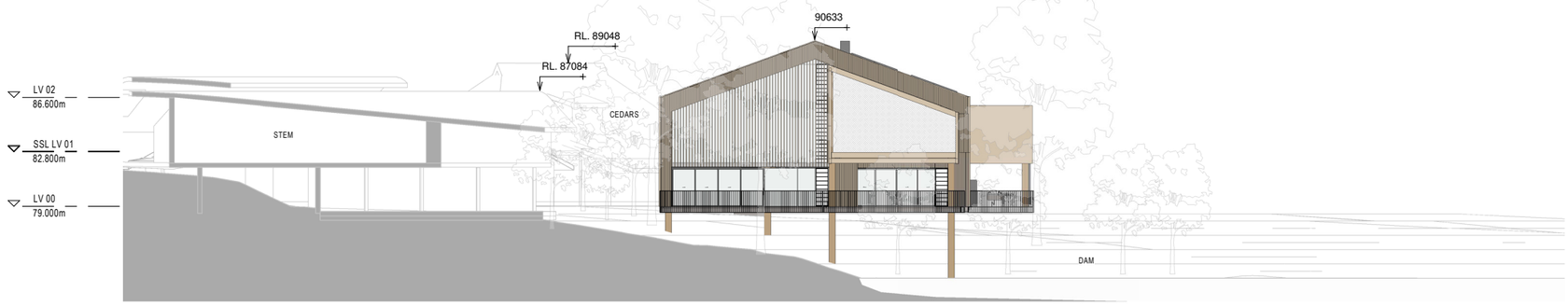
06.14 ELEVATIONS



WEST ELEVATION



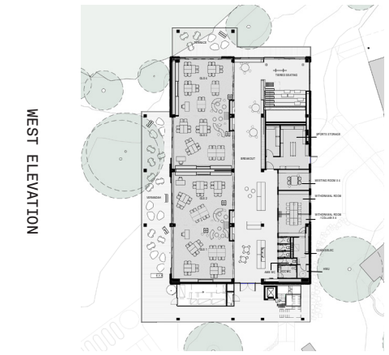
EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION



06.15 LANDSCAPING

GLU LANDSCAPE

The Landscape strategy is carefully considered to create a series of curated environments adjacent to building function. To the North of the GLU, the Dam provides a beautiful backdrop to the tiered seating and breakout spaces. The building cantelievers over the fall of the land, creating elevated platforms where teachers and students can enjoy elevated views through tree canopies. The placement of the building is to minimise impact on existing trees. A total number of 3 trees are earmarked for removal to facilitate the development. Refer to the Arborist and landscape reports for further detail.

To the south of the GLU, a Farm garden is proposed. Students will be given responsibility to look after low scale agriculture as part of well being and nature based development.

The Eastern facade links into the existing campus with a series of pathways and covered walkways, accompanied by simpler landscape treatment.

The Western area looks to retain the existing abundent landscape of trees and greening.











06.16 VIEW ANALYSIS





06.16 VIEW ANALYSIS





06.16 VIEW ANALYSIS

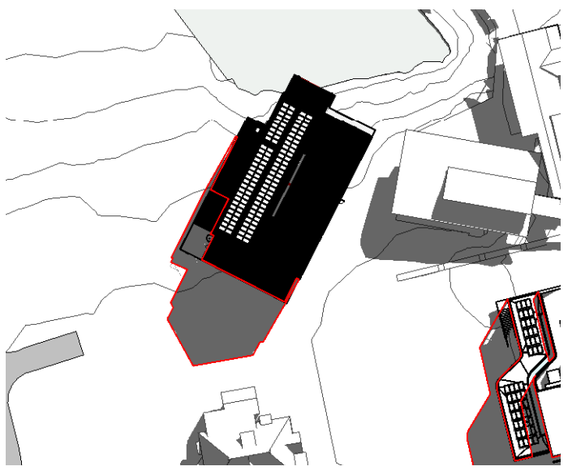




06.17 SHADOW DIAGRAM - JUNE 21



9AM



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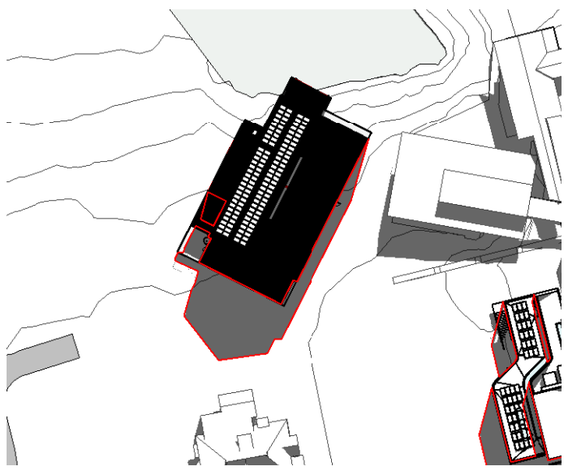

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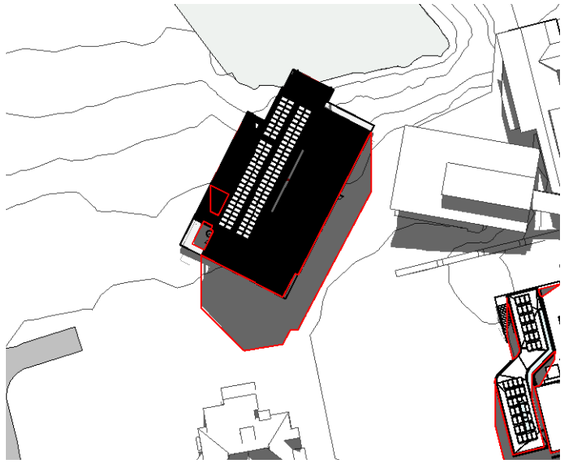

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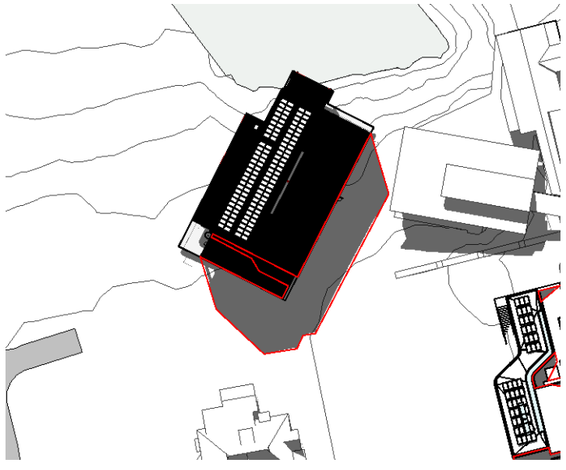

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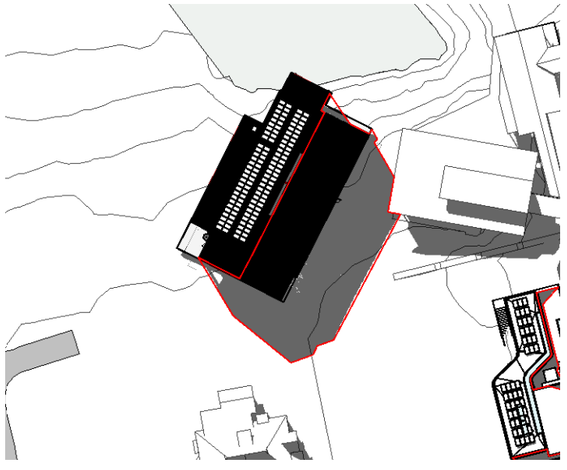

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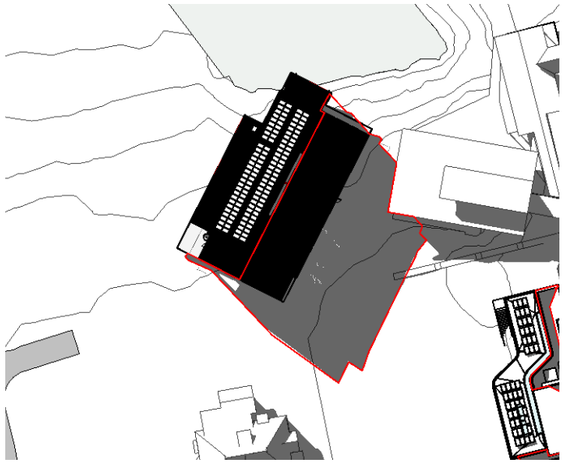

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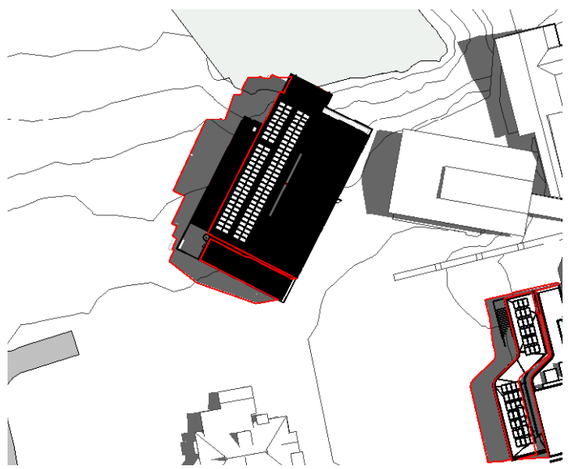
06.18 SHADOW DIAGRAM - DECEMBER 21



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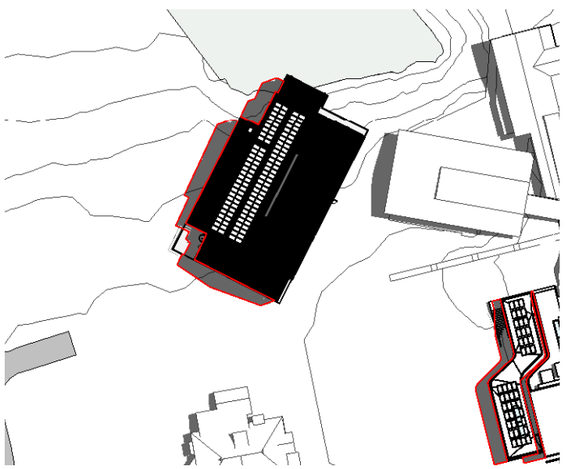

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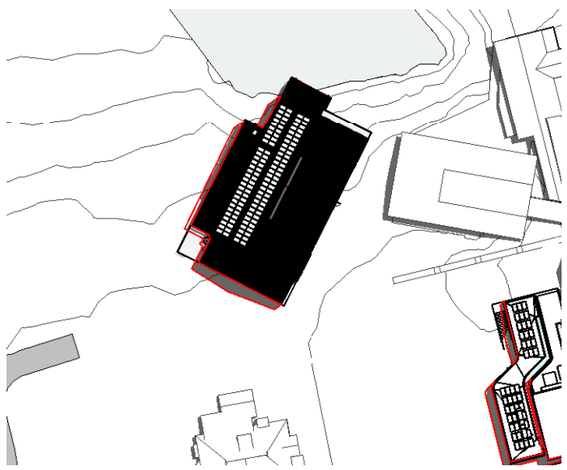

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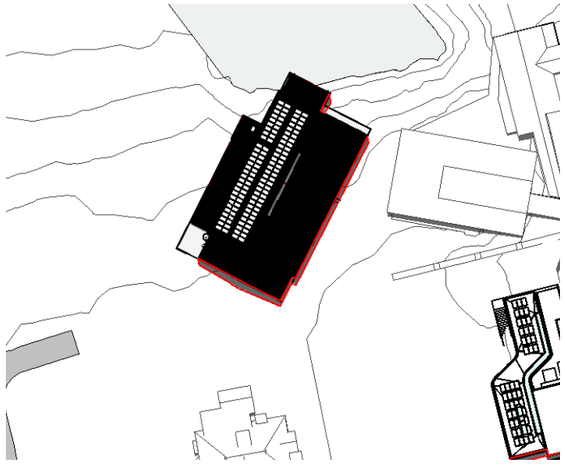

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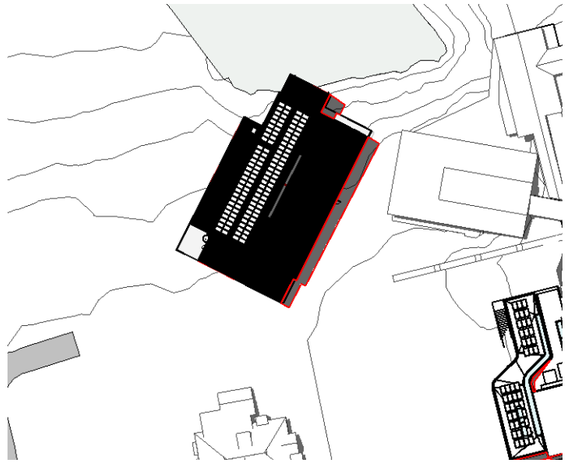

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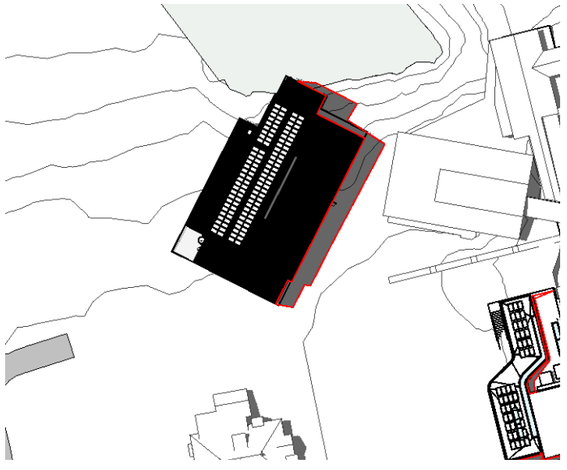

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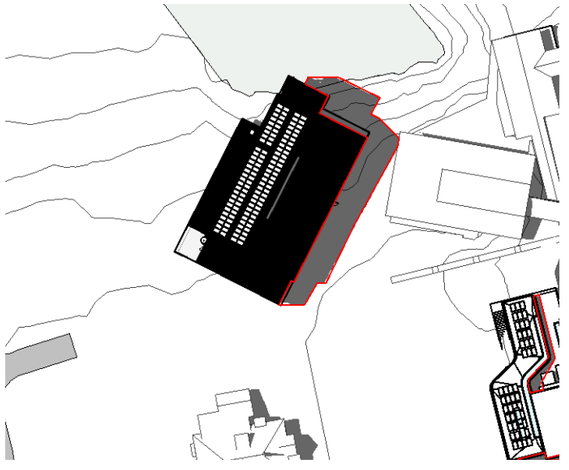

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PREP SCHOOL
PERFORMING ARTS BUILDING

07

07.01 DESIGN APPROACH

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. The Prep School is smaller in scale, with a varied context.

There are 3 significant heritage items to the perimeter, in the form of Gowan Brae, the oldest building on site, situated to the East of the Prep School. It has had numerous functions over the years, but is now home to the Year 7 boarding house. It is a well proported example of early colonial architecture. To the West of the campus is the Cedars residence, which is the current residence of the Prep School Headmaster, The is also the Stables building, a stone small scale ex stable, which has been converted into an Arts building.

The Prep School has a heritage curtilage fronting onto Pennant Hills Road, which has a topographical swath of lawns and significant trees, this creates significance in approach, with the School appearing after meandering through the roadway and pedestrian links to the site.

A dam is present on site, with trees and vegetation to it's borders. To the North, sports pitches lay flat with a backdrop of the bushland to the North containing hunts creek and walkways which are utilised by the School and visitors trekking through the site.

A number of learning buildings on site are tired and sporadic development has led to poor legibility when within the School grounds. This is something which triggered the need for a long term view for the prep campus as well as development of the GLU and Performing Arts Buildings.





To the West is Tara Anglican School for Girls and Burnside Public School. The campus is barely visible from surrounding developments, with the bushland setting and heritage curtilage providing a substantial landscape buffer to most of the perimeter.

HERITAGE

The Prep School has a series of buildings and structures with heritage significance, proposals have carefully considered the siting of development, scale and mass, as well as creating a long term vision to create key vistas to important landmarks and amplify their importance in the context of the prep Campus

Refer to the Heritage Report

SAFETY AND SECURITY

The site is situated well within the School Campus, with the School 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. Refer to the CPTED section of this report

SUSTAINABILITY

The proposal uses passive solar design principles to reduce heat load on the building, with a deep fin system and deep recesses in the masonry base provided to the North Western Facades. Careful consideration has been given to the acoustics of the spaces, for both indoor noise quality and reduction to the outdoors. This requires a mechanical ventilation system to the music spaces which is via efficient distribution through central corridor areas. Skylights bring natural light to deeper areas of the floorplate, elevating the need for artificial light as much as possible. The flat roof provides opportunity for PV arrays to assist in renewable energy generation for the building. Refer to the ESD report prepared by Steensen Varming for further information. The selection of materials has been carefully considered to provide selections which have low embodied carbon.

ACCESSIBILITY

The building plugs into the existing music department, with key adjacencies into the existing Horrocks Hall. The building plugs into the existing upper level of the site which Slight excavation required to the lower portion to enable enough floor to floor height for the lower most level. All graded ramps are designed to code and a centralised lift provides access to the levels for compliance as well as transporting of heavy instruments.

The site has a significant fall across it, hence landscape levels are managed to provide accessible pathways. Refer to the Access Report.

FORM, MASS AND HEIGHT

The proposal is a 2 level building with its lower level embedded within the ground. The building mass is articulated by a masonry component to the base which has the visual appearance of grounding the building, and a lighter, timber screen and glazed facade to the upper level facing the West. The performance space fronts onto the arrival frontage of the school and has a pitched form picking up on the vernacular of the School.

MATERIALS AND COLOUR

The base and solid elements of the project that engage with the ground plane - robust, durable and reminiscent of the solidity of the buildings on the site. Above this, the facade is performative, articulated, and natural timber. The tonal range picks up on the higher quality warm sandstone buildings on site.



EDUCATION MODEL

The building has a series of spaces, catering for all music and performance types. The School excels in music, with a dedicated music department catering for individual and group learning. The new building creates increased quantity, modern learning environments. Individual tuition rooms are expanded and 3x group tuition rooms are proposed. A small performance space is the primary space for the new facility, a flexible flat floor area which has the ability to cater for entire orchestra's, and a series of Soiree modes with audience. The Prep School is very proud of it's music and Performing arts department and expanding the offer is a key objective for the School.

LANDSCAPE

The Landscape proposal adds significant usable external area for the school and has been carefully considered to facilitate a series of uses, as well as provide new accessible routes through the whole campus. The Performing Arts Centre is a backdrop to the new landscape areas. Refer to Landscape Report for further information.

STRUCTURE

A concrete structure is utilised. This enables flexibility when plugging into the existing facility. The concrete is specified with cement substitutes to reduce the embodied carbon in construction.

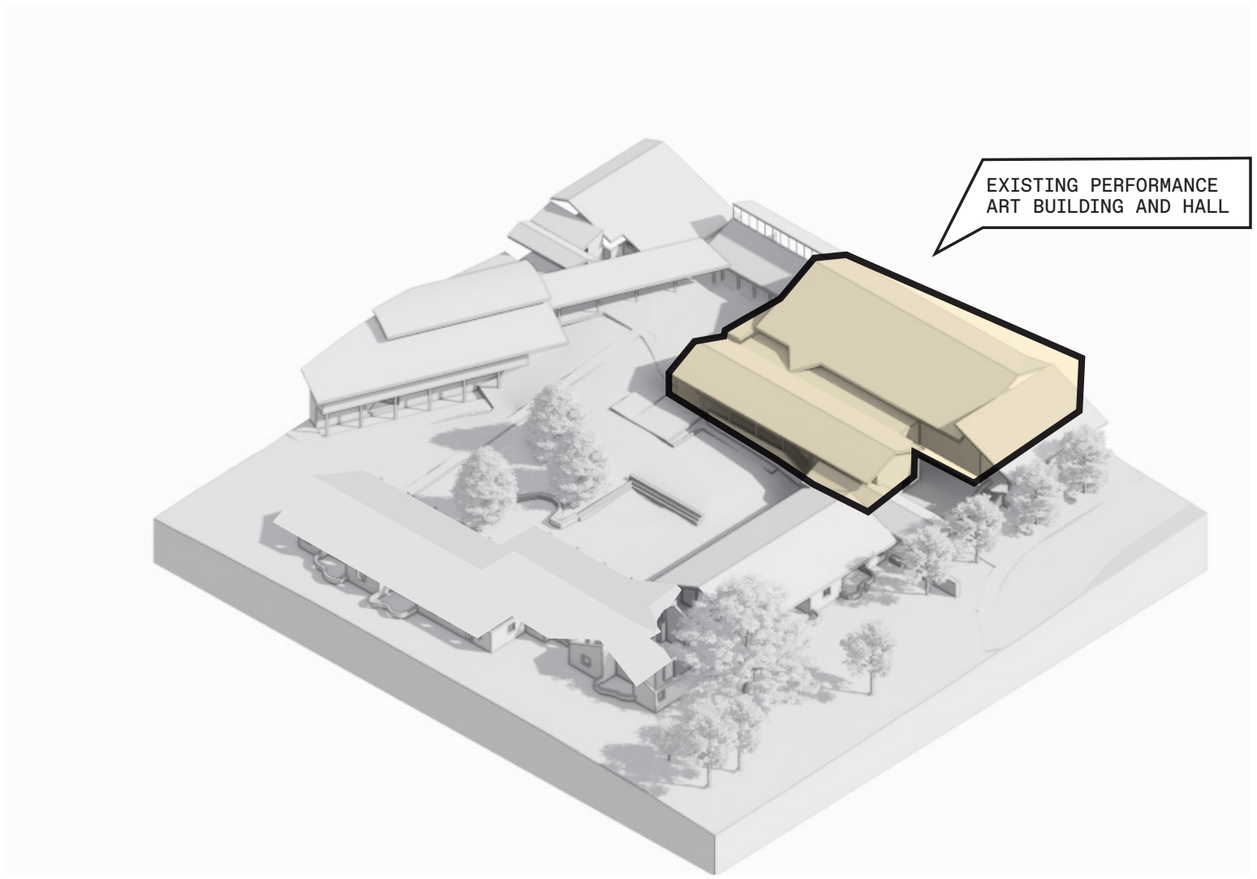
SERVICES

Power, communication, hydraulic and mechanical services are provided in accordance with the brief, using a light-touch, easy maintenance approach through considered and accessible locations of plant equipment. Refer to services report for further information.

AMENITY

A high level of amenity is provided for the various users of the facility through the provision of differing types and scales of space. There is a particular character to the performing arts department, an energy and homeliness that is felt by the teachers and students. This sense of belonging is something the new building looks to build upon, with transition spaces being of equal importance to the learning spaces themselves.

07.02 MASSING + FORM IN CONTEXT



EXISTING MUSIC DEPARTMENT AND HALL

FORM

The proposed building is designed as a two-level structure that takes advantage of the sloping topography of the site. The lower level of the building is partially embedded in the ground and serves as the main entrance to the School. This entrance accommodates not only staff and students but also visitors attending small-scale performances within the building.

The upper level is accessed from the North and serves as the primary pathway for everyday movement into the Performing Arts department.

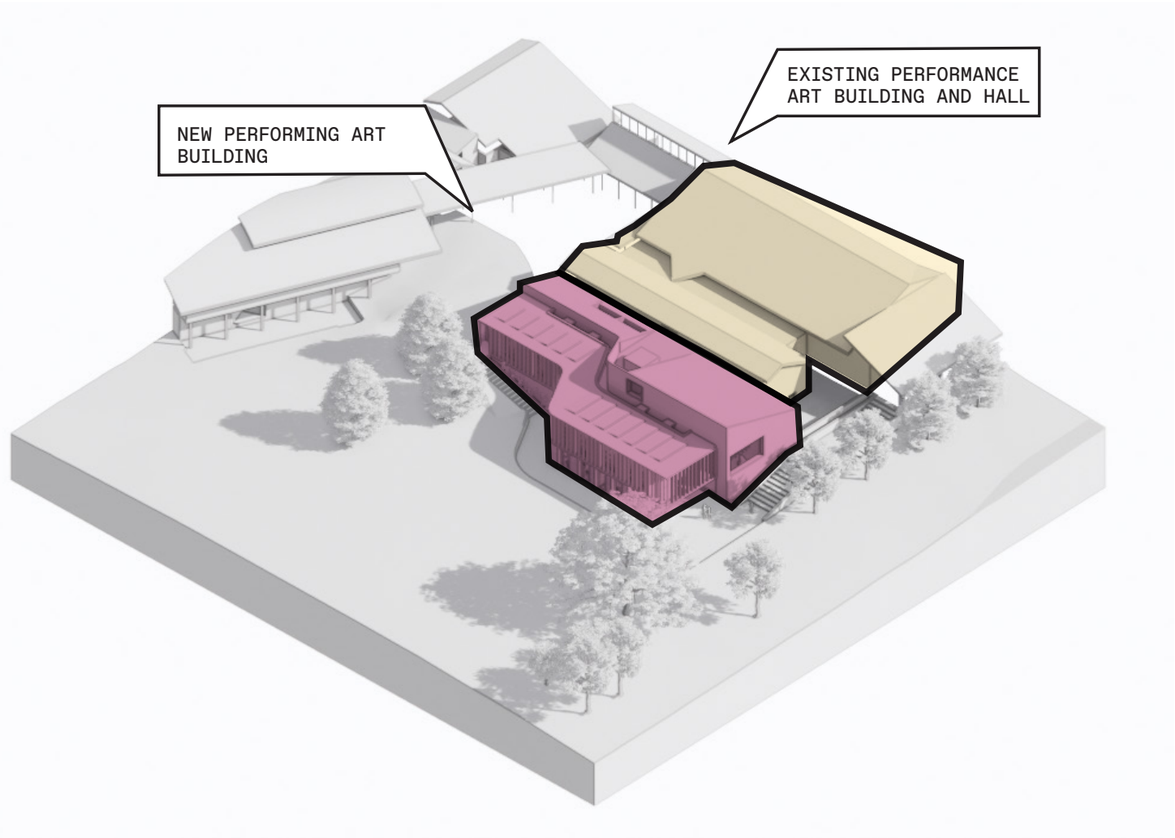
Architecturally, the building's design features a combination of materials. The lower level incorporates a masonry finish, allowing it to harmonize with the surrounding ground. In contrast, the upper volume of the building is characterized by a lighter screen with glazed elements, creating a contrast with the lower level.

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 two level development to the South and a single level to the South.

The building mass is articulated by:

- The masonry facade to the lower levels which engage with the ground plane and a lighter screen and glazed facade to the upper levels
- The lower level is reduced in volume to reduce the amount of excavation on site.
- The Building considers how it sits beside the existing Verandah to the South of Horrocks Hall.
- The subtle curve gesture in the facade of the upper volume articulates the main entry points
- The two storey mass responds to the scale of the existing School with the two heritage items to the East and West being the tallest developments on site.



PROPOSED PERFORMING ARTS CENTRE

BULK

The building presents an articulated facade facing onto a new landscaped area to the West. The mass as well as choice of material breaks down the scale of the building.

The bulk of the building is further reduced by introducing a masonry facade to the lower level which engage with the ground plane and a lighter screen and glazed facade to the upper levels.

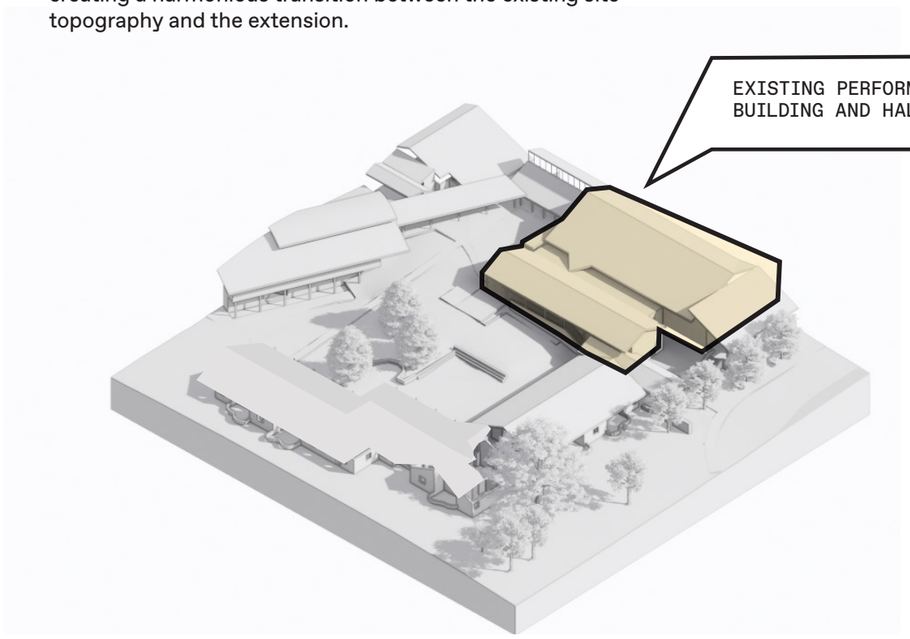
HEIGHT

The building sits below the existing Horrocks Hall and at similar datum levels to existing buildings on site. Gowan Brae house is significantly higher than the developments in the prep Campus, with Cedars house also a larger volume. This creates a balance to the entrance elevation to the South, with important landmarks to the wings and a maximum 2 storey campus in between.

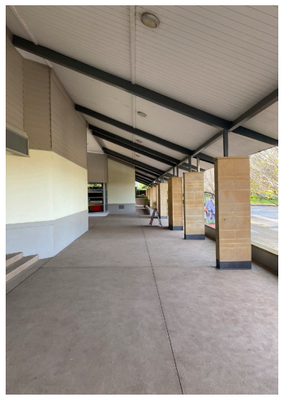
07.03 PERFORMING ARTS SITE ANALYSIS

The existing hall is the primary venue for art performances and music rehearsals. Additionally, the existing music department is connected to the hall. The project aims to enhance the capacity of music and performing arts by adding an extension.

The building is situated on a topographical site, with a 2.6-meter drop from north to south. This presents certain challenges, as accommodating a full storey within this context requires careful consideration and a small amount of excavation to allow for adequate floor to floor heights. The design intends to seamlessly integrate the new structure with the drop-off area to the South, creating a harmonious transition between the existing site topography and the extension.






1



2


3

07.04 PROJECT PRINCIPLES











INDIVIDUAL TUITION



GROUP TUITION

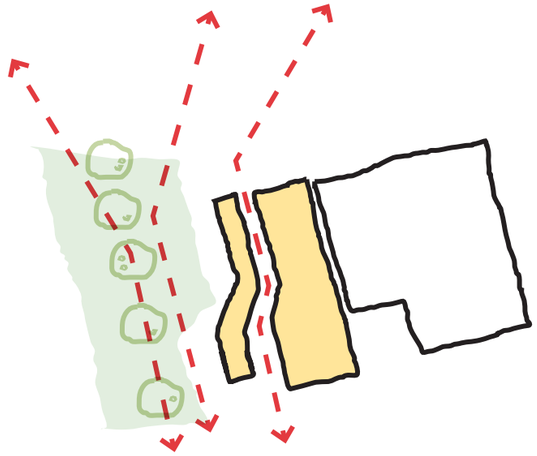


SMALL PERFORMANCE SPACE



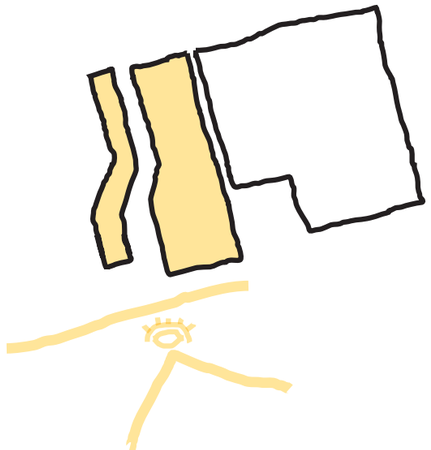
ENOUGHNESS

- Utilise existing site levels - Create links into existing spaces
- Touch the land lightly - Position built form to reduce excavation and touch the ground lightly



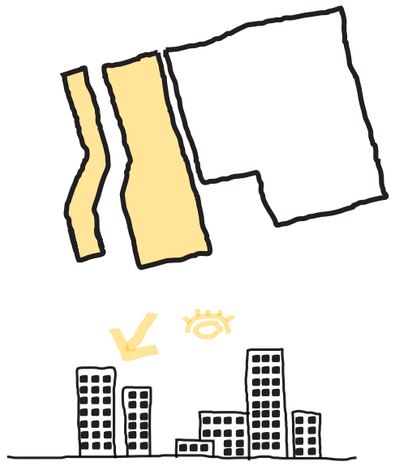
CONNECTIONS

- Provide a backdrop to a new Landscape arrival for the School
- Visual and physical connections to the outside
- Create circulation cavern linking into 'Where the Eel lies' CwC narrative



A NEW FRONTAGE FOR THE PREP COMMUNITY

- Establish new character and identity to the performing art centre as a key component of the School
- Heighten the entry experience into the School, with a building as backdrop to a newly configured outdoor setting
- Create a Vernacular appreciating the old whist providing a clear departure to future typologies as part of the new Masterplan



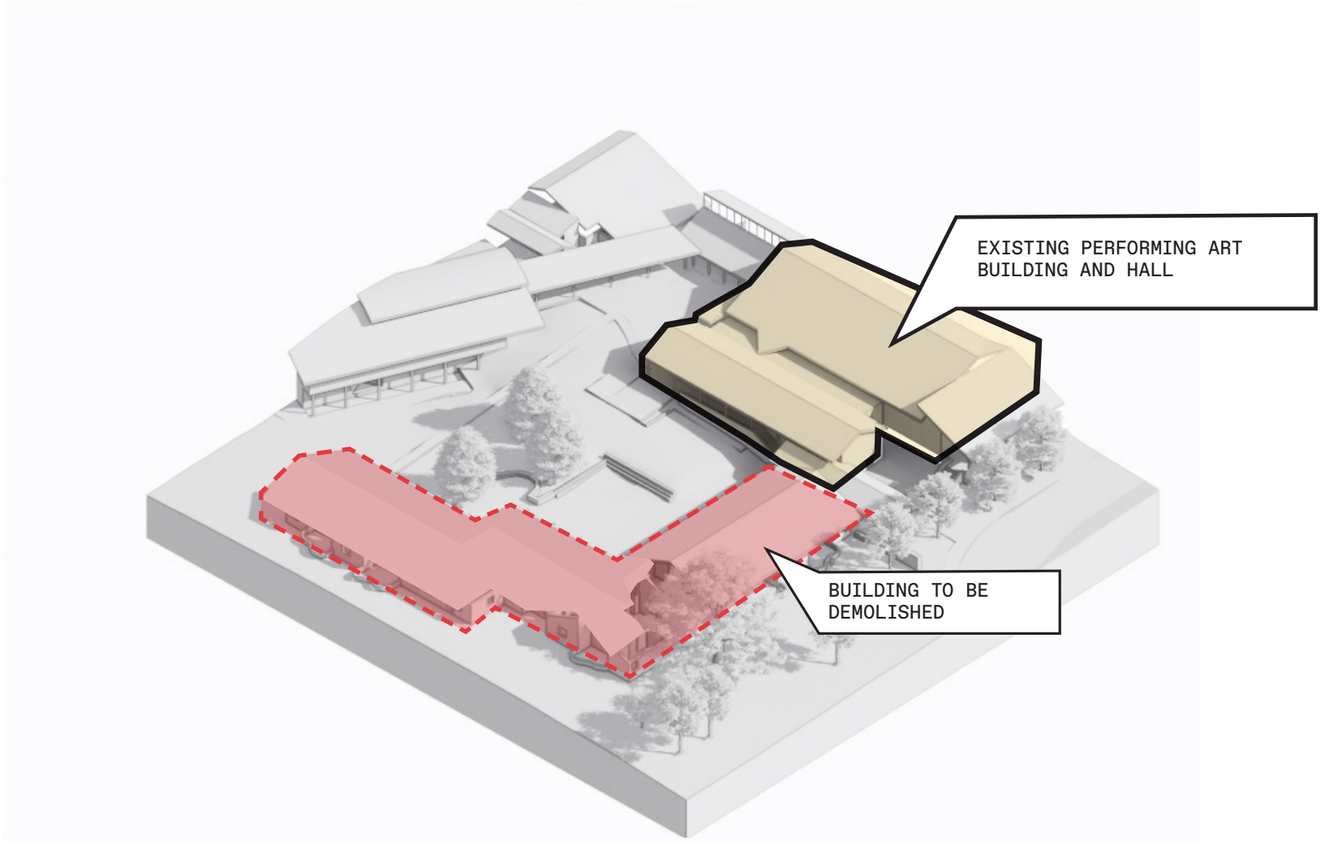
LINK TO URBAN CONTEXT

- Provide a vantage point to experience the school in the context of Parramatta city, by siting the building against a new open space that looks out into the distance
- Establish the South elevation as the identifier for the Prep Campus , linking Cedars, Learning frontage, Horrocks Hall and across to Gowan Brae

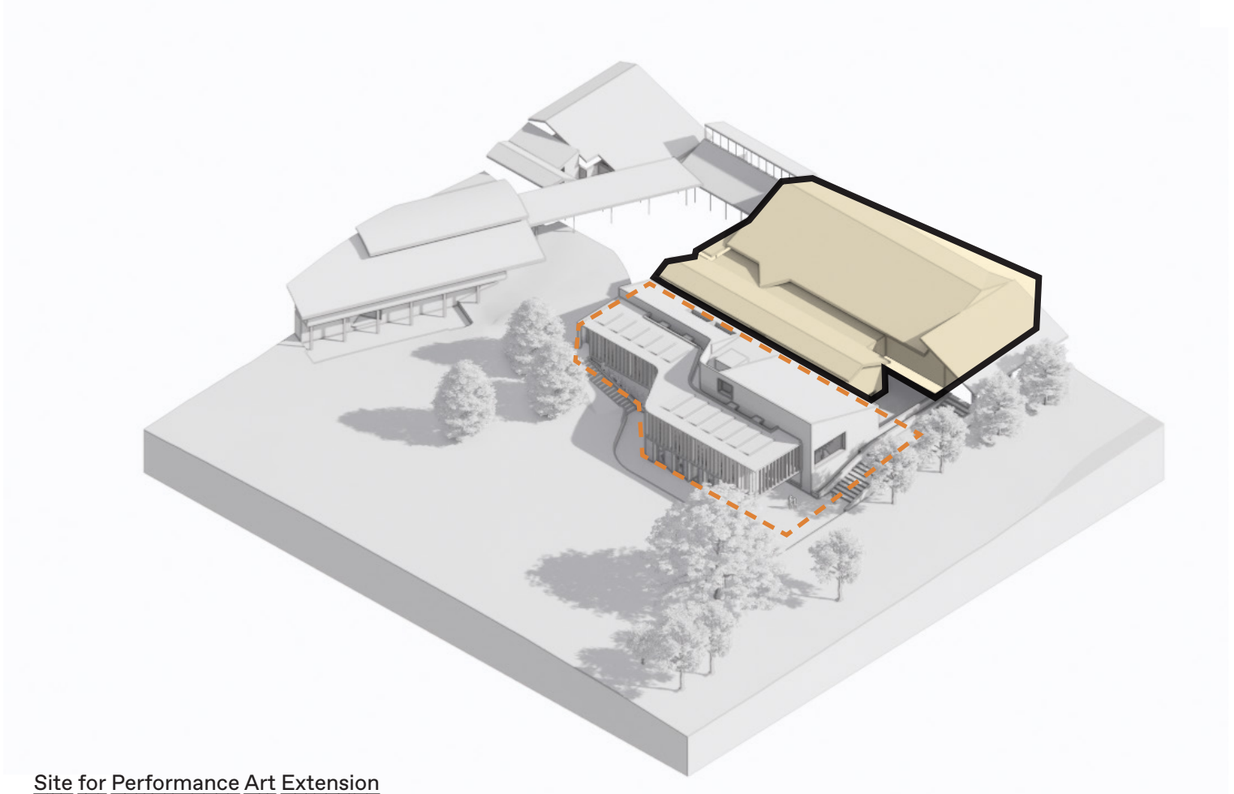
07.05 DEMOLITION

The GLU building is scheduled to be the first development on site which will add 8x new classroom areas on campus. The existing K-2 consists of 6 classrooms, which upon completion of the GLU will be demolished to facilitate construction of the new Performing Arts Building and create a new significant landscape area to the West.

The K-2 buildings on site are reaching the end of their service life and are dark, inflexible and poor quality learning environments. The new GLU building provides modern learning facilities in their place and allow for expansion of the specialist departments long term.



Extent of Demolition



Site for Performance Art Extension

07.06 TREE ASSESSMENT

Several trees are located in close proximity to the proposed site, and have been identified as of moderate or low retention value.

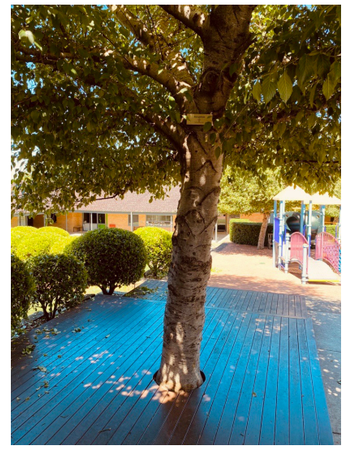
The location of the development requires removal of 1 tree - AP-01981 which is considered to have medium retention value. To compensate for tree loss the landscape developments look to introduce extensive new tree planting, refer to landscape reports.

Tree No.	*Genus & species* Common Name	Height (m)	Crown Spread (m)	Structure/ Condition	Landscape Significance	Retention Value
AP-01981	***Alnus glutinosa*** Common Alder	7	6	Average	Medium	Medium
AP-01983	***Alnus glutinosa*** Common Alder	7	6	Average	Medium	Medium
P-001	***Archontophoenix cunninghamiana*** Bangalow Palm	9	4	Average	Low	Low
P-002	***Archontophoenix cunninghamiana*** Bangalow Palm	9	3	Average	Low	Low
P-003	***Archontophoenix cunninghamiana*** Bangalow Palm	9	3	Average	Low	Low
P-004	***Archontophoenix cunninghamiana*** Bangalow Palm	9	5	Average	Low	Low
P-005	***Tibouchina 'Alstonville'*** Tibouchina	4	3	Fair	Low	Low

T1 EXISTING TREE:
MEDIUM RETENTION VALUE

T1 EXISTING TREE:
LOW RETENTION VALUE





① AP-01981



② AP-01981; AP-01983



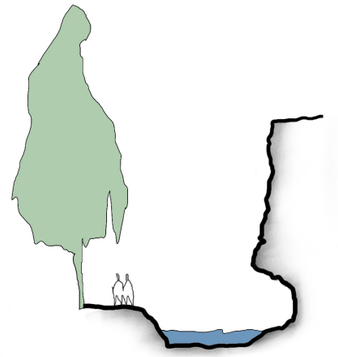
③ P-001 - P-005

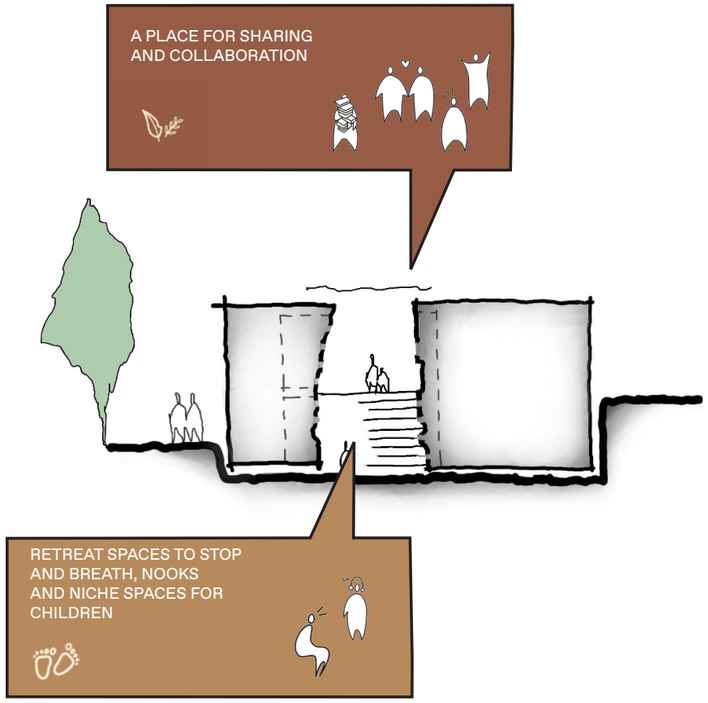
07.07 CONCEPTUAL FRAMEWORK





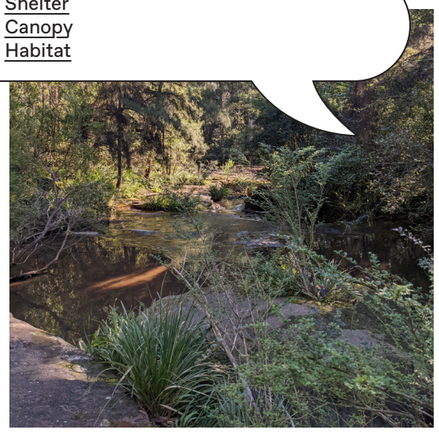
'WHERE THE EEL LIES'





Sandstone land formations around Hunts Creek.

- Shelter
- Canopy
- Habitat









SANDSTONE FORMATIONS IN HUNTS CREEK
THE KING'S SCHOOL SITE

07.08 FACADE

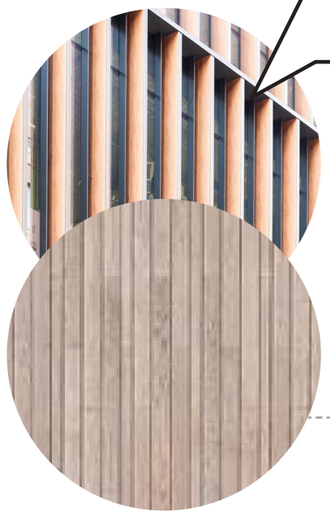








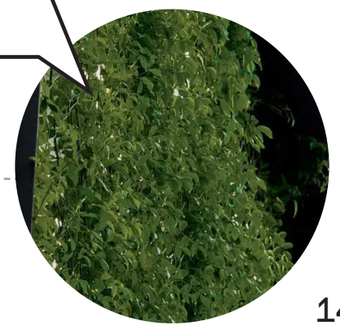
07.09 FACADE



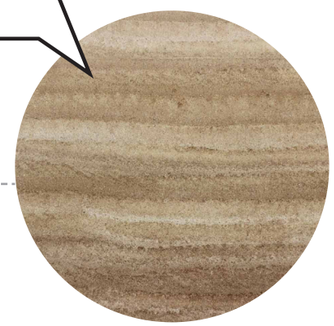
SCREENING AND CLIMATE RESPONSIVE
TIMBER VERNACULAR



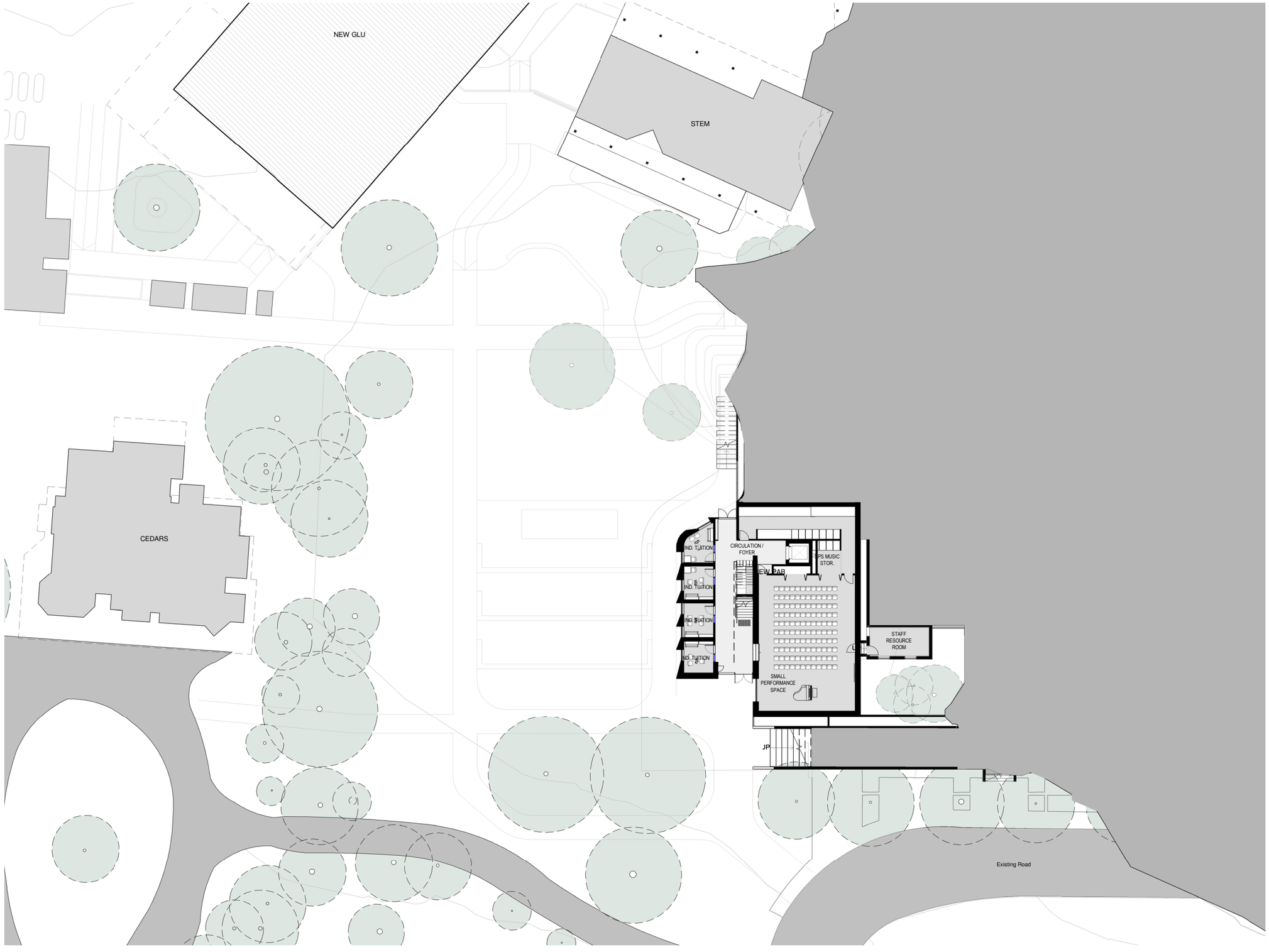
PLANTER BEDS



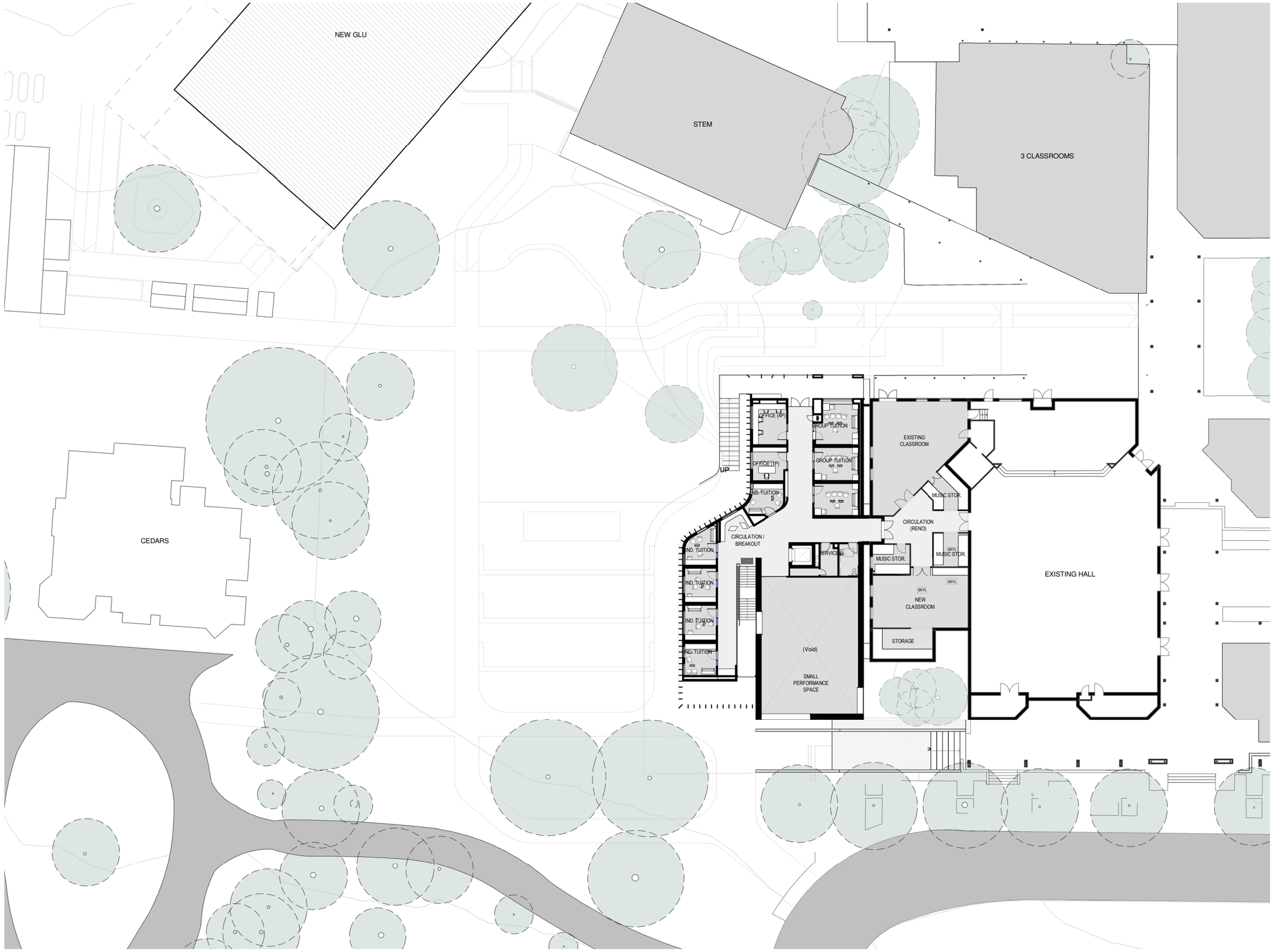
MASONRY CLADDING



07.10 LEVEL 0


NEW GLU
STEM
CEDARS
IND. TUITION
CIRCULATION / FOYER
PS MUSIC STOR.
NEW BAR
B
IND. TUITION
IND. TUITION
IND. TUITION
STAFF RESOURCE ROOM
SMALL PERFORMANCE SPACE
JP
Existing Road

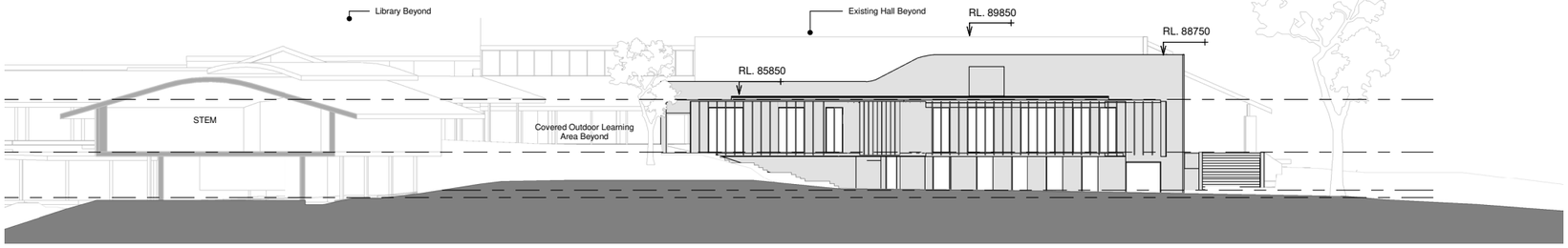
07.11 LEVEL 1


NEW GLU
STEM
3 CLASSROOMS
CEDARS
OFFICE (4P)
GROUP TUITION
OFFICE (1P)
GROUP TUITION
EXISTING CLASSROOM
UP
IND. TUITION - B
MUSIC STOR.
CIRCULATION (RENO)
CIRCULATION / BREAKOUT
IND. TUITION
SERVICES
MUSIC STOR.
SKYL
MUSIC STOR.
IND. TUITION
SKYL
EXISTING HALL
NEW CLASSROOM
IND. TUITION
STORAGE
(Void)
IND. TUITION
SMALL PERFORMANCE SPACE

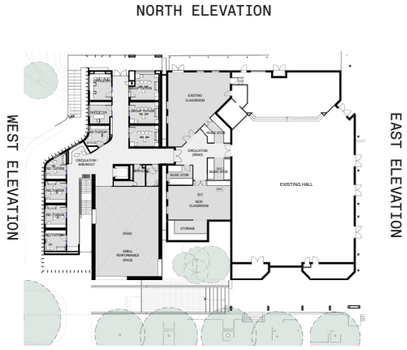
07.12ROOF LEVEL

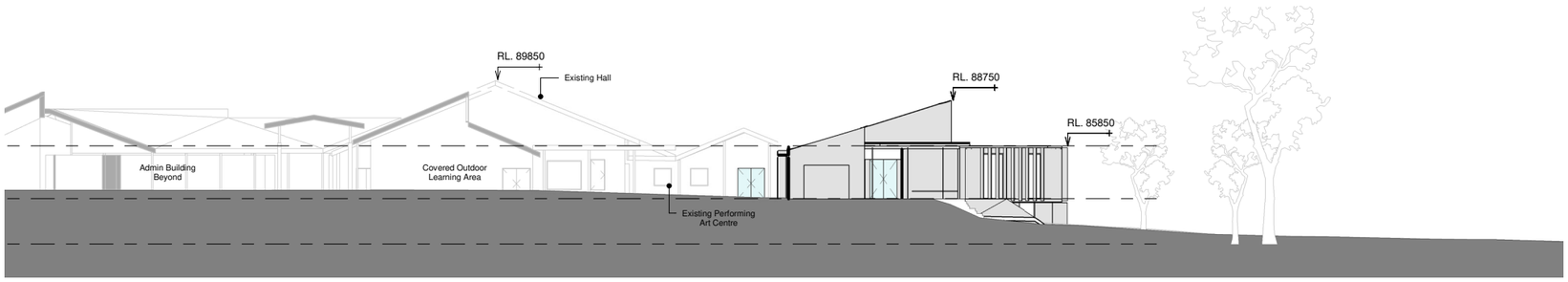


07.13ELEVATIONS

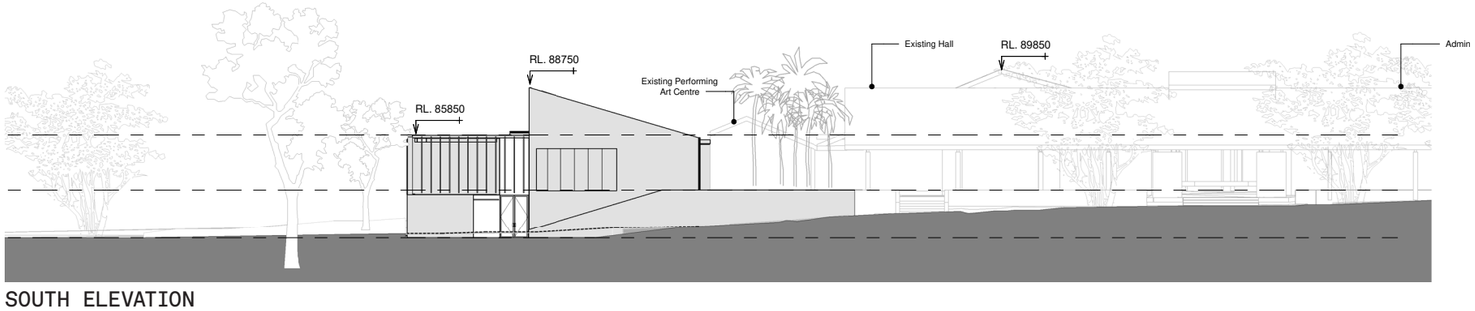


WEST ELEVATION





NORTH ELEVATION

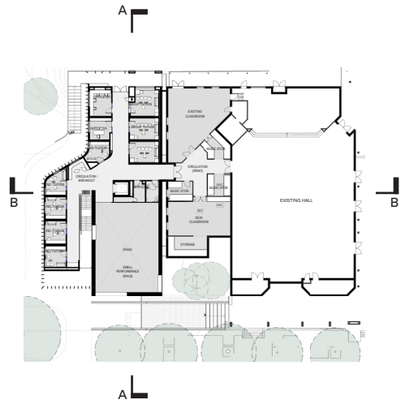


SOUTH ELEVATION

07.14 SECTIONS AND CONTEXT ELEVATION

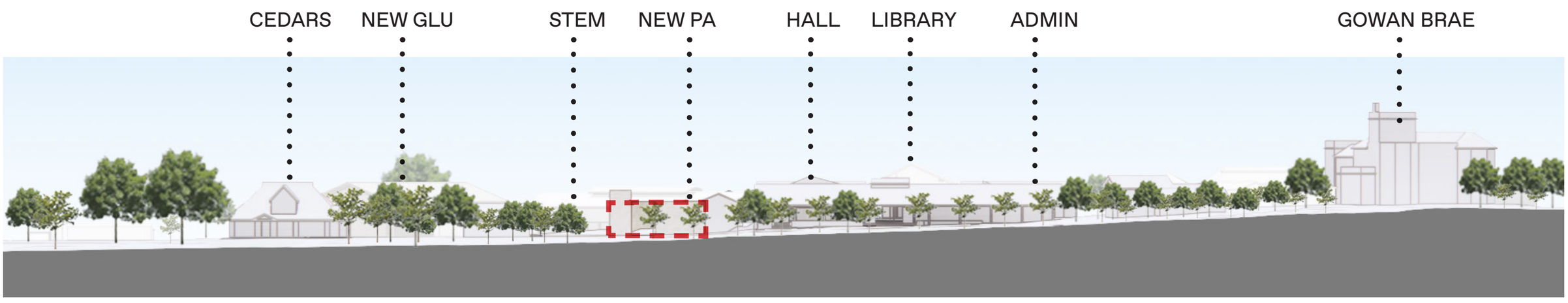


SECTION AA





SECTION BB



SOUTH ELEVATION - LONG

07.15 LANDSCAPING

PERFORMANCE ART LANDSCAPE

The Landscape strategy is carefully considered to create a series of curated environments adjacent to building function. To the West of the performing Arts building, a series of platforms create an informal gathering space for outdoor performance and play with a series of new tree's to create adequate shade and an intimacy to the space.

The existing play area on site is to be relocated further North, with retention of equipment a preference.

The remaining K-2 building to the West will be removed in the future to widen the entry way into the site and establish a large arrival courtyard with the performing arts building to the East and substantial tree cluster as a backdrop to the West. The proposed landscape works as part of the phase 1 works considers the long term evolution of the space, creating an interim scheme that can be added to once other parts of the Masterplan are realised.

Accessible routes from the building entry are all designed to code, plugging into existing levels to avoid substantial regrading.











07.16 ENVIRONMENTAL AMENITY

NATURAL DAYLIGHT

The proposed block and stack is situated adjacent to the existing music department, with a key briefing element being the ability to join the hall, existing areas and the new facility together. Where possible, areas have direct access to natural light via walled windows. In the deeper areas of the building, skylights are proposed to create visual links to the sky and limit the amount of artificial light required to the spaces. The building proposes a linear skylight running North South, creating a key orientation device as well as providing light to deeper parts of the floorplate.

There are existing skylights in the existing building which will be retained for the new classroom in place of the existing corridor and tuition rooms.

Facade screening in the form of external sunshading fins allow larger window openings to bring daylight into the floorplate without excess solar heat gains.

VENTILATION

The proposed building is acoustically sensitive with a key criteria of removing noise spill to surrounding learning spaces. Therefore a high performing mechanical system is proposed for areas with music performance taking place. Office spaces will have operable windows as part of a mixed mode ventilation system.

ACCESS TO LANDSCAPE

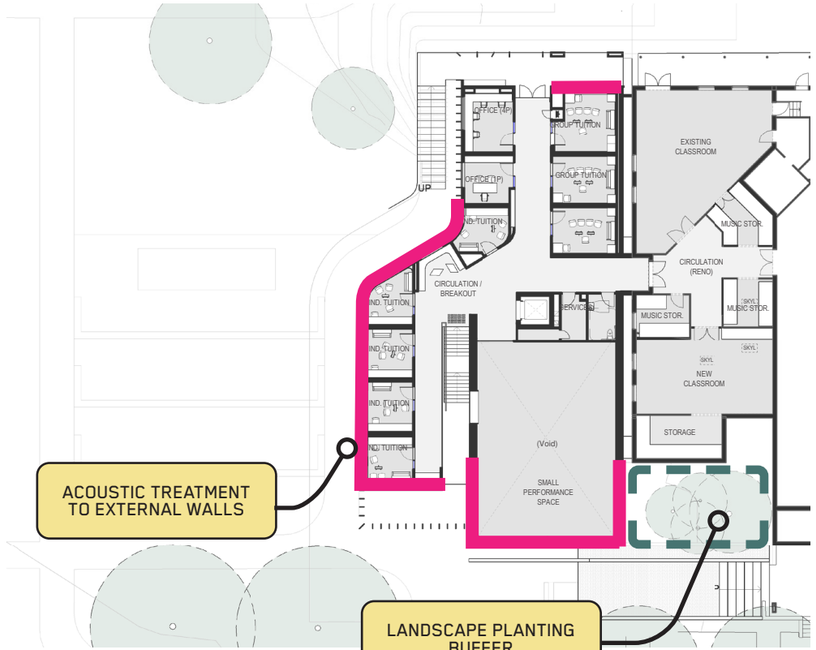
The upper level is at level threshold with the adjacent existing external spaces. This will be the primary access point into the new facility during a school day. The lower level is set 500mm lower than existing to enable adequate floor to floor height for the lower level of the building. The lower level ties in with contours to the South, with a new entrance courtyard peeling away from the entrance into the site.

ACOUSTIC SEPARATION

The proposal looks to provide acoustic barriers to areas which face out onto the School as well as protect against transition of noise whilst rehearsals are in effect.

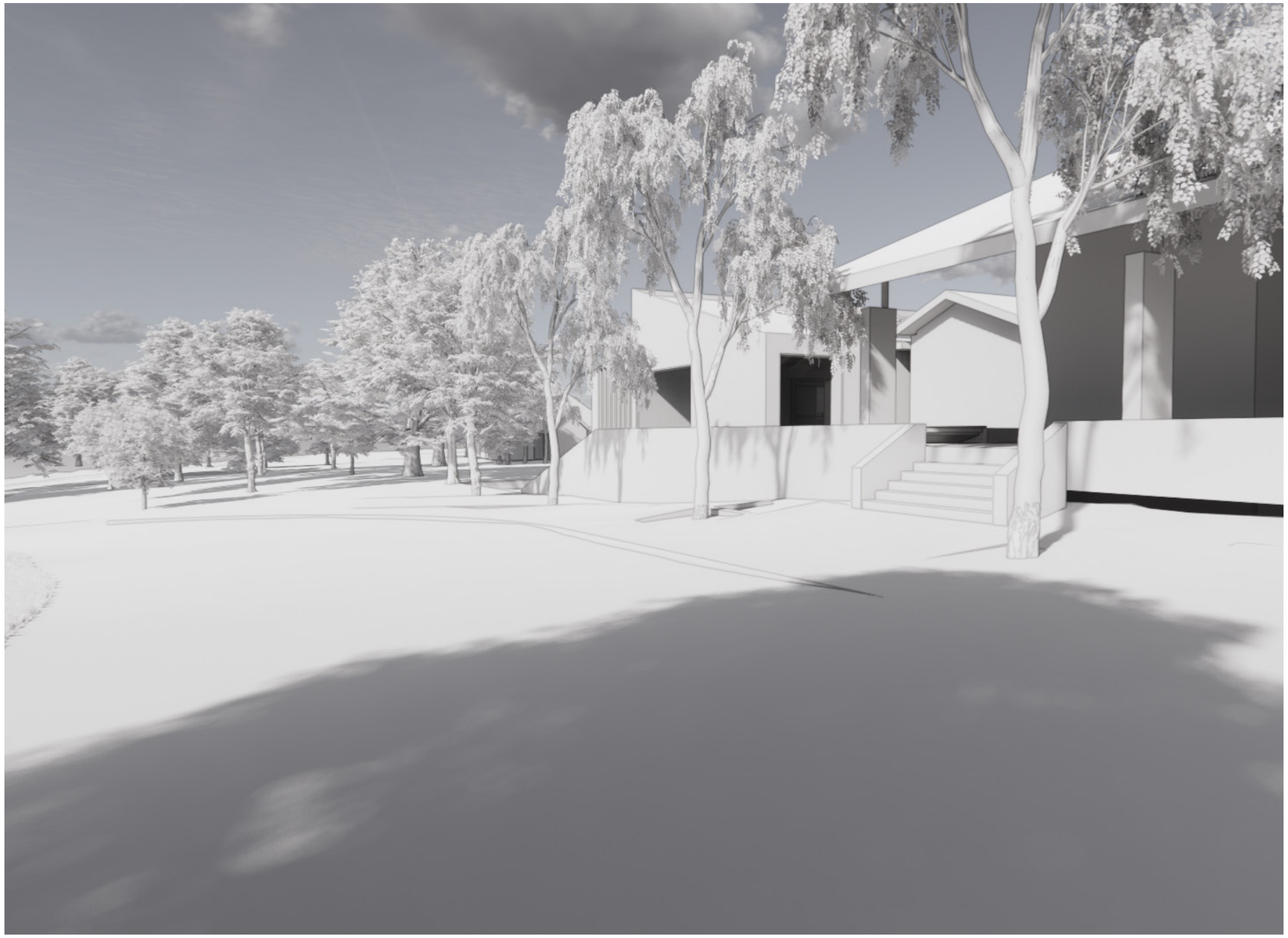
The whole of the Prep Campus is situated a substantial distance away from any surrounding developments outside of the School.

More active outdoor learning and playground spaces have been located away from the rehearsal rooms and small performance space.



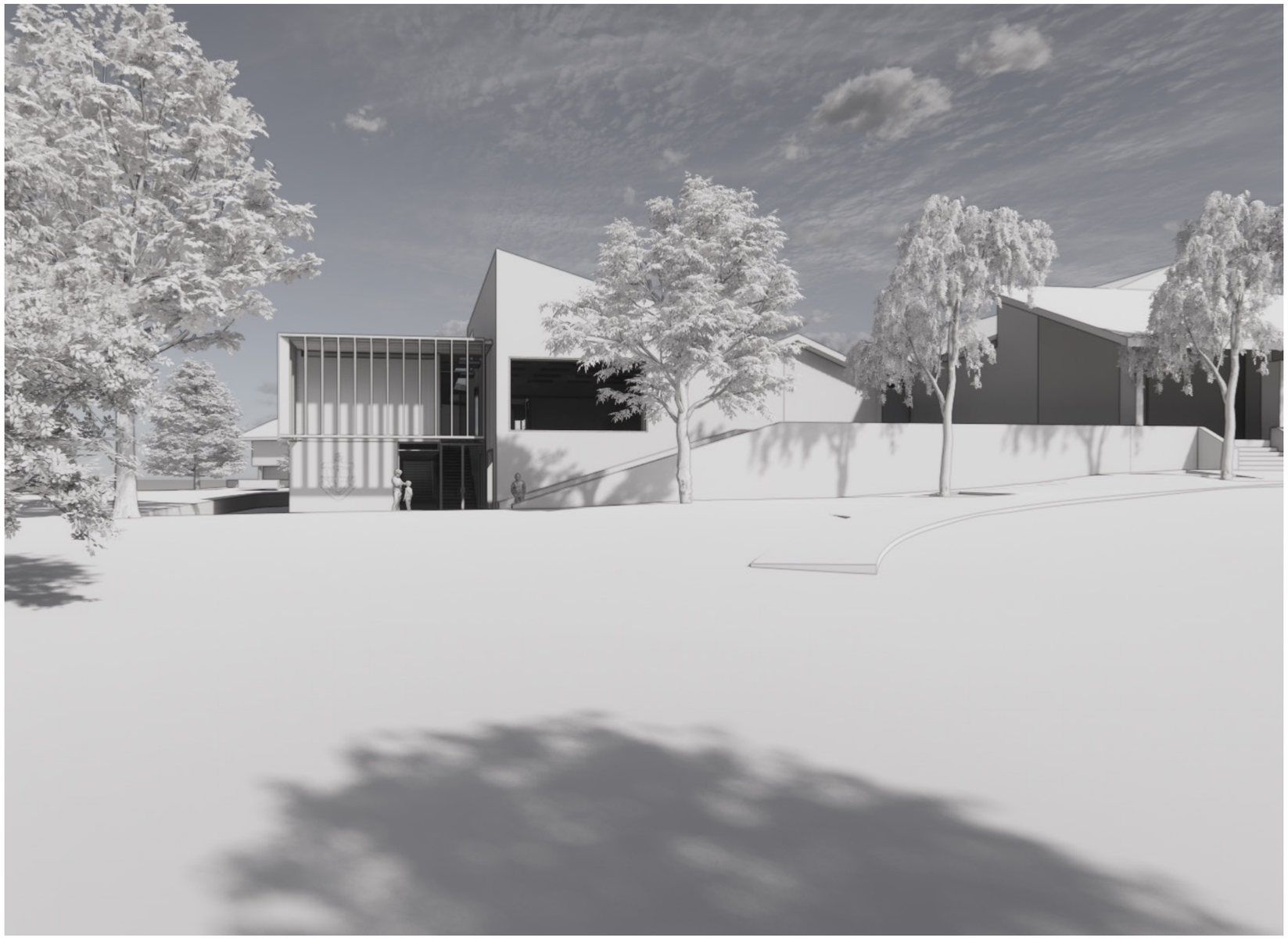
ACOUSTIC ANALYSIS

07.17 VIEW ANALYSIS





07.17 VIEW ANALYSIS

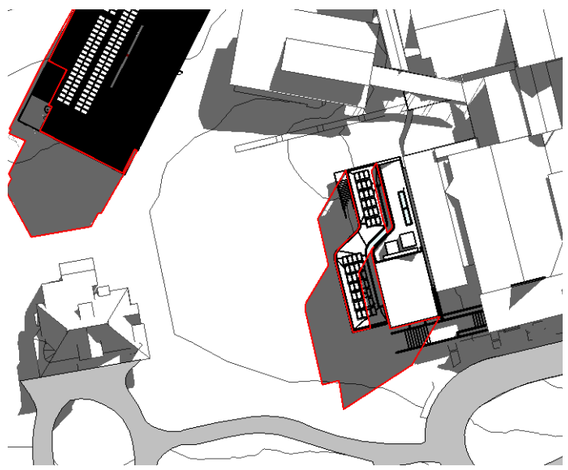




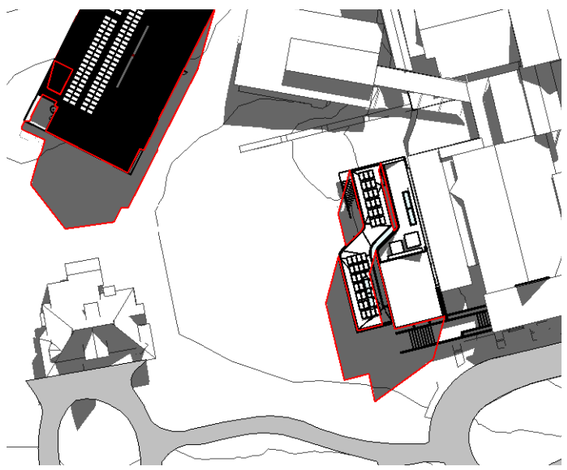
07.18 SHADOW DIAGRAM - JUNE 21



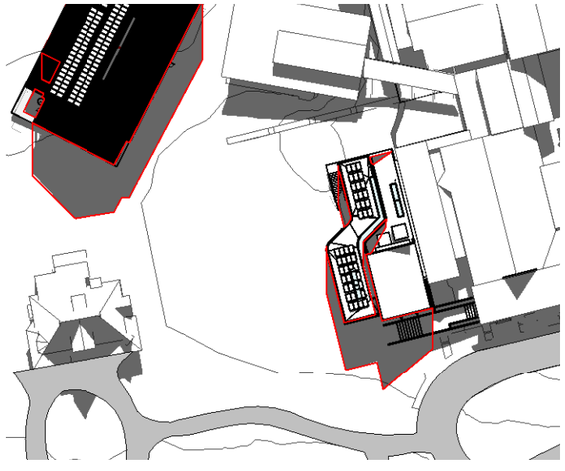
9AM



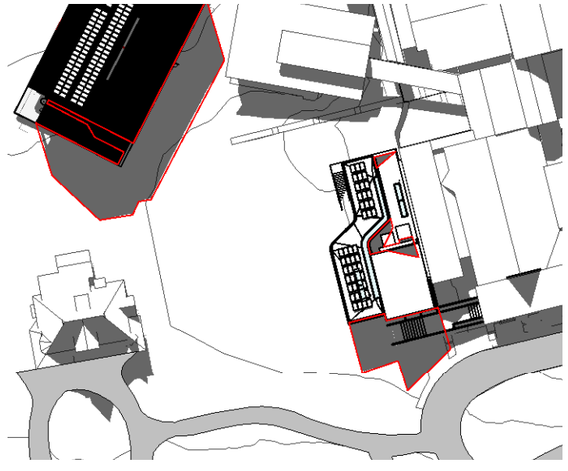
10AM



11AM



12PM



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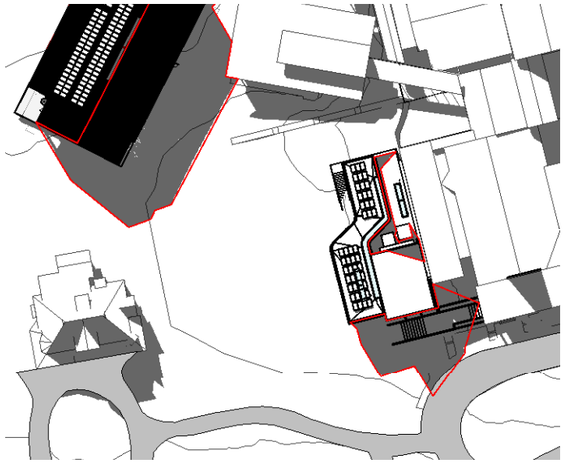

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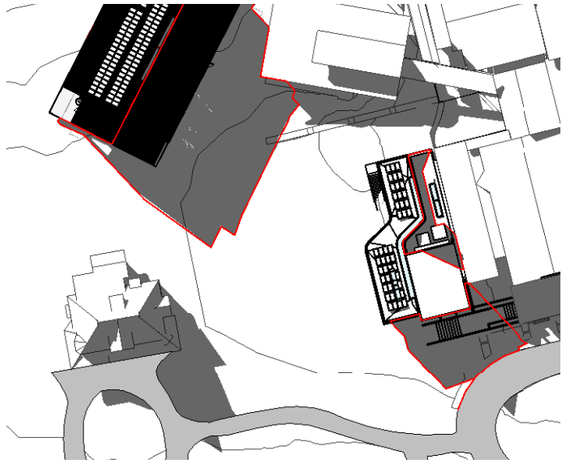

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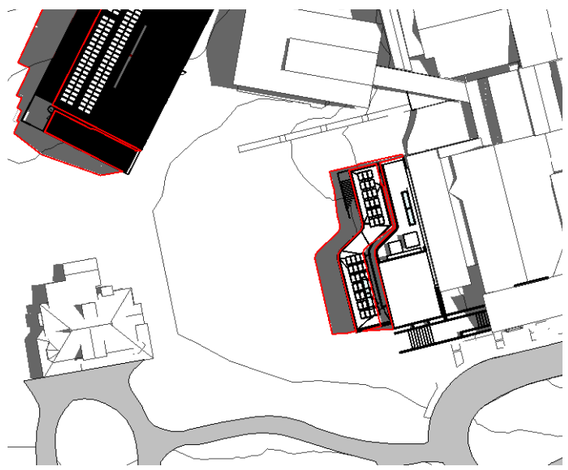
07.19 SHADOW DIAGRAMS - DECEMBER 21



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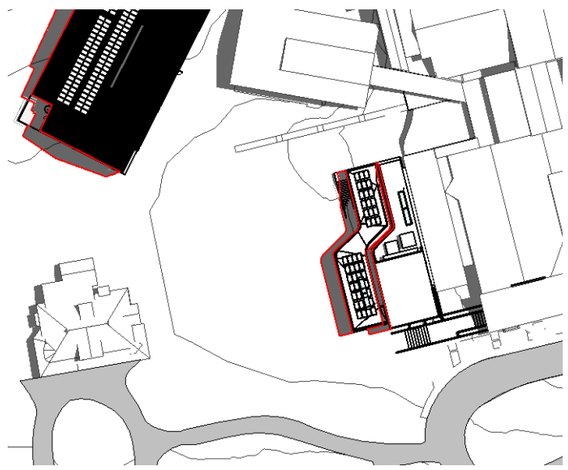

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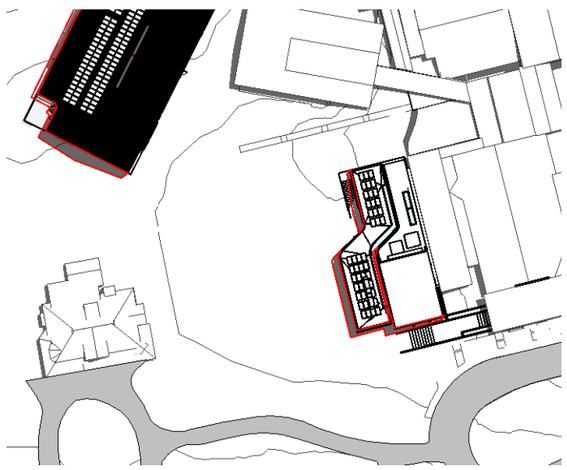

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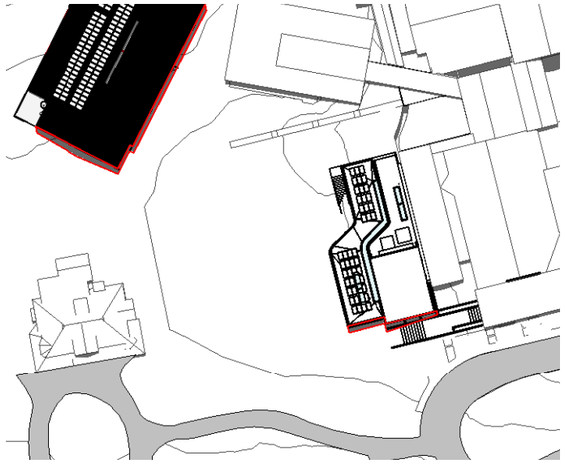

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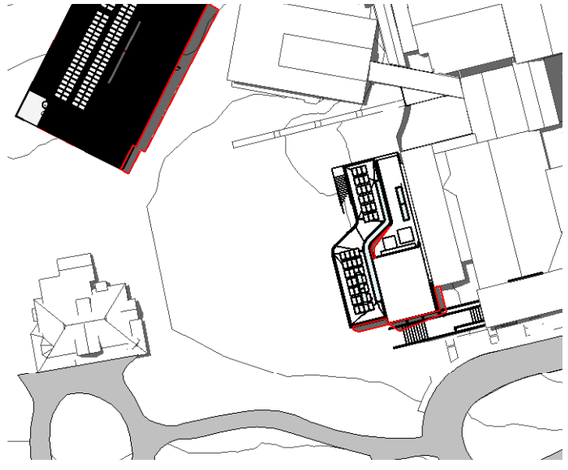

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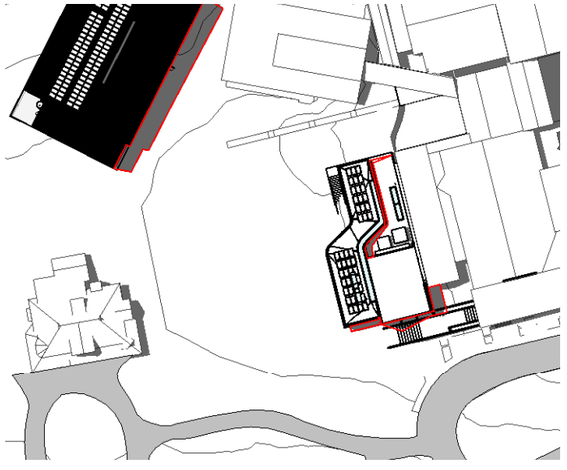

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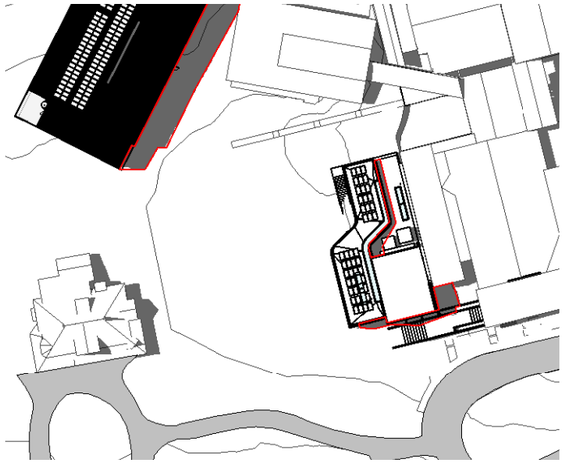

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STAFF RESIDENCES

08

08.01 DESIGN APPROACH

"A place of everyday adventure - to encourage, surprise & delight"

Our scheme is based upon a holistic approach to the complex layers of use, aspiration, need, character and history of the School and brief. The School has been dedicated to the design process and enabled a response which is considered, well informed and multi-faceted.

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. This is contrasted against a colonial courtyard and manicured garden typology in and around the School. The School houses a number of residents on site as well as boarding houses. Pennant Hills Road provides the main access into the site. To the West is Tara Anglican School for Girls and Burnside Public School. The eastern site boundary directly adjoins the rear gardens of the low scale residential dwellings. The campus is barely visible from surrounding developments, with the bushland setting providing a substantial landscape buffer to most of the perimeter.

Upon Entrance to the site from Pennant Hills Road, the sports facilities provide an impressive first visual for the School, with the white oval being a significant identifier for the School.

The Senior School is characterised by a series of courtyard spaces surrounded by a verandah of terracotta pillared buildings.

SAFETY AND SECURITY

The Staff Residences site is situated well within the School Campus, with the School 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. The lighting strategy creates a safe and legible place and the building is designed for clear site lines from each facade. Refer to the CPTED section of this report

SUSTAINABILITY

The proposal uses passive solar design principles to reduce heat load on the building, including sunshading devices, a projecting canopy and a high performance thermal envelope. The building's floor plate has been minimised in depth with a courtyard spaces utilised to provide natural light into the primary living spaces. A north facing pavilion style family room is linked to rear of the each of the terraces offering good solar amenity and connection to the courtyard spaces.

Each dwelling has a dual aspect with the capacity for the cross ventilation through out.

ACCESSIBILITY

A simple approach to the building's underlying design supports universal accessibility. An accessible path of travel has been provide to each of the dwellings from a new accessible parking space located to the south west of the site.

At the southern end of the site two accessible sole occupancy units have been provided within the Gap Accommodation. Refer to the Access Report.

FORM, MASS AND HEIGHT

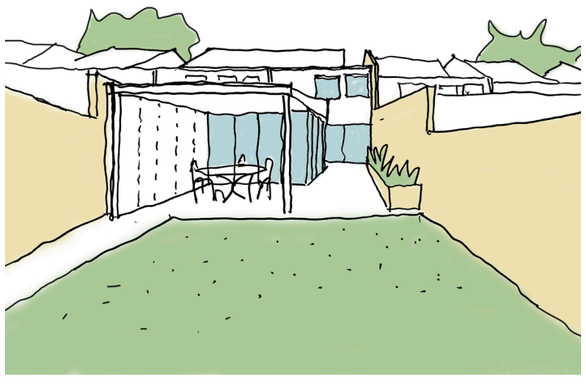
The proposal is a 3 level building with its lower ground floor carparking level embedded within the ground, due to the site's sloping topography. The building mass is articulated by the brick base and party walls which have been selected to reference the sandstone materiality through the campus. Between the masony party walls a darker metal cladding which is proposed. The darker materials are recessivly perceived allowing the building to blend into the landscape.

MATERIALS AND COLOUR

The materials palette and colour scheme reflects the palette on other recent buildings in The Kings School, in particular those designed by Leaf Architecture being, Macarthur Waddy House, Baker Hake House, Bishop Baker Harris House, which are all close to the subject site.

EDUCATION MODEL

The Staff Residences will facilite and nuture the King Schools's pastrol model of care. Providing teachers with the capacity to live on site will strengthen relations within the school community and assisting in improving student wellbeing, mental health and the learning experience.





LANDSCAPE

The siting of the Staff Residences has been carefully contained to the bounds of the existing tennis courts to maximise retention on the existing trees surrounding the site. A meandering entry footpath and additional plantings have been incorporated to enhance the bushland setting. Refer to the Landscape Architects report prepared by Taylor Brammer

STRUCTURE

A hybrid structure is utlised of concrete, brick and lightweight framing appropriate to the terrace typology.

OPERATIONS

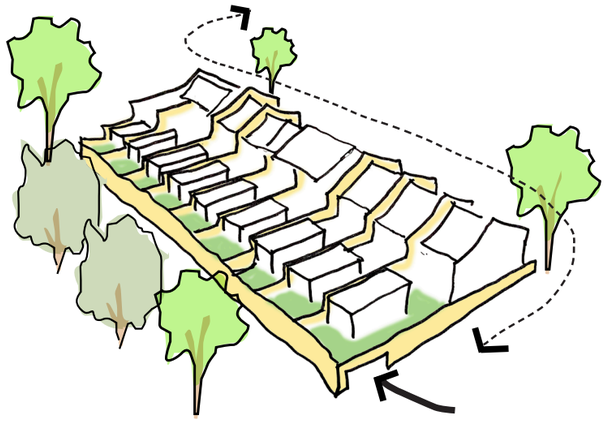
The project envisages the use of the existing Schools central waste management facilities. A dedicated bin presentation area is located on the lower ground level.

AMENITY

A high level of amenity is provided for the occupants of each dwelling. The courtyard terrace typology offers an abundance of natural light and natural ventialation while maintaining comfortable levels of privacy. The living spaces and rear yard have generous outlooks onto either the leaf bush setting to the east or more formal sport sports ovals and tennis courts to the west.

08.02 MASSING & BUILT FORM IN CONTEXT

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



FORM

The proposal consists of 9 two storey dwellings over a shared driveway providing access to separate garages for each of the dwelings. The lower driveway and carparking level is accessed from the lowest point of the site and is partially embedded within the ground, due to the site's sloping topography.

The development of the proposal has been informed by the prinicples of the traditional terrace typology. Each dwelling is articulated by a primary two storey massing to the West with a secondary single storey pavilion attached to ther rear. The "terrace - link - pavilion" model offers reduced bulk, solar ameniety and connectivity to the internal courtyard and rear gardern spaces.

The end buildings take advantage of their location to provide windows and balconies to the houses.

The scheme has been designed to fit with the existing road system and to retain the existing trees bordering the site.

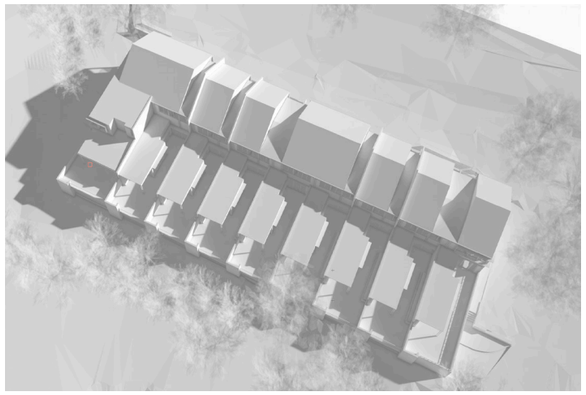


MASS

Due to the slope of the site and embedding the lower level of carparking within the landscape, the building is legible as a two storey building when approached from the West.

The building mass is articulated by:

- a light, stone coloured brickwork base, reflecting the brick and stone character of nearby buildings. This brickwork also forms the party walls separating and defining individual houses.
- The individual dwellings are clad in a dark materials, offsetting and balancing the masonry. The less monolithic material and darker colour of the houses assists in making them visually recessive and enabling them to integrate within their landscaped context.
- The large gable roof running north/south is punctuated by a series of lower roofs defining the entry to each house and creating a composition of identifiably individual houses. This rhythm of roof forms, party walls and materials enables the houses to achieve a high level of articulation and individuality, within the townhouse format
- Front doors, and other elements are then 'identified' by earthy terracotta colours and stained timber panelling.



BULK

The building forms is located within the residential precinct and has been carefully considered to integrate with the adjacent boarding house buildings.

Building bullk has been reduced by introducing low pitched roofs above the entry of each dwelling.

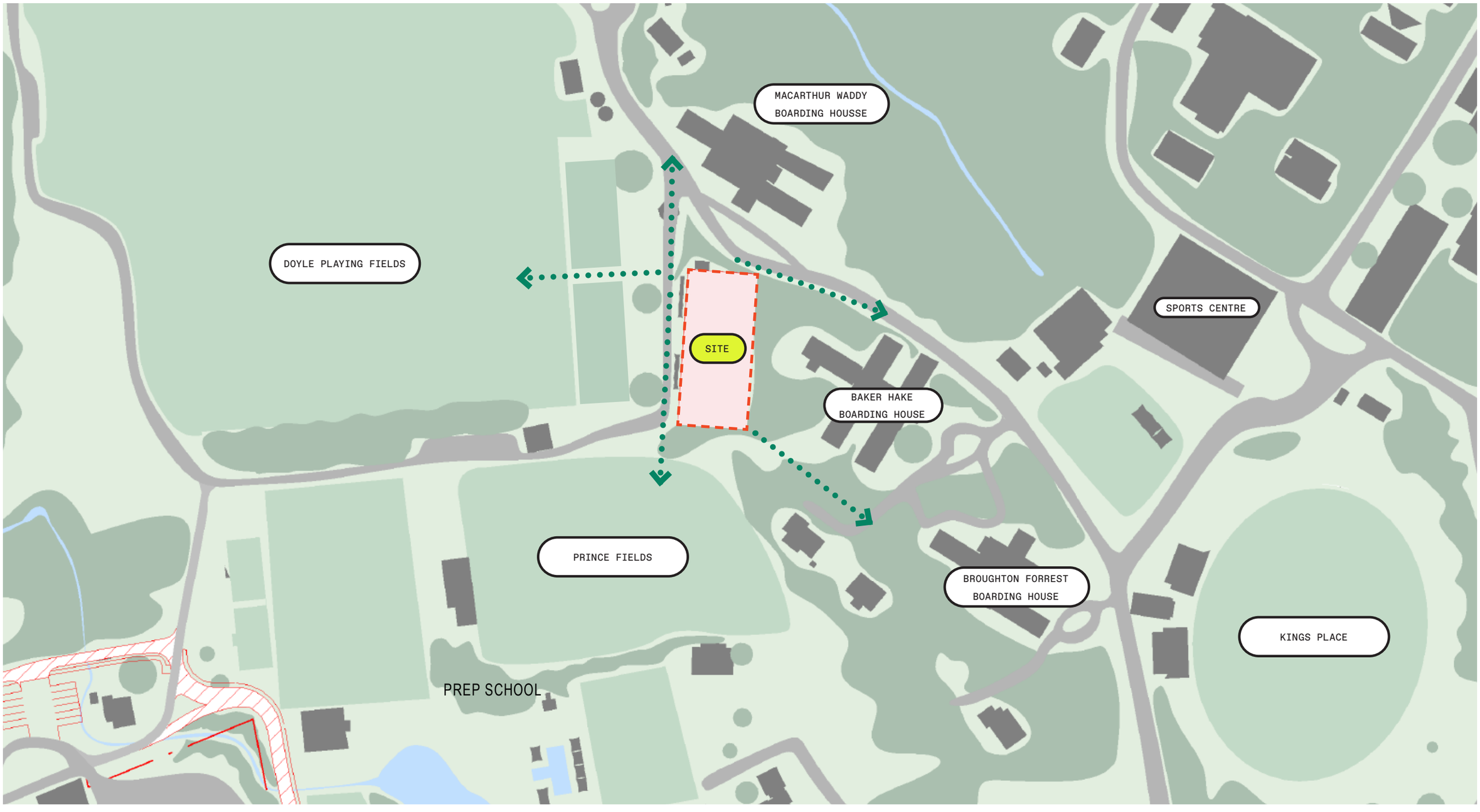
The masonry plinth which forms facade to the driveway and carpark further reduces the perceived bulk of the development.



HEIGHT

The building is approximately 12m tall, measured at the lowest point of the project site to the North. The building has a significant landscape buffer to the east and west with additional plantings proposed to the south.

08.03 STAFF RESIDENCES SITE ANALYSIS



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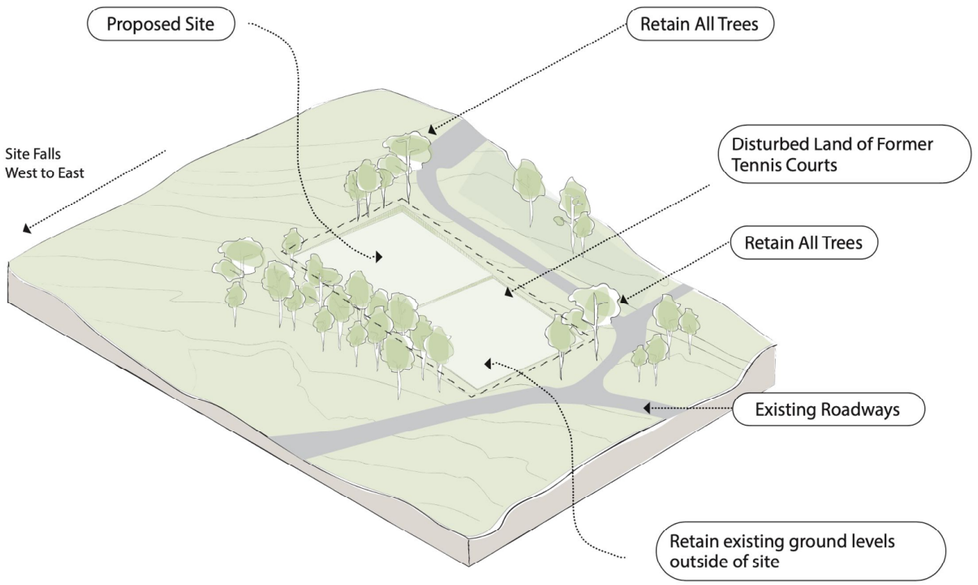
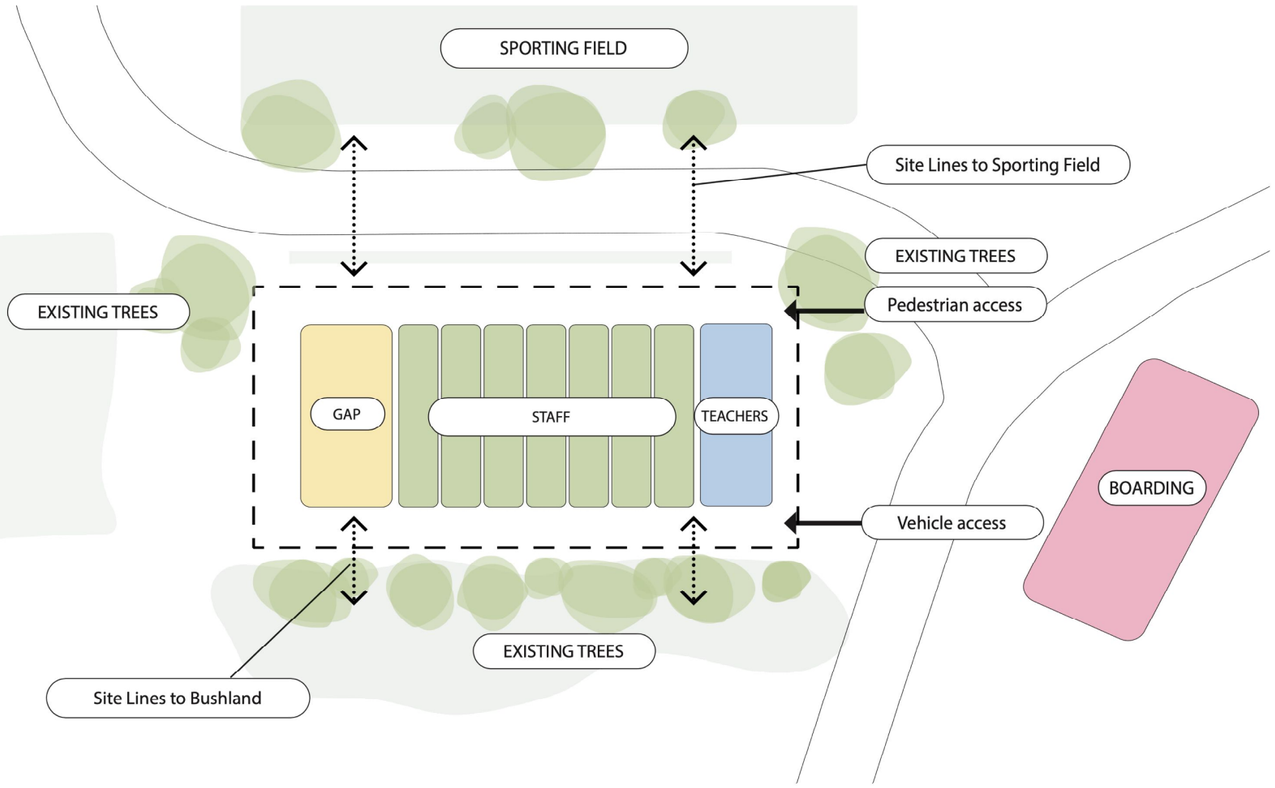
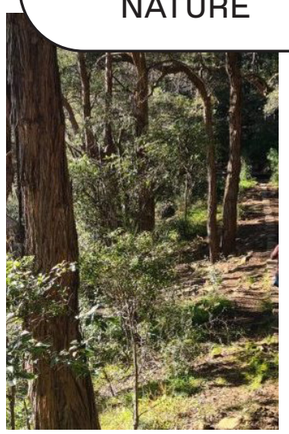
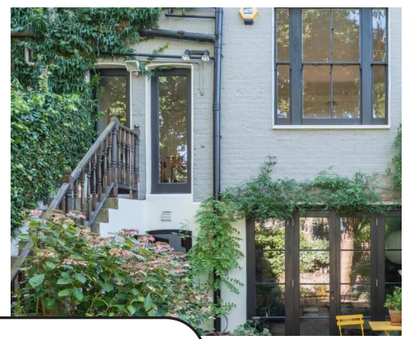
08.04 BRIEF AND PROJECT PRINCIPLES





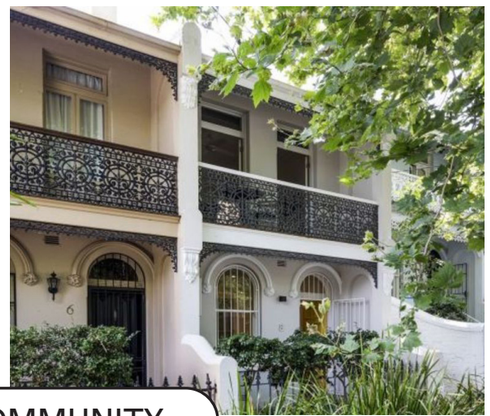
CONNECTION TO NATURE





WELLBEING



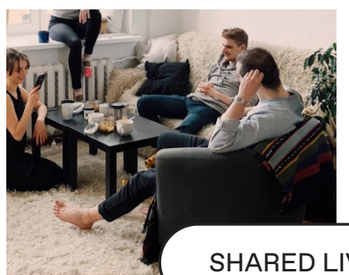


COMMUNITY



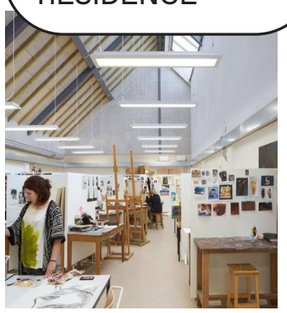
WORK - LIFE HARMONY





SHARED LIVING

TEACHERS IN RESIDENCE



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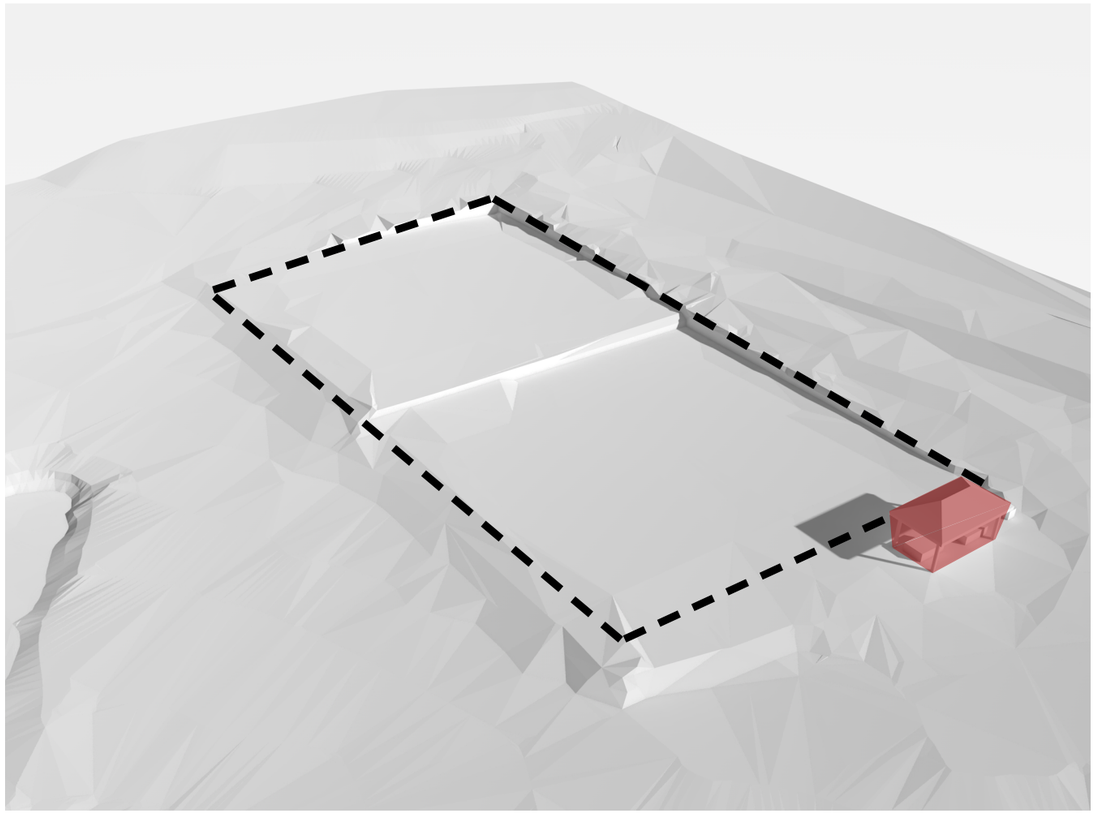
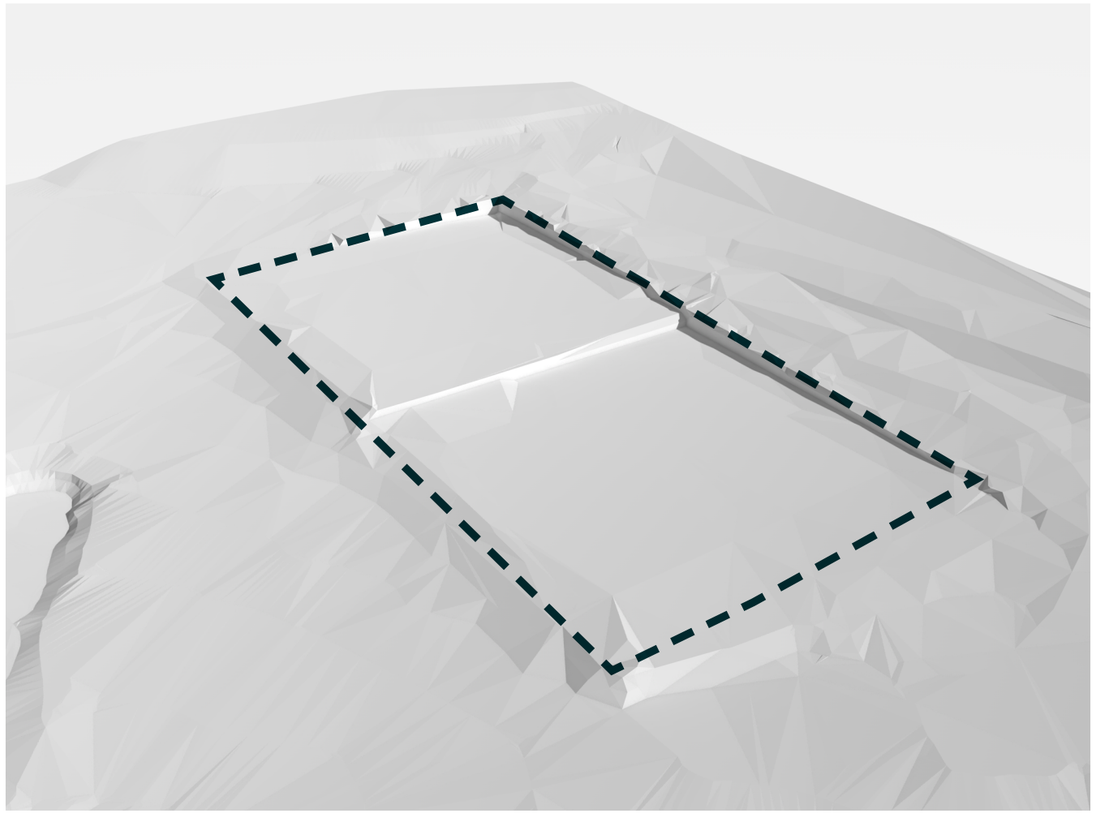
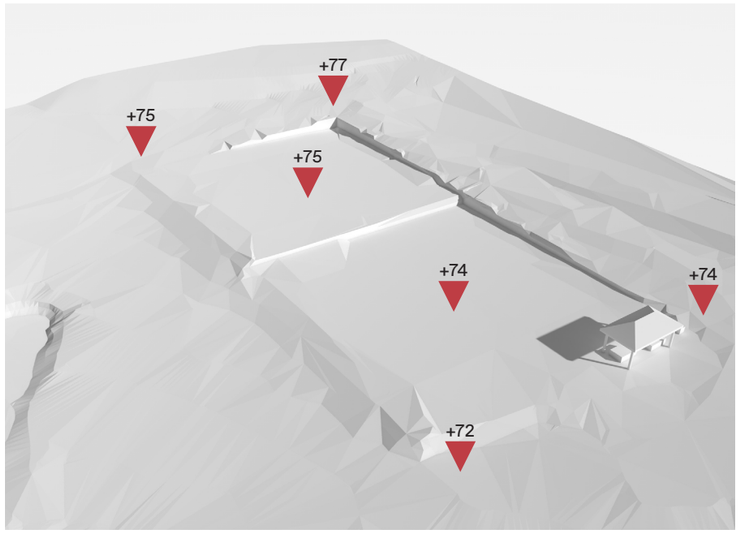


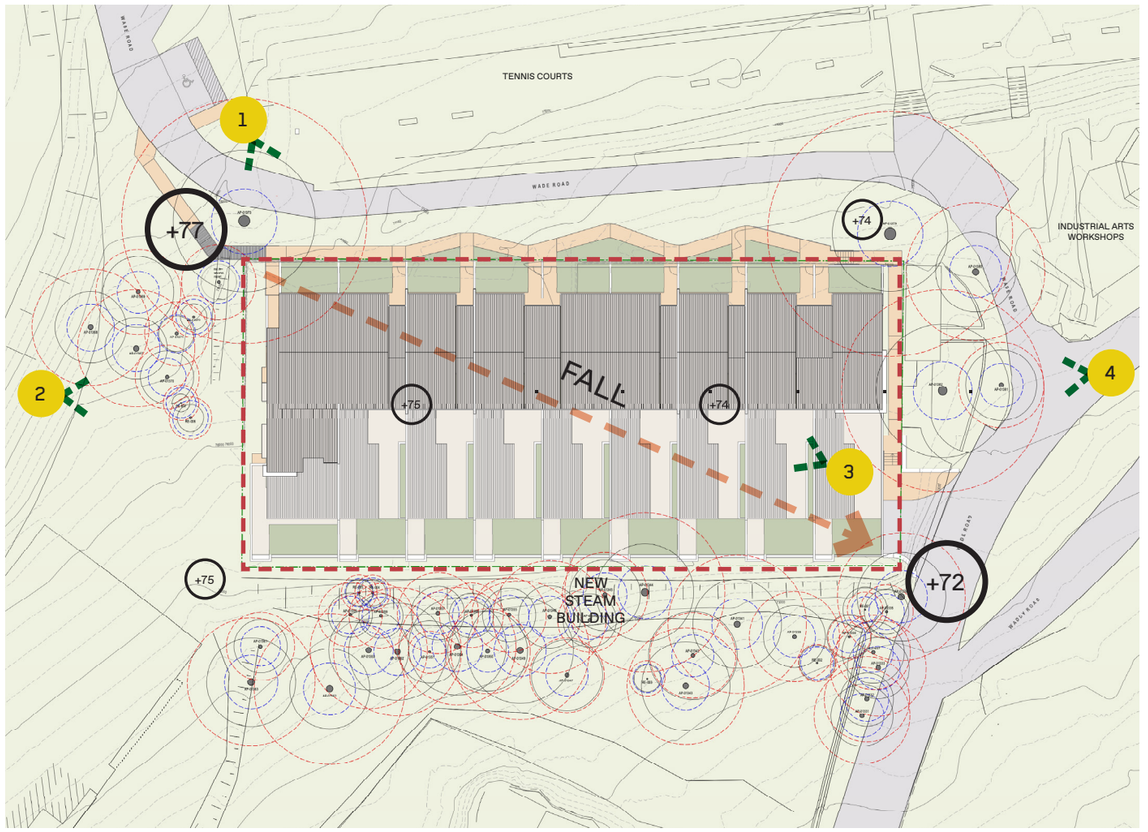
EXTENT OF DEMOLITION



SITE FOR STAFF RESIDENCES

08.06 STAFF RESIDENCES EXISTING







1



2



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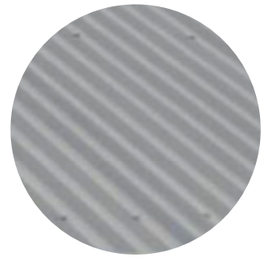
08.07 FACADE

The materials palette and colour scheme reflects the palette on other recent buildings in The Kings School, in particular those designed by Leaf Architecture being, Macarthur Waddy House, Baker Hake House, Bishop Baker Harris House, which are all close to the subject site.

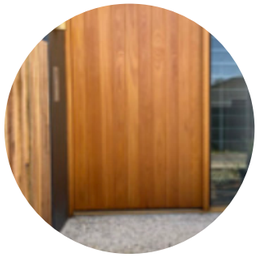




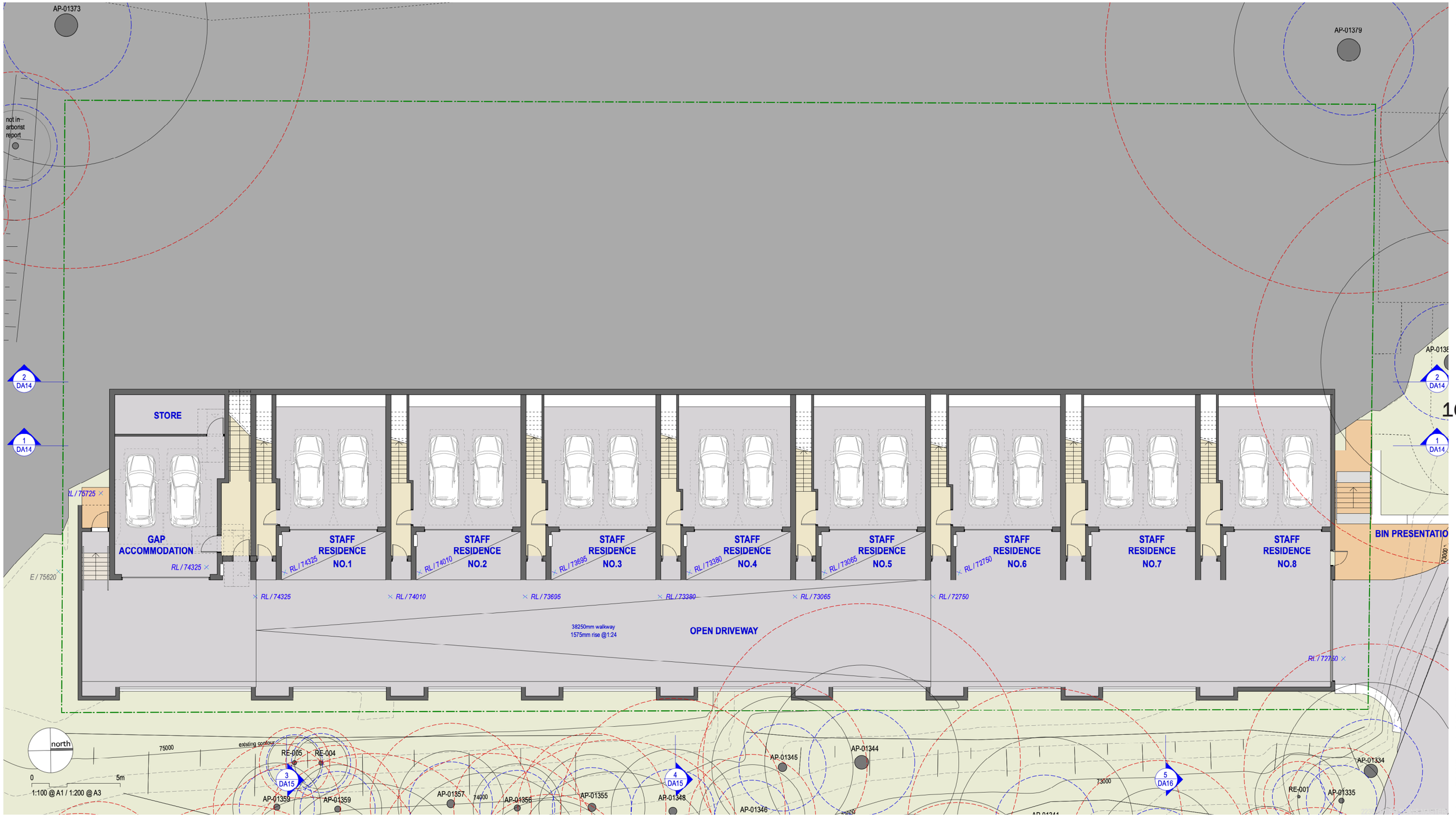








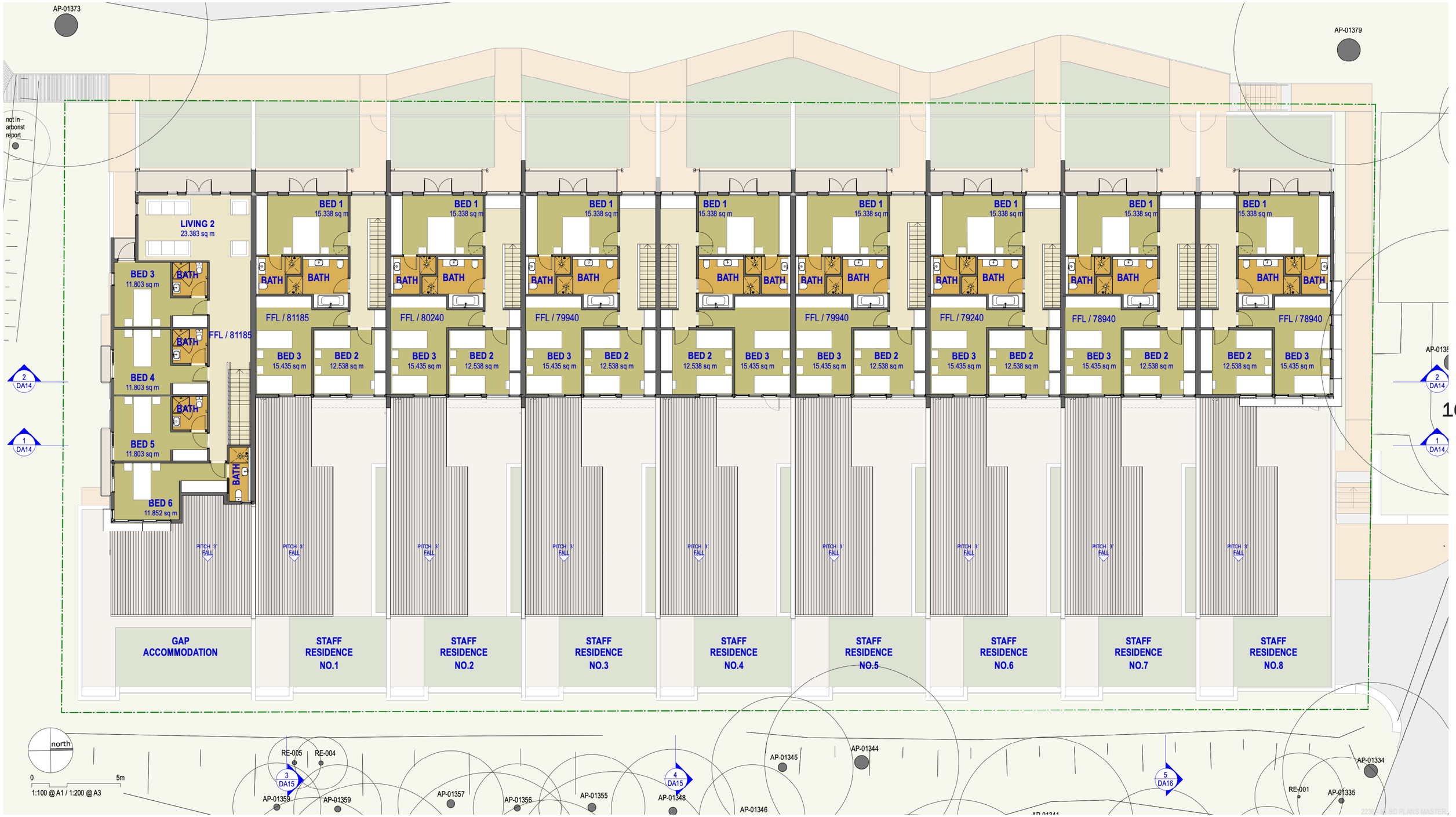
08.08 LOWER GROUND FLOOR



08.09 UPPER GROUND FLOOR



08.10 FIRST FLOOR



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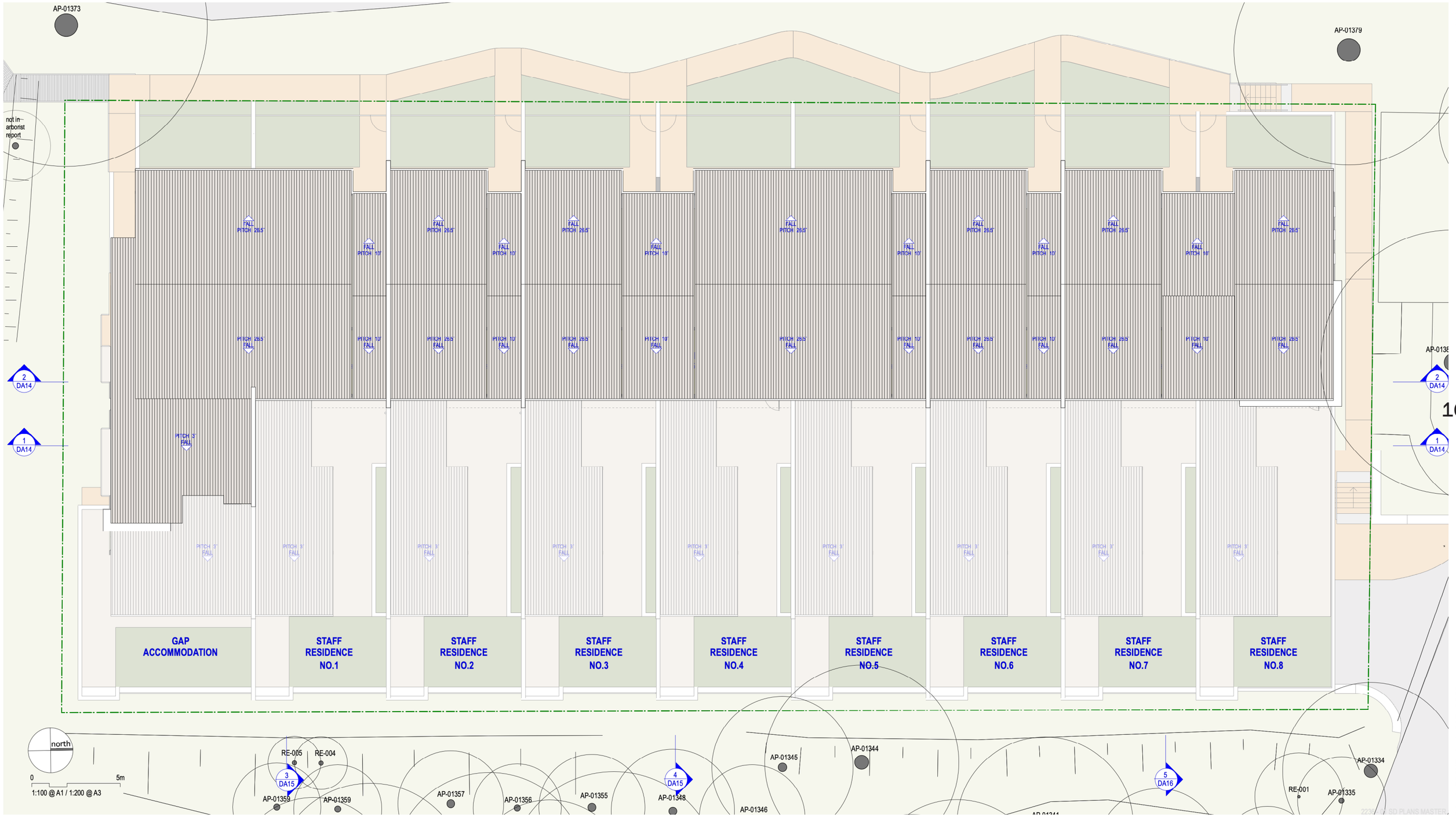
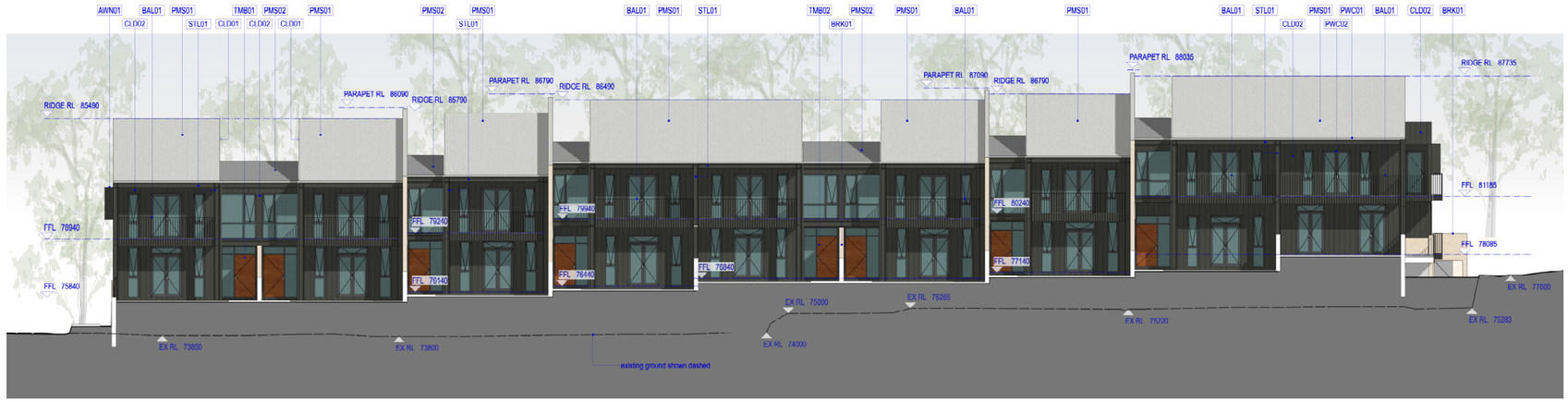


08.12 ELEVATIONS



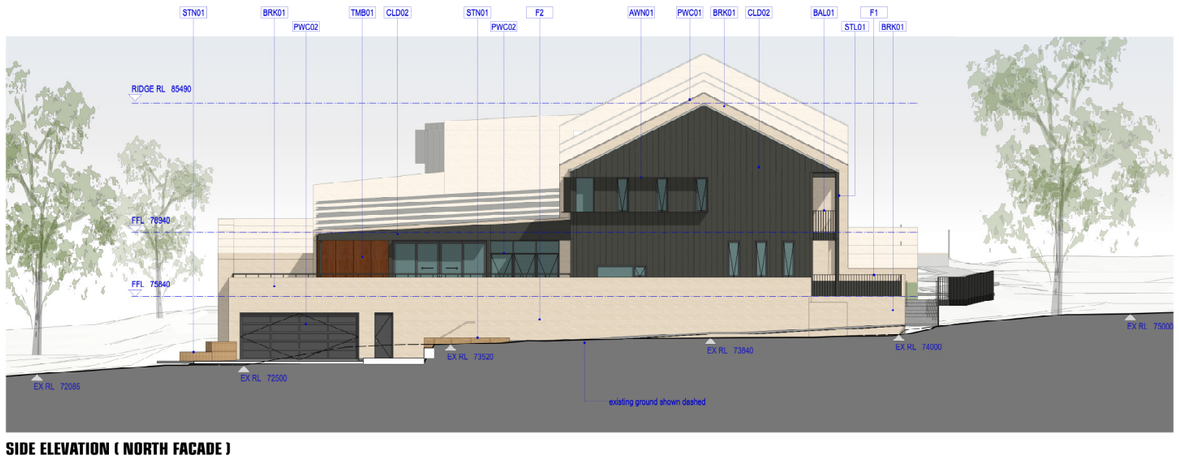
FRONT ELEVATION (WEST FACADE)



REAR ELEVATION (EAST FACADE)



SIDE ELEVATION (SOUTH FACADE)



SIDE ELEVATION (NORTH FACADE)

WEST ELEVATION

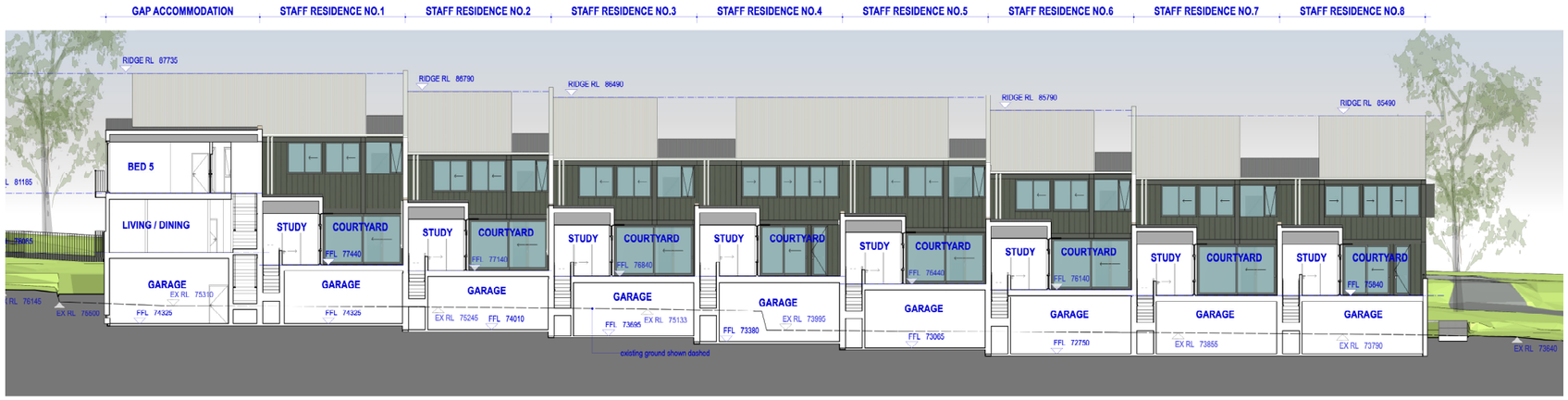
SOUTH ELEVATION



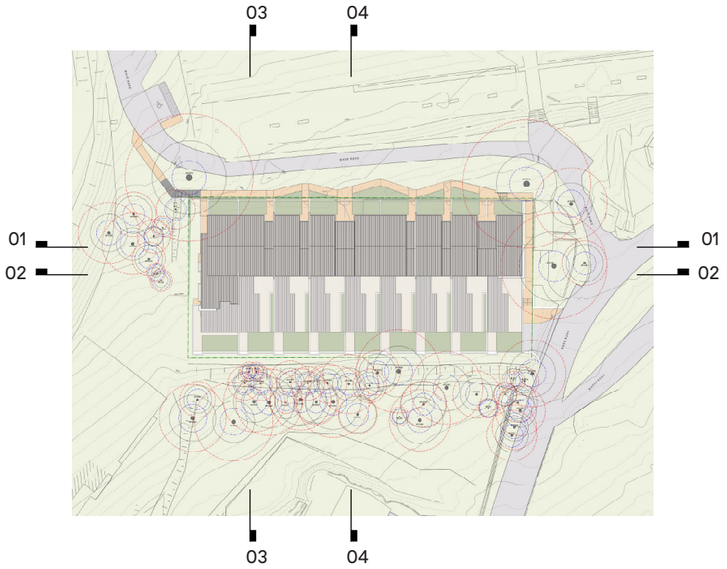
NORTH ELEVATION

EAST ELEVATION

08.13 SECTIONS



SECTION 01



SECTION 02

SECTION 03

SECTION 04

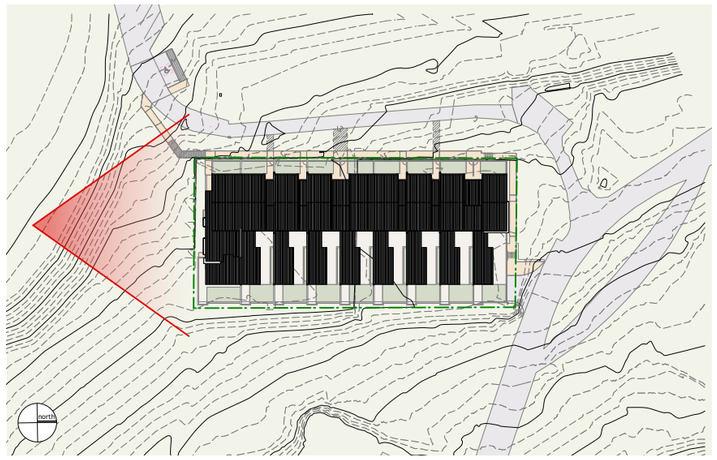
08.14 VIEW ANALYSIS



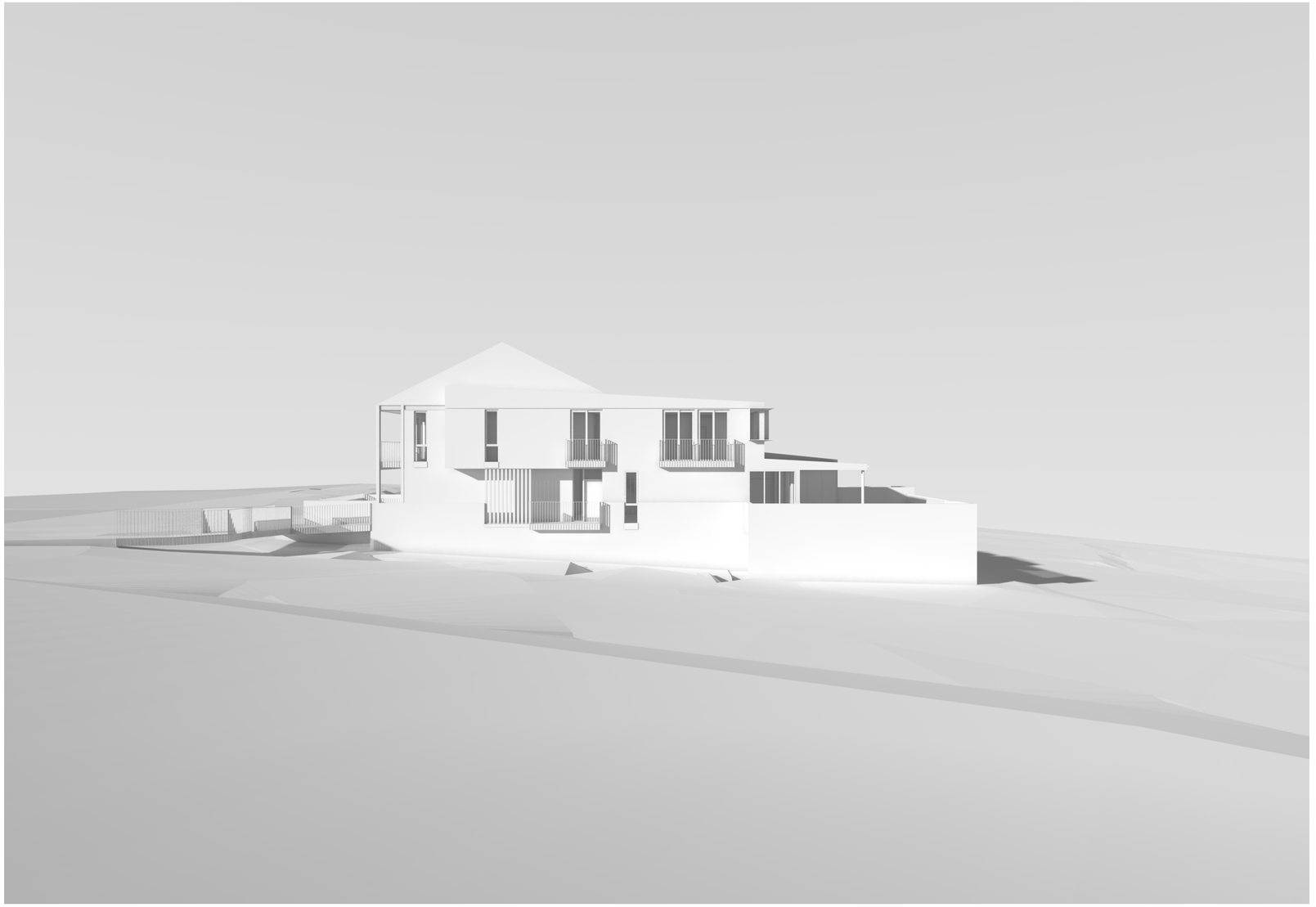




08.14 VIEW ANALYSIS







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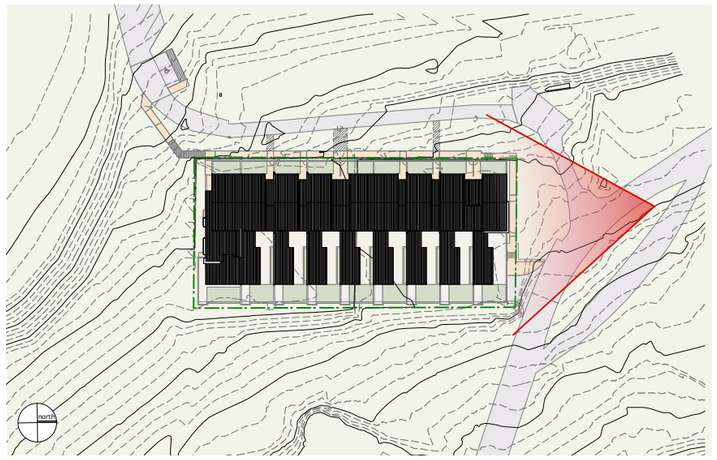
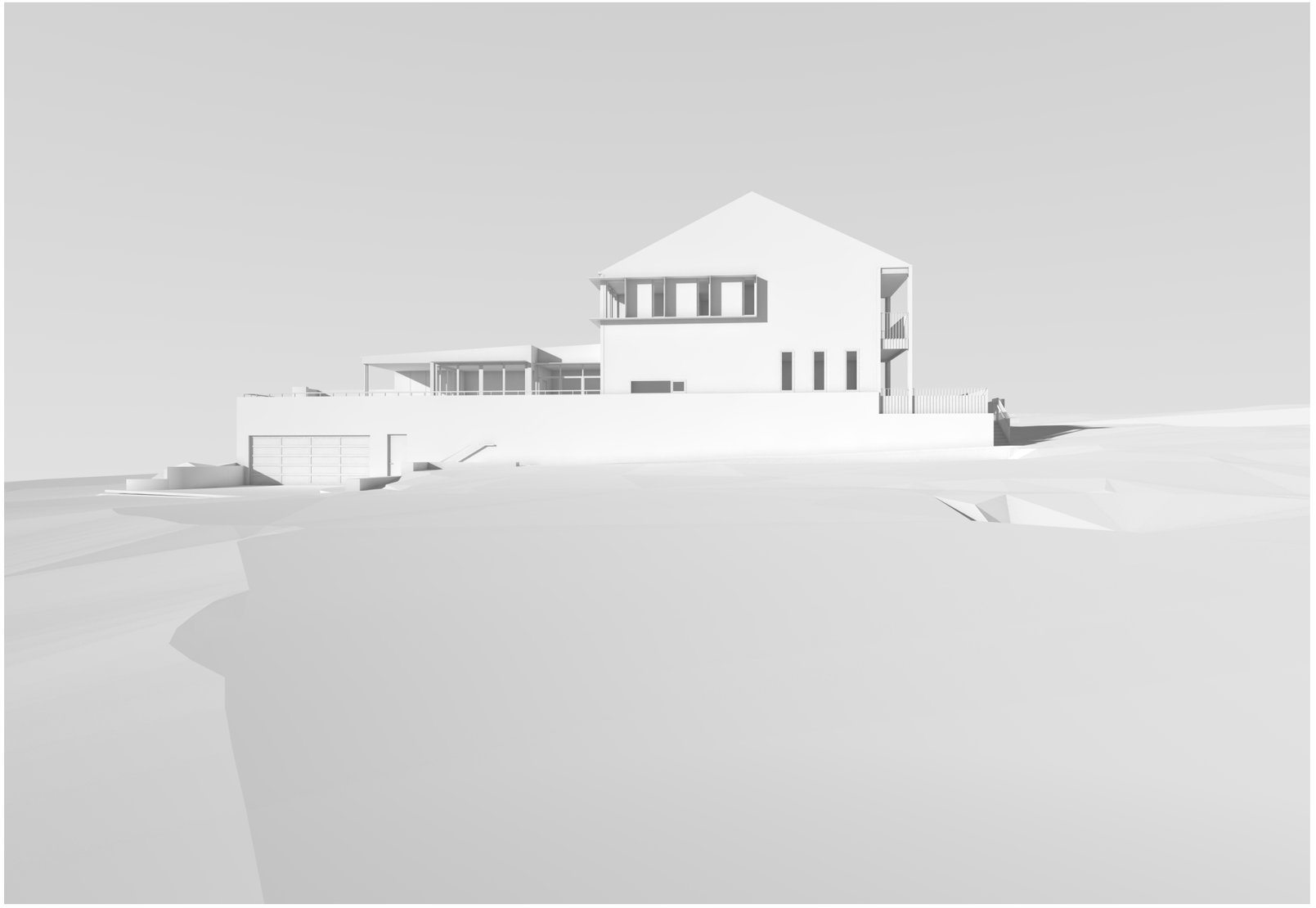
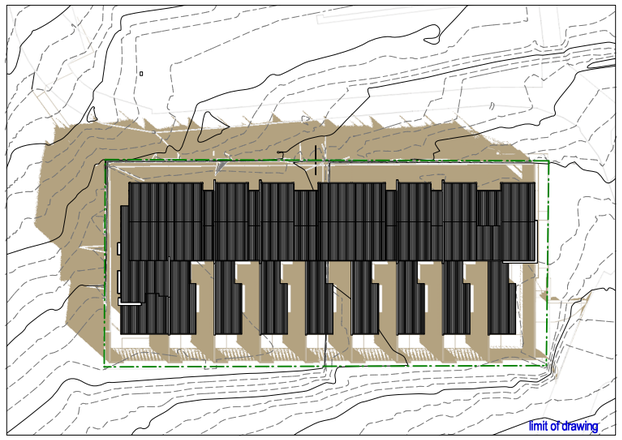


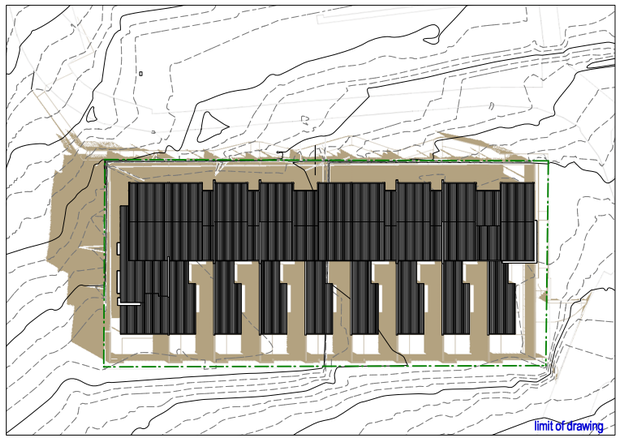




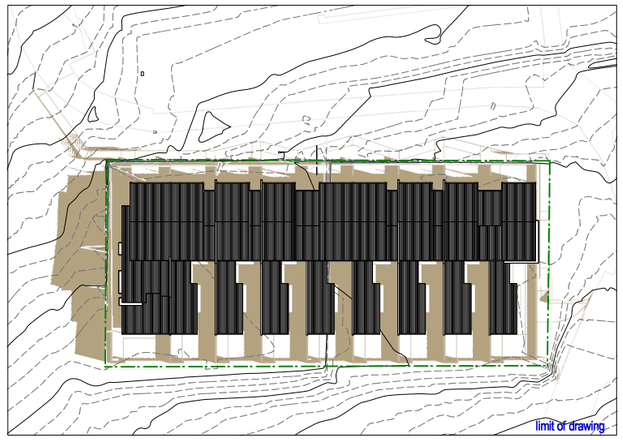
08.15 SHADOW DIAGRAMS - JUNE 21



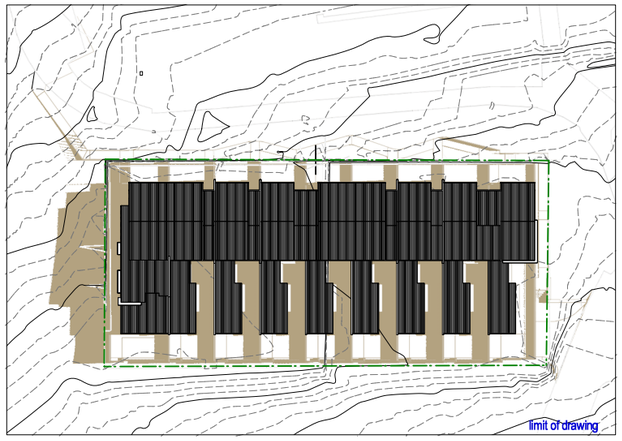
JUNE 21 - 9AM



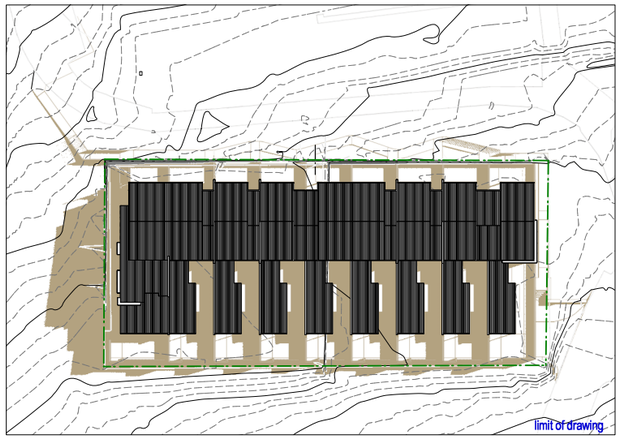
JUNE 21 - 10AM



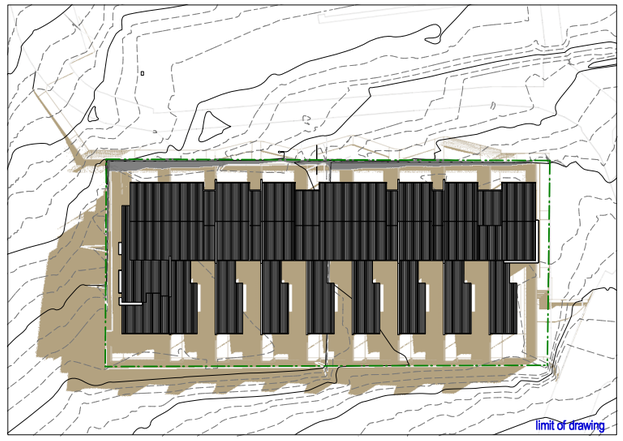
JUNE 21 - 11AM



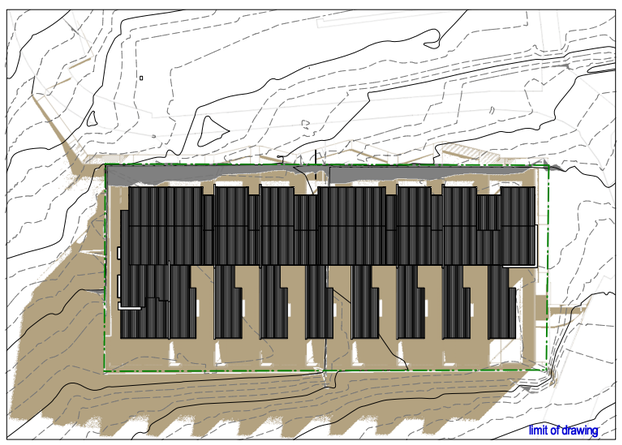
JUNE 21 - 12PM



JUNE 21 - 1PM



JUNE 21 - 2PM



JUNE 21 - 3PM

SAHDOW LEGEND

site boundary

shadow proposed

shadow existing

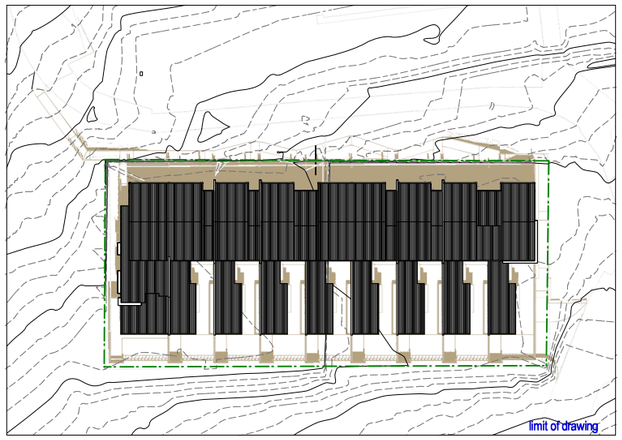
north

0 3m 6m 15m

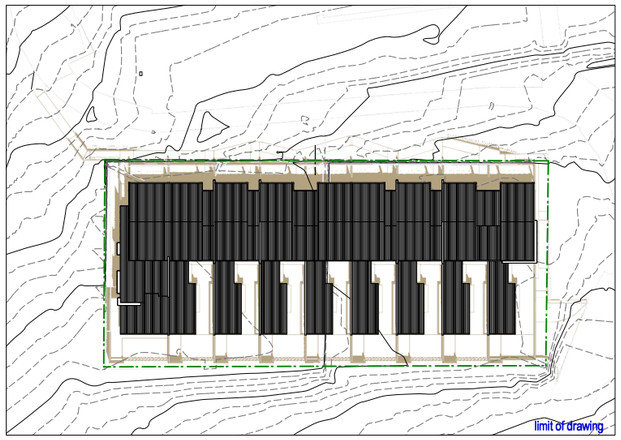
PROPOSED DEVELOPMENT

BVN / TKS SSDA / ISSUE A / OCT 2023

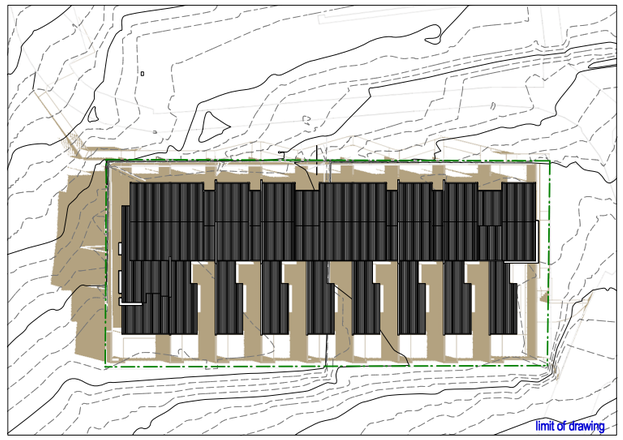
08.16 SHADOW DIAGRAMS - DECEMBER 21



DECEMBER 21 - 9AM



DECEMBER 21 - 10AM



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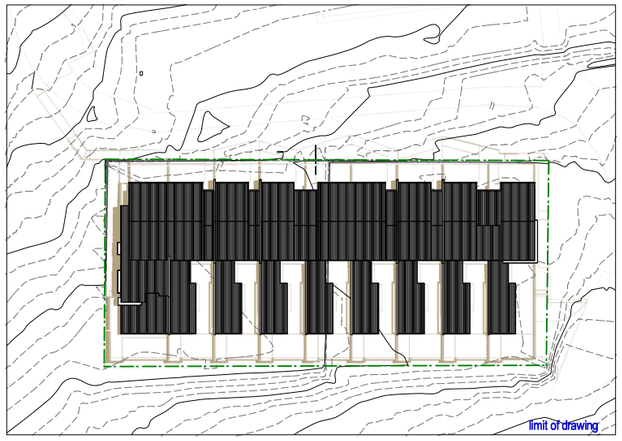

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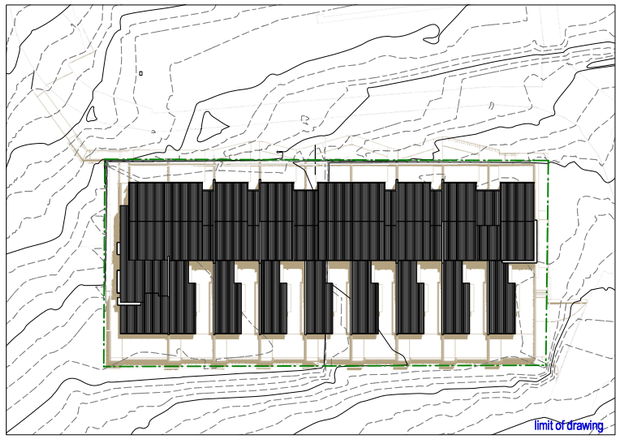
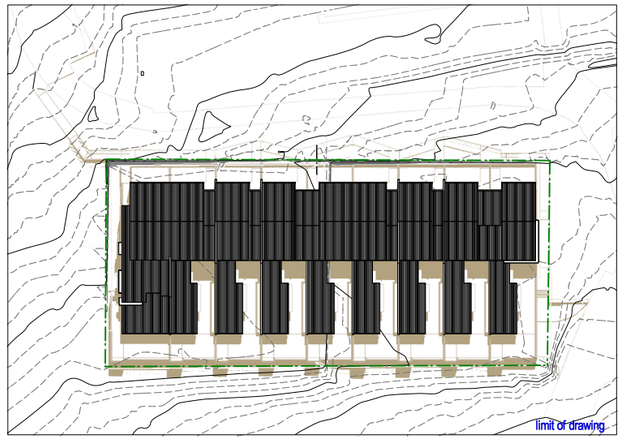
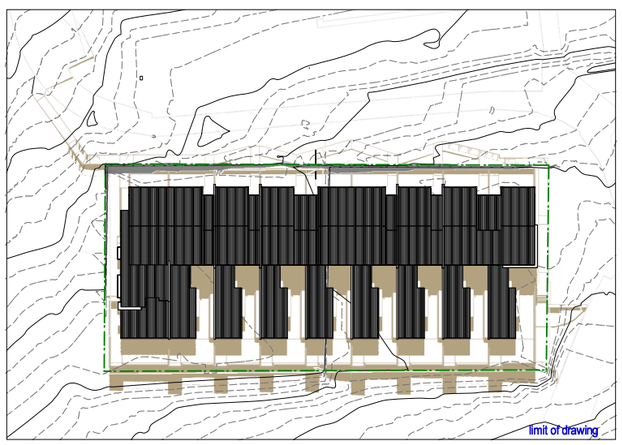


DECEMBER 21 - 1PM



DECEMBER 21 - 2PM



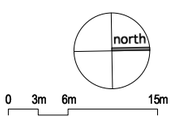
DECEMBER 21 - 3PM

SAHDOW LEGEND

site boundary

shadow proposed

shadow existing



CONCEPT PROJECTS

SPORTS PAVILION

09

09.01 DESIGN APPROACH

“The King’s School fosters an environment of enjoyment and advancement in sport. It is an activity that cultivates leadership, resilience and teamwork and is where our students can test themselves through physical endeavour.”

The scheme has responded to the Kings school culture and ethos and the unique characteristics of the bushland and parkland site settings. Multiple design precedents exist on the school campus that have informed the design of the Sports Pavilion, in terms of architectural character, materiality and functionality.

ARCHITECTURAL AND URBAN CONTEXT

The King’s School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. This is contrasted against a colonial courtyard and manicured garden typology in and around the school. The school houses a number of residents on site as well as boarding houses. Pennant Hills road provides the main access into the site. To the West is Tara Anglican School for Girls and Burnside Public School. The eastern site boundary directly adjoins the rear gardens of the low scale residential dwellings. The campus is barely visible from surrounding developments, with the bushland setting providing a substantial landscape buffer to most of the perimeter.

The boarding precinct sits central to the northern edge of the school caressed by the bushlands on the north that extend into the Parramatta Lakes and the Doyle Fields to the south providing the students various avenues to find adventure.





SAFETY AND SECURITY

The proposed project site is situated well within the School Campus, with the School 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. The lighting strategy creates a safe and legible place and the building is designed for clear site lines from each facade.

SUSTAINABILITY

The proposed building envelope has been developed to ensure that the building can provide numerous passive solutions including abundant natural lighting, natural cross ventilation through openable doors along with external sun shading devices. The building is designed to have strong connections to the natural landscape, both physically and visually

ACCESSIBILITY

The functional areas of the building are located on the same floor level; doorways and general circulation within, around and leading to the building have been designed to provide universal accessibility to all spaces. Accessible toilet facilities have been provided.

FORM, MASS AND HEIGHT

The form of the pavilion takes its inspiration from the Price Fields Pavilion located in The Kings Preparatory School. With a comparatively larger built form, the new sports pavilion will cater for students participating in sports and recreation activities on the western edge of the campus, providing additional sports storage, toilet and change facilities and a canteen.

MATERIALS AND COLOUR

The materials for the proposed building will match the existing materials pallete used at the Kings Preparatory School sports precinct, including both masonry and light weight construction. This will help to create a visually cohesive sports precinct for the Kings School.

SPORTS MODEL

“The King’s School fosters an environment of enjoyment and advancement in sport. It is an activity that cultivates leadership, resilience and teamwork and is where our students can test themselves through physical endeavour.

From basketball and cricket to volleyball and water polo, boys have every opportunity to develop their skills and build character.”

LANDSCAPE

The building has been designed to integrate with the surrounding landscape. Views to the landscape have been maximised in the design, especially from the canteen and adjoining areas. Further detail of proposed landscape can be found in the Landscape Architects report prepared by Taylor Brammer.





STRUCTURE

The proposal will utilise a concrete slab system with a steel frame roof structure and masonry infill walls. The concrete will be specified with cement substitutes to reduce carbon.

OPERATIONS

The proposal will look to utilise Schools existing central waste management facilities.

AMENITY

A high level of amenity is provided for the various users of the Sports Pavilion through the provision of modern toilet and change facilities, a canteen for food service and covered outdoor areas to view sport.



09.02 SUPPORTING GOOD DESIGN FOR SCHOOLS

CONTEXT,BUILT FORM AND LANDSCAPE

The New Sports Pavilion is positioned along Massie Road in the centred around the existing playing fields (Wanderer's Field, Old Boys Field & Massie Fields). These fields away from any major roads and residential areas, bordering on the north of the adjacent Tara Anglican School for Girls.

Its positioning is in response to the existing topographical conditions, providing a central point for Sports management and Supervision for all fields in the Precinct whilst providing changerooms and amenities to users.

SUSTAINABLE EFFICIENT AND DURABLE

The building concept consists of a steel portal frame construction with infill masonry walls for durability. This will allow for future adaptions to be made as required.

The internal spaces should be provided with natural ventilation and skylights to reduce energy consumption.

ACCESSIBLE AND INCLUSIVE

The building will be provided with good wayfinding and a sense of welcome that is accessible and inclusive to people of differing needs and capabilities, providing amenities to empower everyone to be a part of the Kings community.

The Positioning of the building promotes a strong and equal connection between the various fields.

The Sports Pavilion will be designed to be accessible for both users and spectators.

HEALTH AND SAFETY

The positioning of the Sports pavilion is within an established sports Precinct overlooked by the adjacent Tara Anglican School for Girls and is further supported by the school's security and CCTV items which will extend into this area.

The proposed development seeks to remove old change and toilet facilities in the vicinity that are no longer safe or fit for purpose.

AMENITY

One of the main objectives of this project is to improve the amenity for users and visitors to the sporting precinct through the provision of additional changerooms, toilets storage and wet weather/shade coverage.

WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

The Building will be constructed of a steel portal frame enabling the future adaptation of internal and covered spaces free from major obstructions.

The Selected materials are durable, robust and low maintenance.

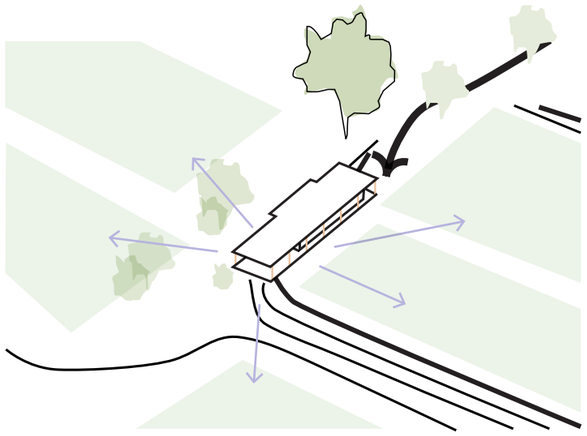
AESTHETICS

The Aesthetics of the concept Sports pavilion will respond to the existing context mirroring the aesthetics of the nearby Price Fields to instil a sense of identity, place and belonging.

The roof form and masonary base with large roof overhangs are consistent with other buildings on the site, assisting to create a cohesive looking campus.

09.03 MASSING & BUILT FORM IN CONTEXT

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



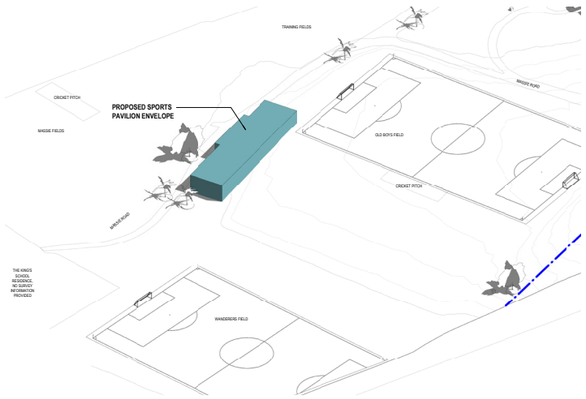
FORM

The proposal is a single level building positioned in a location that is central to several adjacent sports fields. The form has been generated to promote viewing of all fields from a central point, to allow for the efficient management of the grounds whilst providing modern change room and toilet amenities for an array of sports.



MASS

The proposed building mass is to consist of amenities, changerooms, storage, canteen and first aid facilities. This will be surrounded by a veranda extending into a large covered outdoor viewing area.



BULK

The building is deliberately located in a commanding position, central to the playing fields.

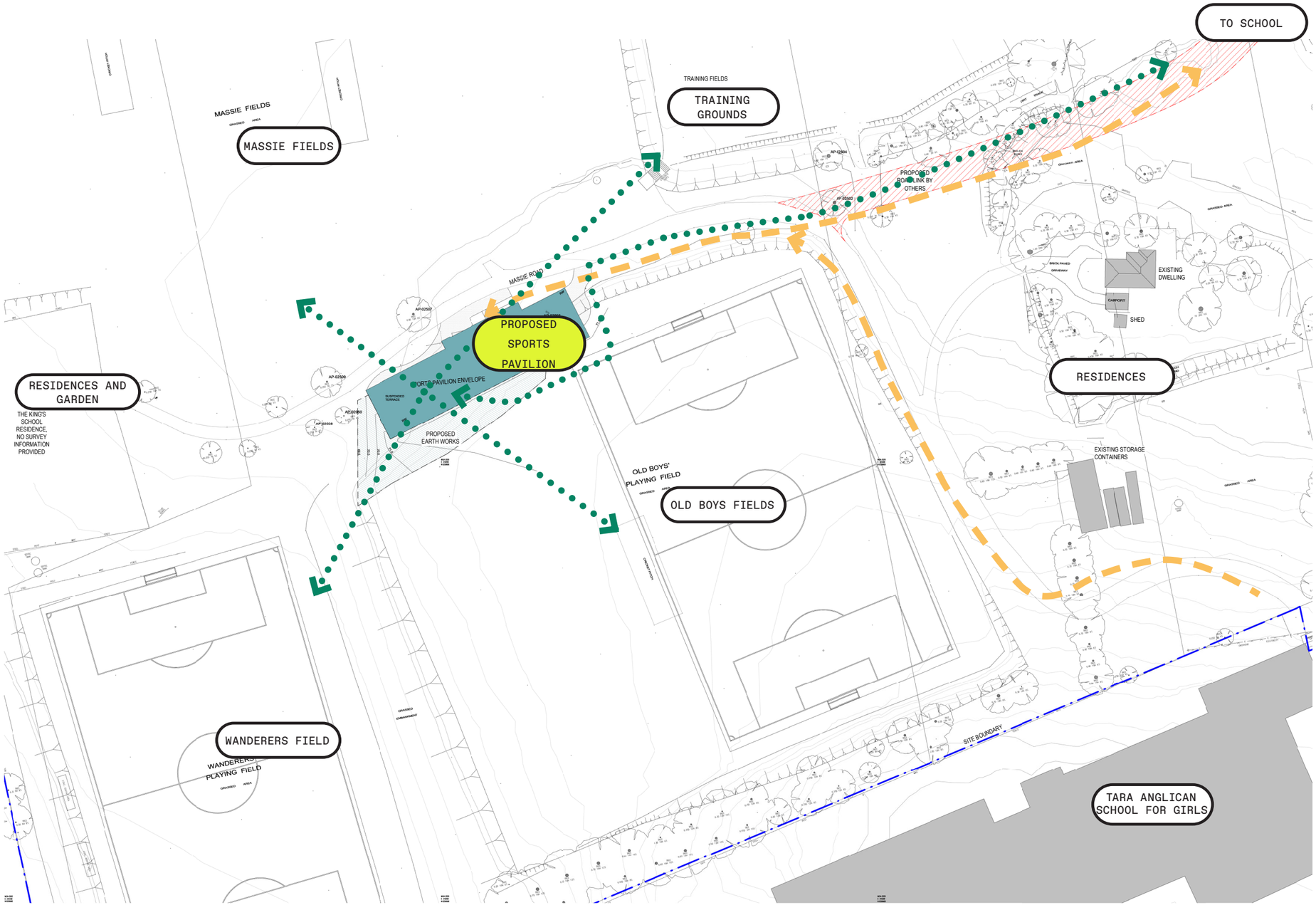
Comparatively, the bulk of the building will appear as a much smaller size against the backdrop of the adjacent two-story buildings of the Tara Anglican School for Girls on the southern end of The Old Boys Field.



HEIGHT

The building straddles the embankment and is approximately 7.4m tall, measured from the lowest existing ground level in the Western corner, reducing to 5.2 on the Eastern corner facing onto The Old Boys Field.

09.04 SPORTS PRECINCT SITE ANALYSIS



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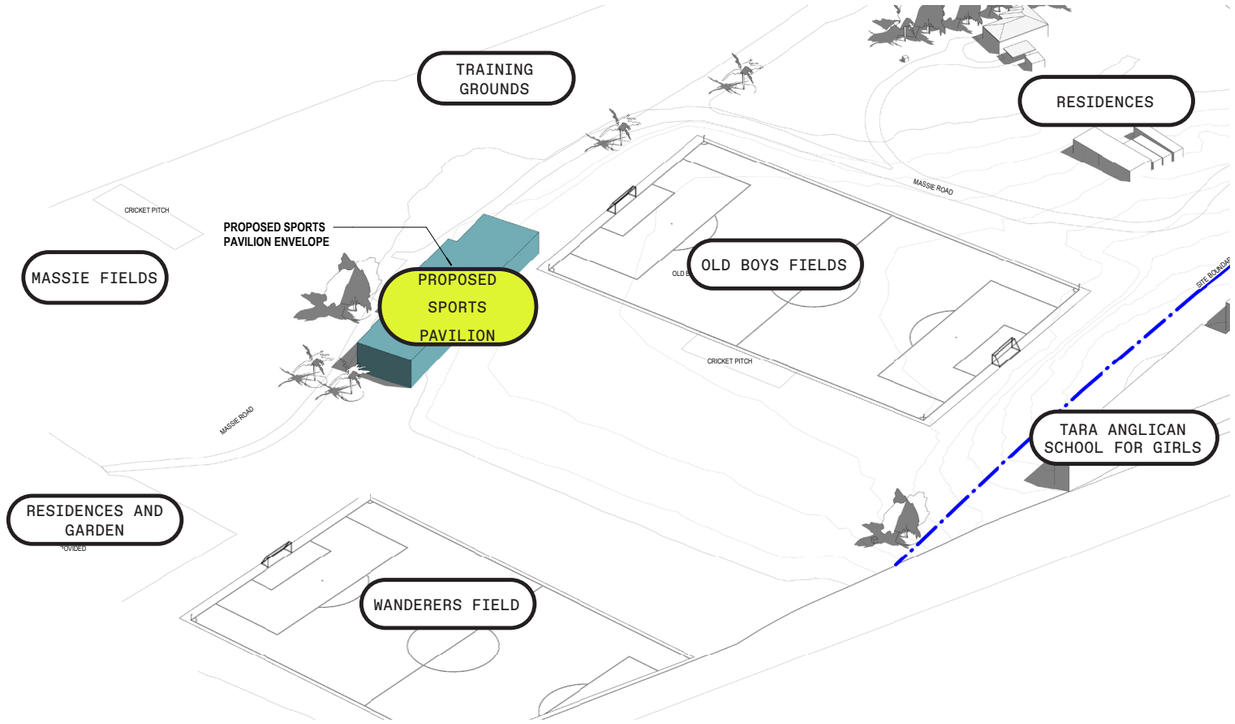
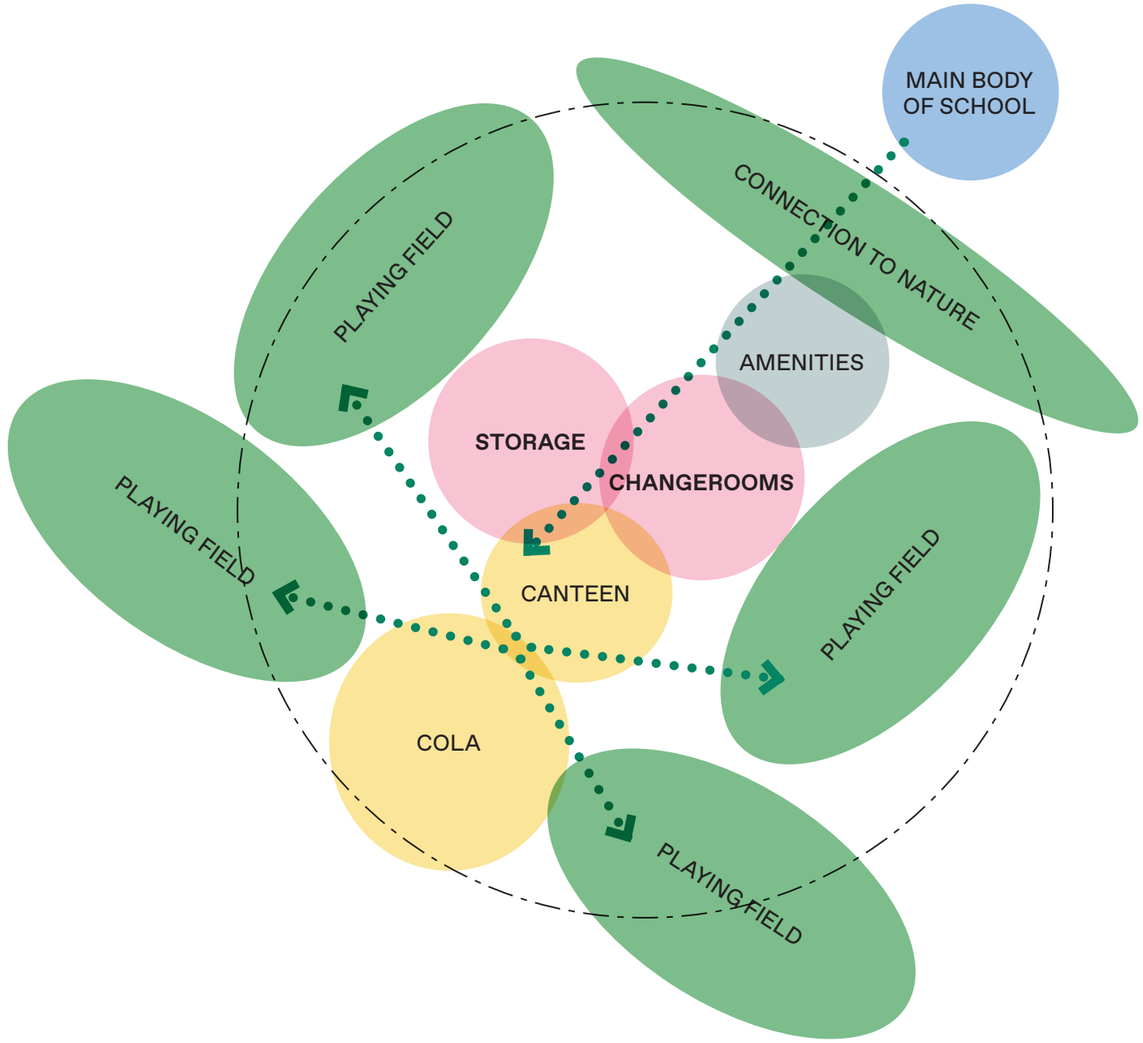
LEAF ARCHITECTURE / TKS SSDA / ISSUE A / OCT 2023

09.05 BRIEF AND FUNCTIONAL PRINCIPLES



SPORTS PAVILION





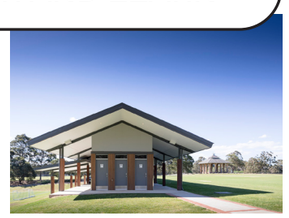


EVENT / SHOWCASE





GATHER AND LEARN





TEAMWORK



RESILIENCE



09.06 SPORTS PAVILION PROJECT PRINCIPLES



STRENGTHEN COMMUNITY



PEOPLE POSITIVE



PLACEMAKING



WELLBEING



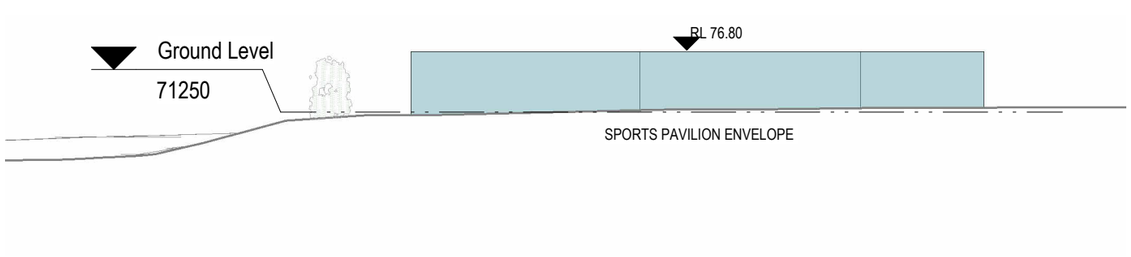
FUNCTIONALITY



DURABILITY

09.07 SPORTS PRECINCT EXISTING





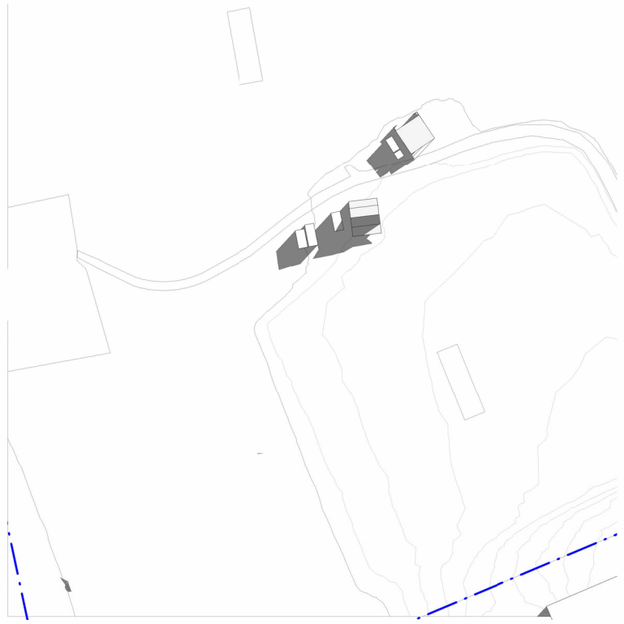


1



2

09.08 SHADOW ANALYSIS - JUNE 21ST



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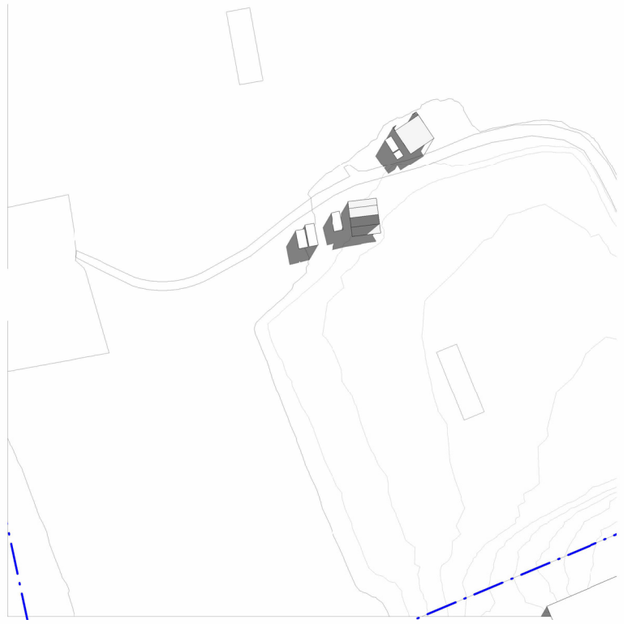

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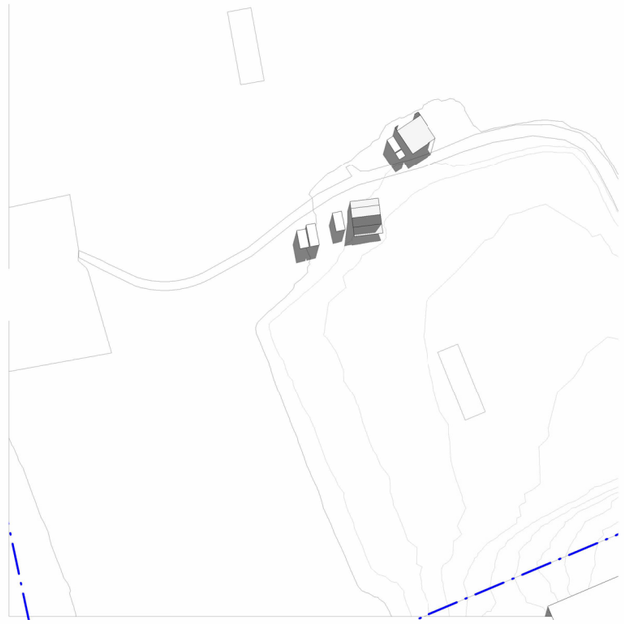

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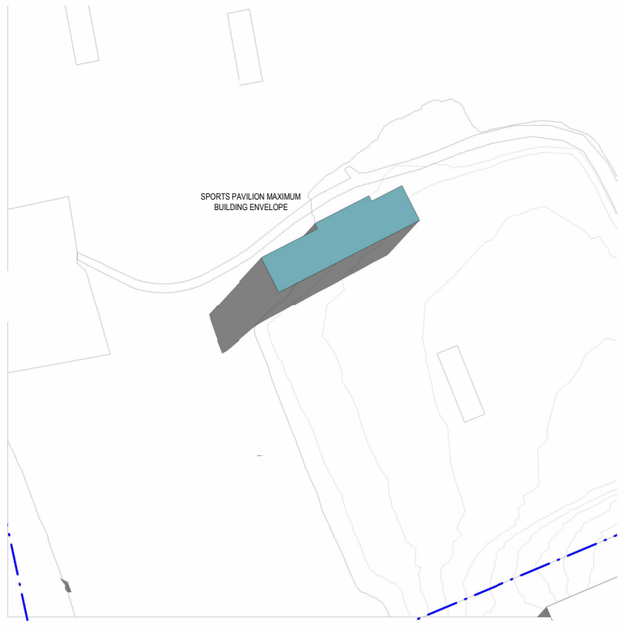

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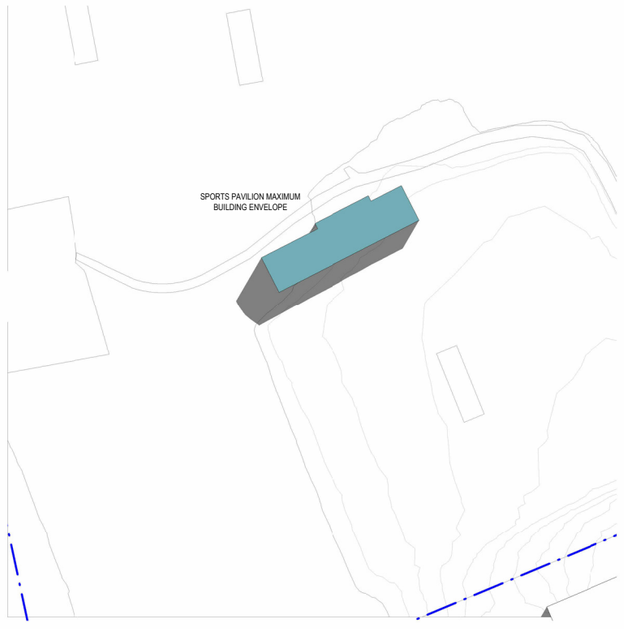

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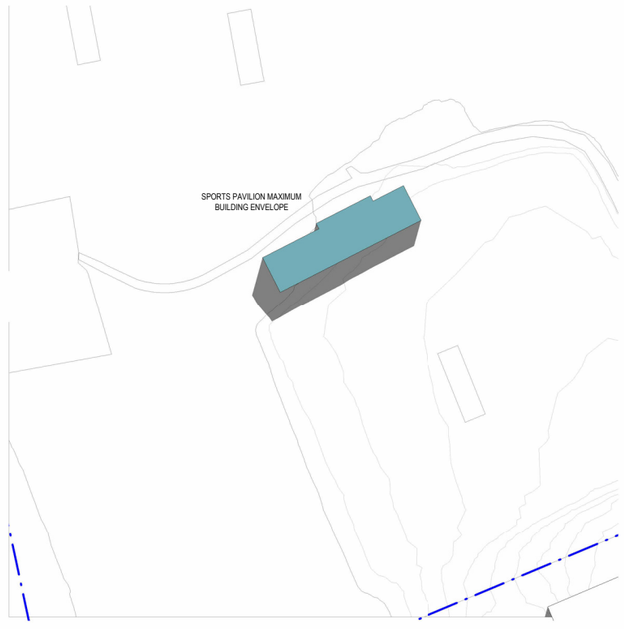

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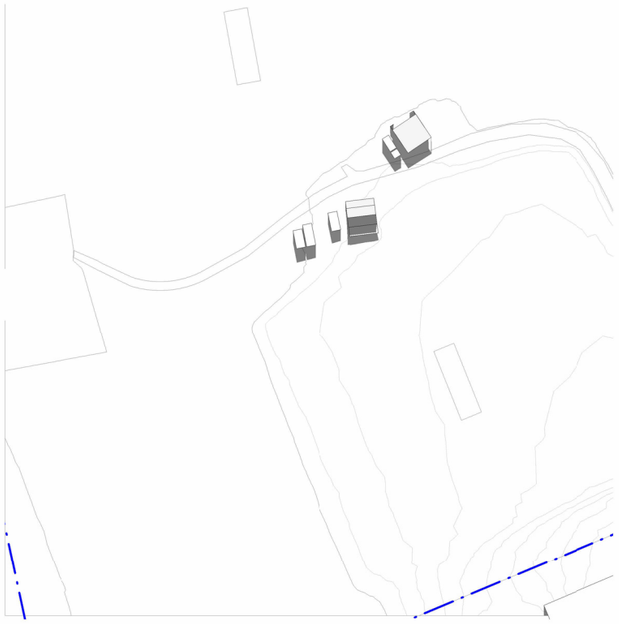
09.08 SHADOW ANALYSIS - JUNE 21ST



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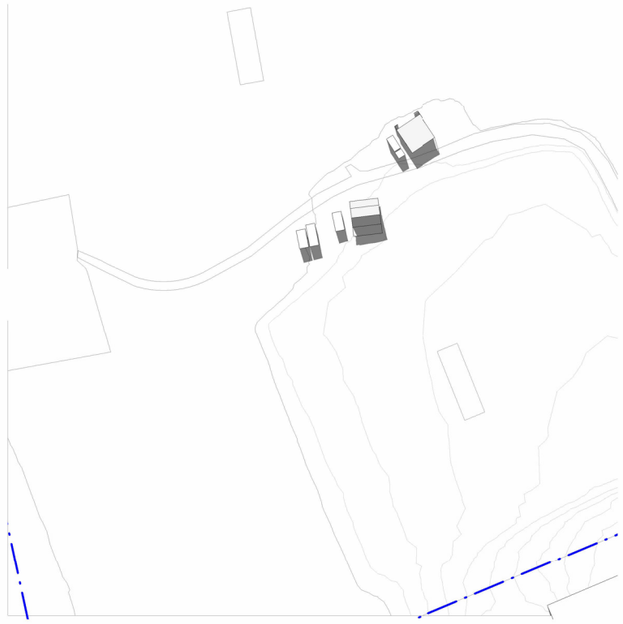

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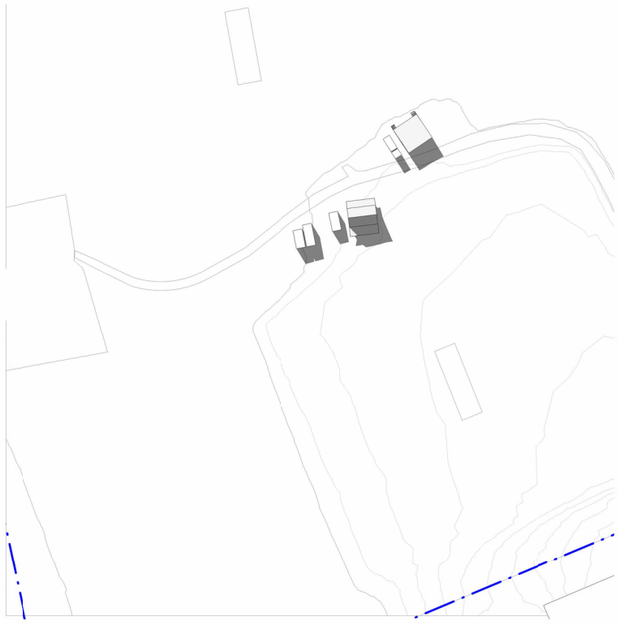

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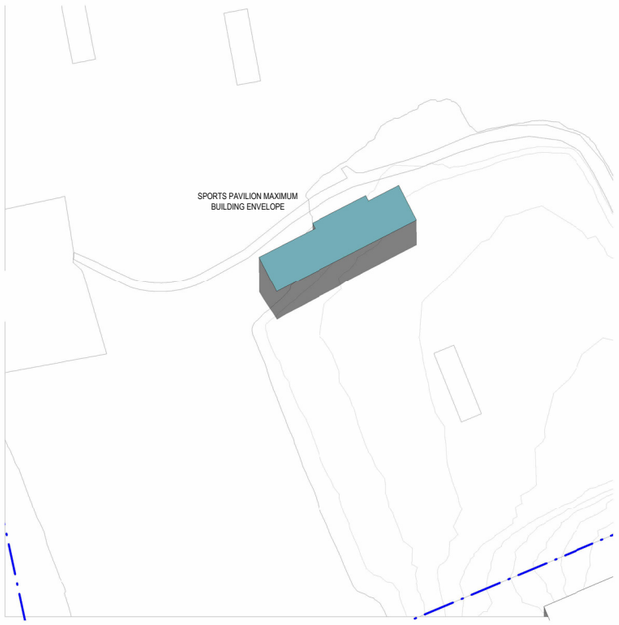

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PROPOSED SHADOW DIAGRAM - 1pm WINTER SOLSTICE
1 : 1000



PROPOSED SHADOW DIAGRAM - 2pm WINTER SOLSTICE
1 : 1000

09.08 SHADOW ANALYSIS - JUNE 21ST



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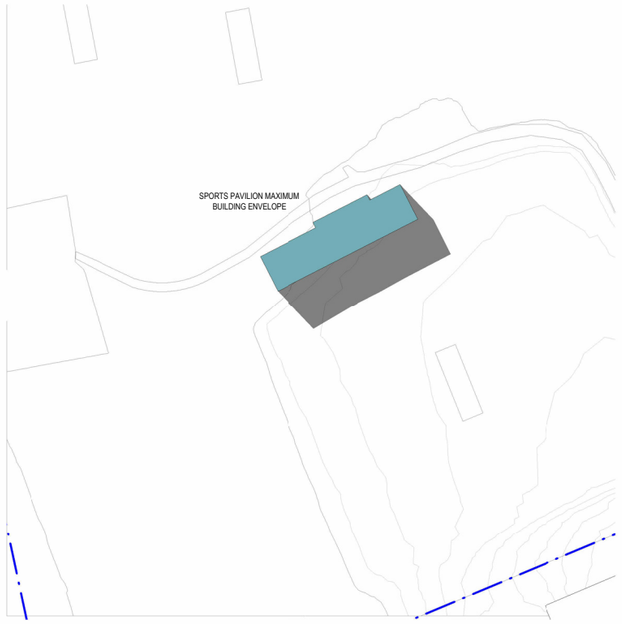

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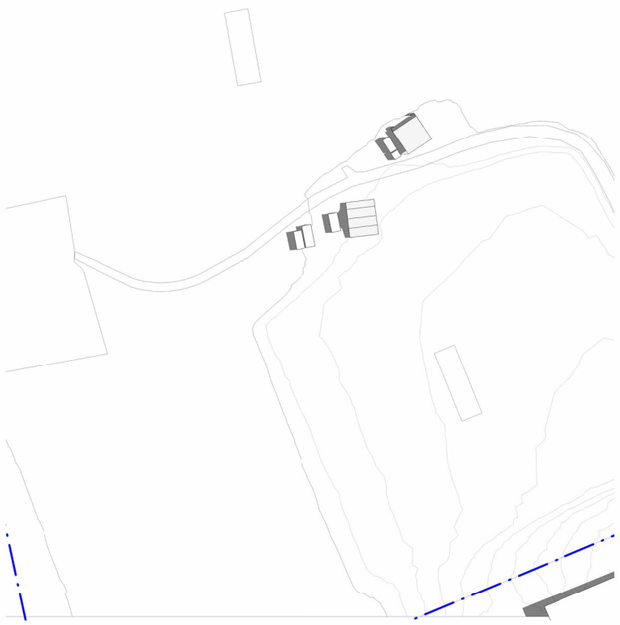
09.09 SHADOW ANALYSIS - DECEMBER 21ST



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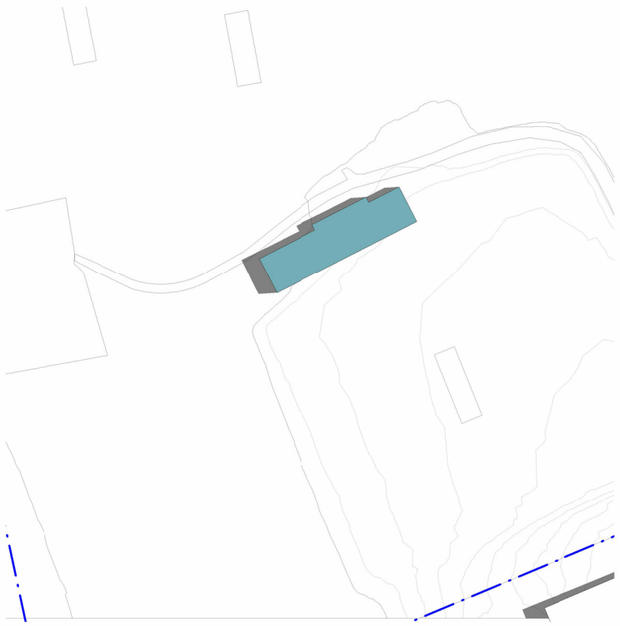
EXISTING SHADOW DIAGRAM - 10am SUMMER SOLSTICE
1 : 1000



EXISTING SHADOW DIAGRAM - 11am SUMMER SOLSTICE
1 : 1000



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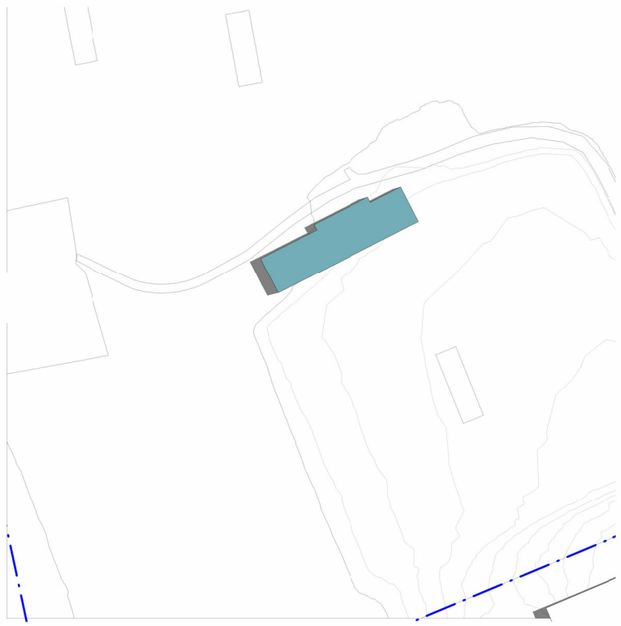


PROPOSED SHADOW DIAGRAM - 10am SUMMER SOLSTICE
1 : 1000



PROPOSED SHADOW DIAGRAM - 11am SUMMER SOLSTICE
1 : 1000

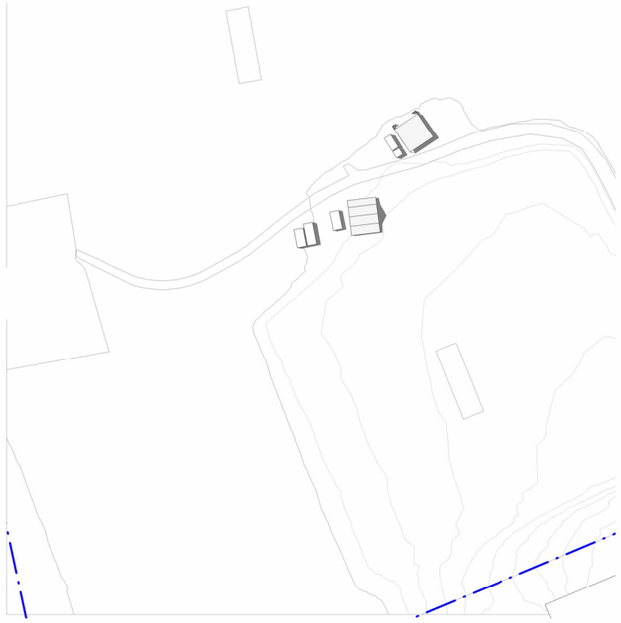
09.09 SHADOW ANALYSIS - DECEMBER 21ST



EXISTING SHADOW DIAGRAM - 12noon SUMMER SOLSTICE
1 : 1000



EXISTING SHADOW DIAGRAM - 1pm SUMMER SOLSTICE
1 : 1000



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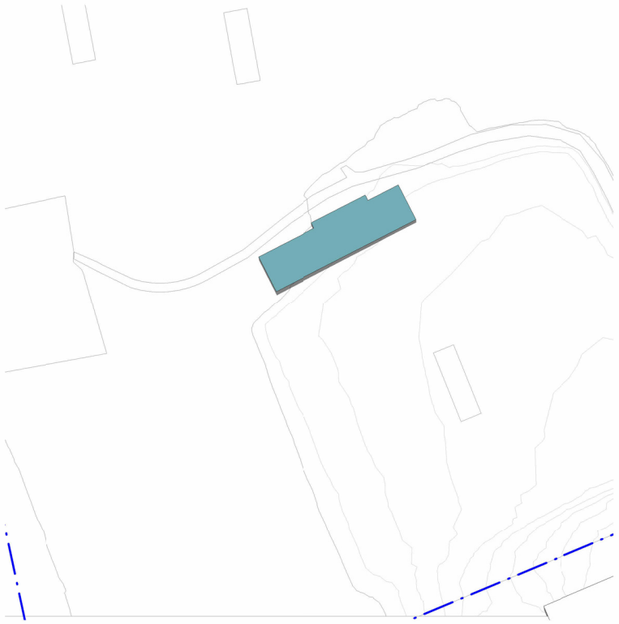

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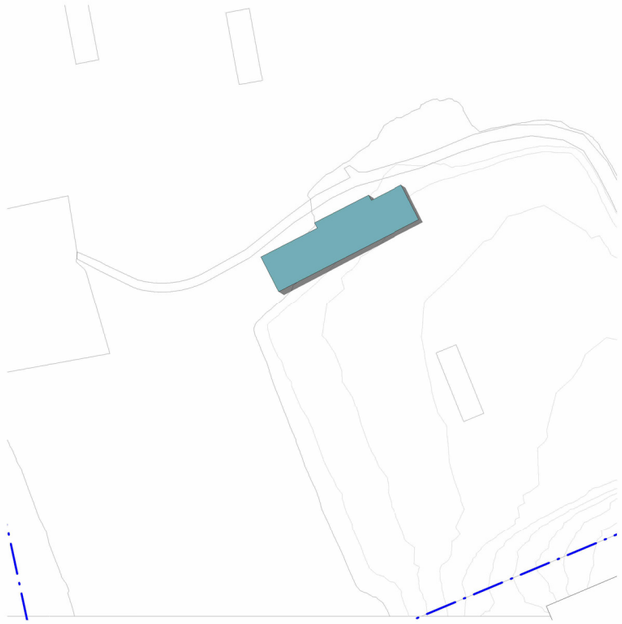

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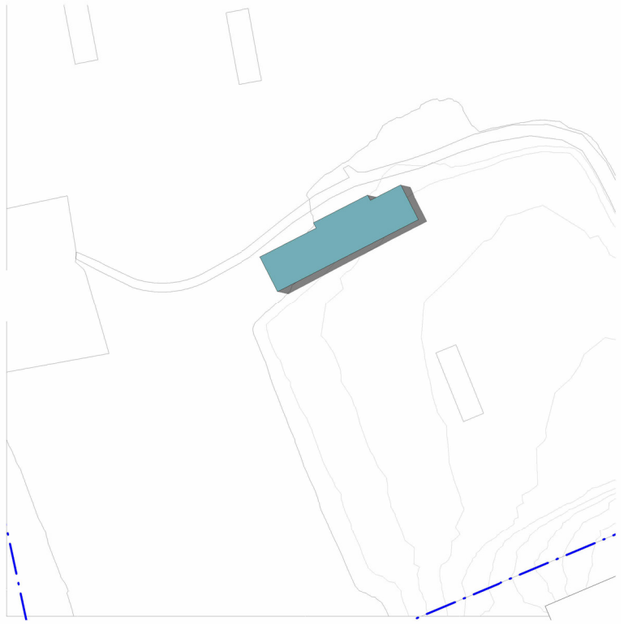

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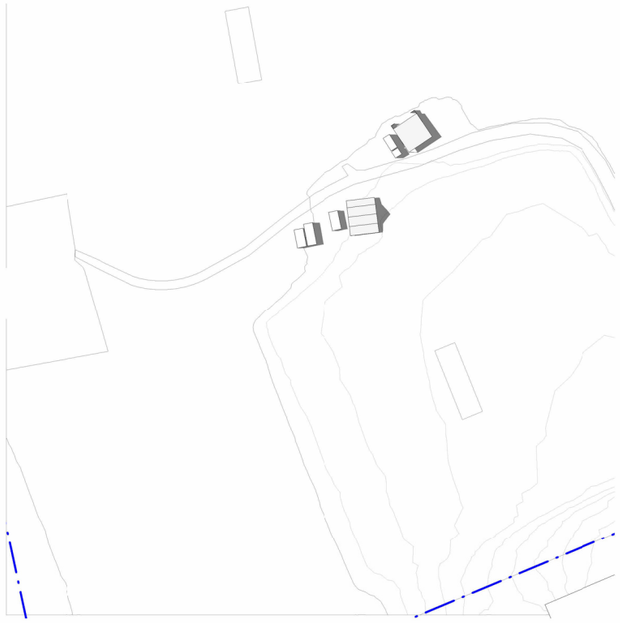
09.09 SHADOW ANALYSIS - DECEMBER 21ST



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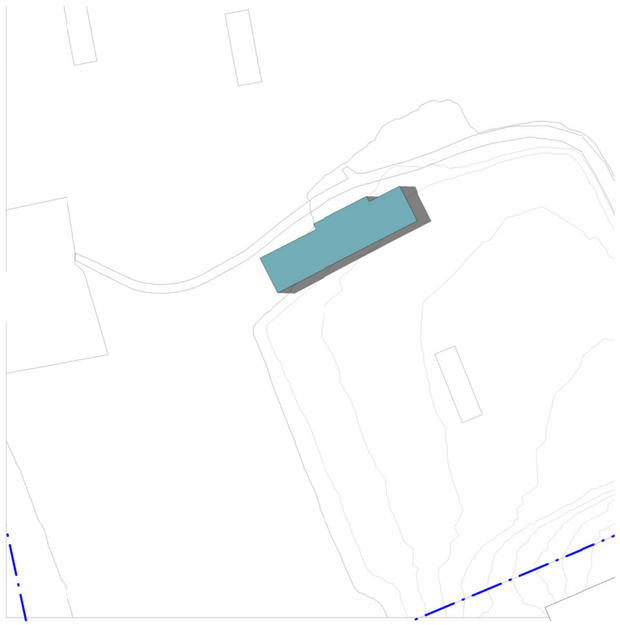


PROPOSED SHADOW DIAGRAM - 3pm SUMMER SOLSTICE
1 : 1000

DAY BOY HOUSE

10

10.01 DESIGN APPROACH

The “....Senior School provides the perfect setting for boys to explore and engage with their learning, develop skills and build strong community relationships.”

The Day Boy Houses at the Kings School are an important part of the school’s commitment to the Pastoral Care of their students. Day boys at the Kings School are provided a ‘Home away from home’ during the school day, with the Day boy Houses providing places for socialisation, recreation and study with direct access to their Year Co-ordinators. The Day Boy houses help to ensure that the students “....feel a genuine sense of belonging and a part of their immediate surroundings” .

The scheme has responded to the Kings school culture and ethos and the unique characteristics of the bushland and parkland site settings. Multiple design precedents exist on the school campus that have informed the design of the Day Boy House, in terms of architectural character, materiality and functionality.

ARCHITECTURAL AND URBAN CONTEXT

The King’s School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. This is contrasted against a colonial courtyard and manicured garden typology in and around the school. The school houses a number of residents on site as well as boarding houses. Pennant Hills road provides the main access into the site. To the West is Tara Anglican School for Girls and Burnside Public School. The eastern site boundary directly adjoins the rear gardens of the low scale residential dwellings. The campus is barely visible from surrounding developments, with the bushland setting providing a substantial landscape buffer to most of the perimeter.

The Day boy precinct sits on the North-Eastern corner of the Kings site, nestled between the Academic precinct and the adjoining Bushland. The day boy houses are located within close proximity to the Academic Precinct, Dining Hall and Sports Courts providing the students with facilities that promote Academic Excellence, Character Development and Wellbeing within a framework of Pastoral Care.

SAFETY AND SECURITY

TThe proposed site of the Day Boy House is situated well within the School Campus, with the School 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 passive surveillance available from surrounding buildings and areas of open space. The lighting strategy creates a safe, legible places both indoors and outdoors and the building is designed for clear site lines from each facade.

SUSTAINABILITY

The proposed building envelope has been developed to ensure that the building can provide numerous passive solutions including abundant natural lighting, natural cross ventilation through openable doors along with external sun shading devices. The building is designed to have strong connections to the natural landscape, both physically and visually.

ACCESSIBILITY

Universal accessibility is provided to all spaces within the Day Boy House through considered design including generous internal circulation paths and a lift, to allow students to access the upper floors of the building.

The surrounding landscaped areas leading to the Day Boy House seek to maintain a simple approach to accessibility, with disabled access provided on the shortest possible route from the shared internal Ryrie Road.

FORM, MASS AND HEIGHT

The form, mass and height of the proposal is taken from the adjoining existing Day Boy Houses including Dalmas and Burkitt Houses, to create a visually cohesive Day Boy Precinct. The form of the building aims to connect the various levels of topography on the site, including courtyards formed by ‘wings’ of the building and terraced landscaped areas, providing a variety of outdoor landscaped areas for passive and active recreation and socialisation and maximising links from inside to outside.

The building has a ‘H’ footprint, consistent with the other Day Boy Houses, providing sheltered courtyards enclosed by a 2 storey building with pitched roofs, generous overhangs, and columns on the front elevation.

MATERIALS AND COLOUR

The Proposed Day Boy House House will emulate the material palette of the adjacent Day Boy Houses through a mix of face brick, Stone Cladding, precast concrete and terracotta clad steel columns. This will assist to create a cohesive Day Boy precinct and also tie into the architecture seen in other areas of the campus.

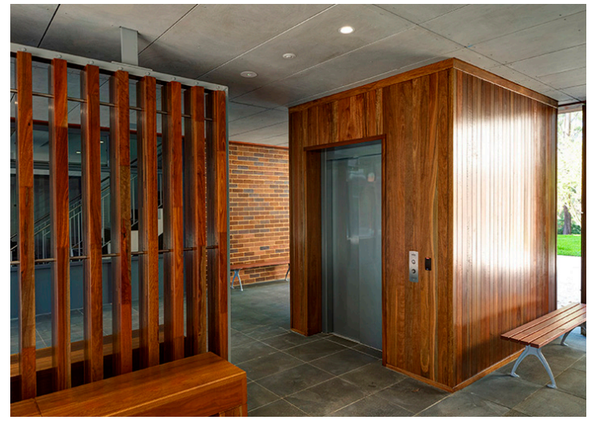
PASTORAL MODEL

“The emphasis of wellbeing at King’s is to strive to ensure that our students have good mental health, high life satisfaction, a sense of meaning or purpose, and ability to manage stress. Wellbeing is fundamental to health, a person’s ability to overcome challenges and flourish in life. This is achieved integrating our activities and programs within the King’s distinctive of Academics, Character Development and Christian Community.

Good relationships are integral in supporting and improving the mental health of our students. The House system and Mentor Groups provide small communities within the School to establish closer bonds and a greater sense of identity. Our Chaplaincy team, Year Coordinators and Counsellors also make available further layers of wellbeing support.” The Kings School Website

LANDSCAPE

Landscape is integral to the architectural design, aiming to provide various areas for active and passive recreation and socialisation and to help integrate the building into the sloping topography. Further detail of proposed landscape can be found in the Landscape Architects report prepared by Taylor Brammer.



STRUCTURE

The proposed building will have a concrete framed structure to enable future flexibility in line with the principle of ‘long life loose fit’. The concrete will be specified with cement substitutes to reduce carbon.

OPERATIONS

The proposal will look to utilise Schools existing central waste management facilities.

AMENITY

A high level of amenity is provided for the various users of the facility including Day Boy students and staff, through the provision of differing types and scales of spaces creating a sense of entry and welcome, places for quiet individual study, group study and socialisation. Proposed materials and finishes will be high quality, robust and low maintenance, consistent with those provided in the other existing Day Boy houses. Connection with nature is a key design principle, addressed through views to the natural bushland beyond and physical connections between indoors and outdoors in common room areas.



10.02 SUPPORTING GOOD DESIGN FOR SCHOOLS

CONTEXT,BUILT FORM AND LANDSCAPE

The proposed concept for a new Day Boy House is positioned along Ryrie Road in the middle of an an existing Day Boy Precinct, Providing a Home for each House Group within the school that provides opportunities for learning, Social activities and connection into the adjoining Landscape and Bushlands.

The sloping topography of the site is addressed through the landscape that integrates the built form with its natural setting.

SUSTAINABLE EFFICIENT AND DURABLE

The proposed floorplate provides two wings with a central access point. The Depth of each floorplate has been adapted to promote daylighting and the use of cross ventilation to support the overall wellbeing of occupants while reducing energy consumption.

The building looks to make the most efficient use of the footprint within a durable envelope that enables flexibility of the floorplate to meet the schools current and future requirements with the possibility that each wing could fuction independantly as required.

Building materials have been selected to be low maintenance, robust and durable.

ACCESSIBLE AND INCLUSIVE

The building will be provided with good wayfinding and a sense of welcoming that is accessible and inclusive to people of differing needs and capabilities, providing residence and amenities to empower everyone to be a part of the Kings student community.

The Positioning of the building promotes a strong link to the campuses main learning spaces.

All areas of the Dayboy House will be designed to be accessible.

HEALTH AND SAFETY

The positioning of the Day Boy House is within the established Day Boy precinct of the school, positioned away from public entries and to the rear of to the main body of the school it provides a level of security and privacy needed for students to navigate safely to and from the house.

Consistent with the other buildings on the campus, CCTV will be integrated into the building (eg. Sensor lighting around the perimeter of the building).

The Health and wellbeing of students within the building will be supported through maximization of natural light, fresh air, views to nature, use of natural materials and those that have low VOC’s

AMENITY

The Day Boy House will provide a pleasant and engaging environment for Day Students to gather and socialise, providing a ‘home for day boys’. The location is distanced from neighboring residential properties and major roads providing ample acoustic separation for all though adjacent to the main body of the school to provide strong connections for students to adjacent classroom.

The Dayboy House connects through the landscape to adjacent Playing courts and Dining hall reinforcing the stong social connections and pastoral care available to the students.

The north a connected courtyard flows out into the native landscape, promoting a connection to nature and enhancing the amenity within the Day Boy House.

The building is located in close proximity to the Academic Precinct.

WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

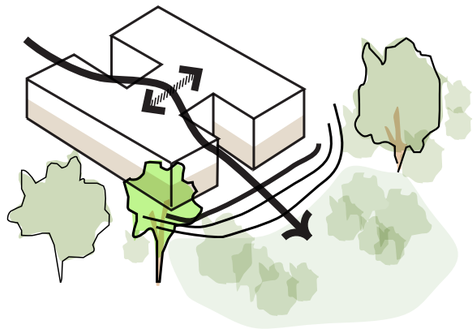
The proposed envelope will be constructed to minimize the presence of columns and other fixed obstructions in the middle of the floor plate, providing the ability for the footprint to adjust to any future needs the school may have. This coupled with the building orientation will look to ensure that the building can be fit for purpose regardless of its internal function through easy adaption

AESTHETICS

The Aesthetics of the concept Day Boy House will respond to the existing context to create a cohesive, inclusive and equalitarian neighborhood to instill a sense of identity, place and belonging for the Day Boys of the Kings School.

10.03 MASSING & BUILT FORM IN CONTEXT

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



FORM

The proposal is a two-level building integrated with the topography to enrich internal connections to the bushland immediately surrounding it.

The shape of the building has been modelled on the adjacent Day Boy Houses House and positioned to sit into the landscape.

The building will have a pitched canopy roof, which is an aesthetic shared by all the other adjacent boarding houses in the precinct.



MASS

The building articulation and massing is proposed to be like that of the adjacent Burkitt House, with a pitched roof form and 'wings' forming a central courtyard area, blending seamlessly into the Day boys house Precinct of which the building is located.

The model has proven to provide a functional and efficent floorplate with the ability to adapt to future needs.

The provision of a similar sized facility also achieves equity between the Dayboy Houses.



BULK

The position of the building has been carefully considered. It sits close to the main body of the campus to remain available to the students throughout the school day while projecting slightly into the dense vegetation to the North connecting with Nature.

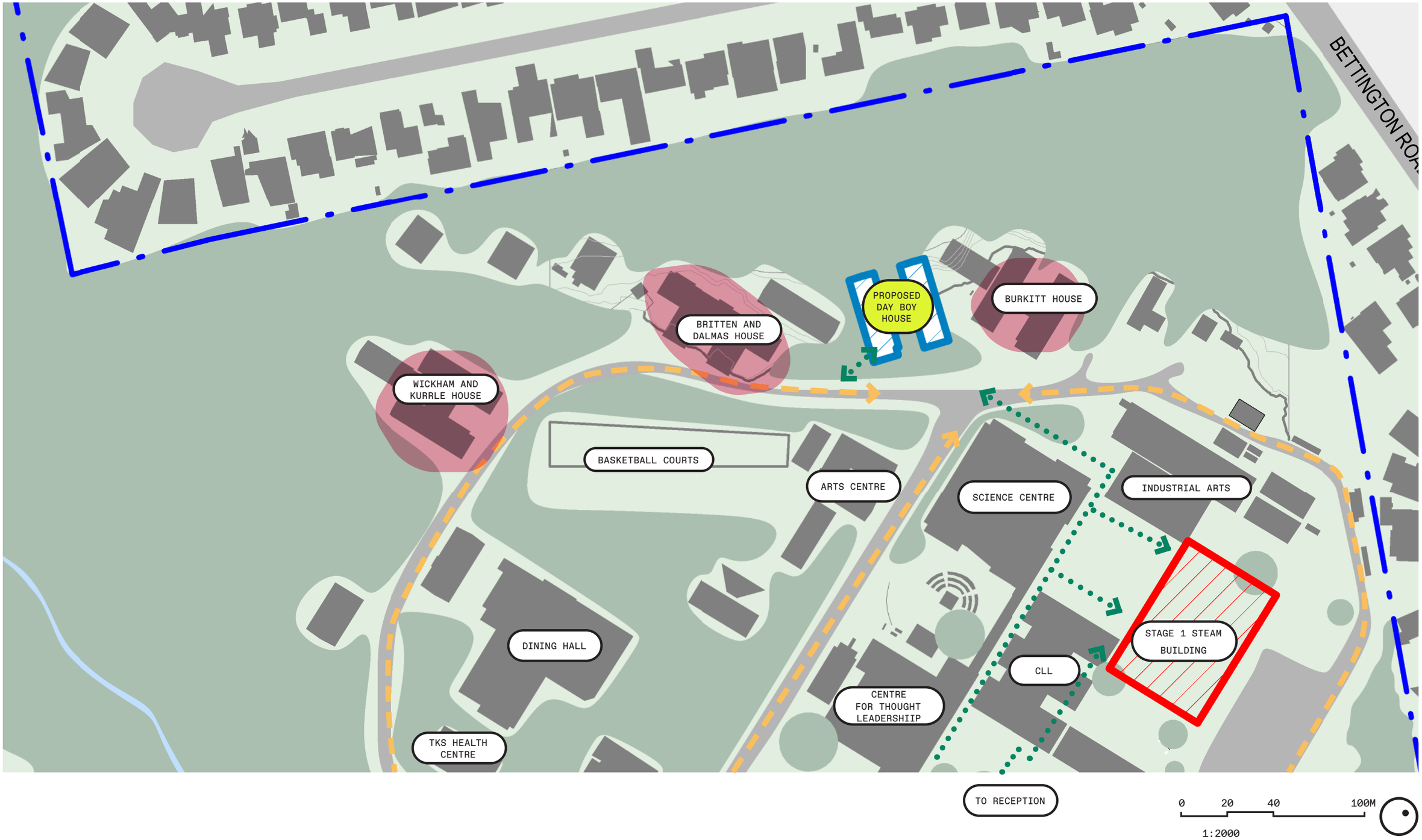
The bulk is reduced by stepping the building into the topography on the Ryrie Road elevation. This will allow the northern landscaping to step down with various points of engagement.



HEIGHT

The building is approximately 9m tall, measured from the proposed ground level. The surrounding Day boy facilities on which the proposed is modelled all sit at similar levels and building heights.

10.04 DAY BOY HOUSE PRECINCT SITE ANALYSIS



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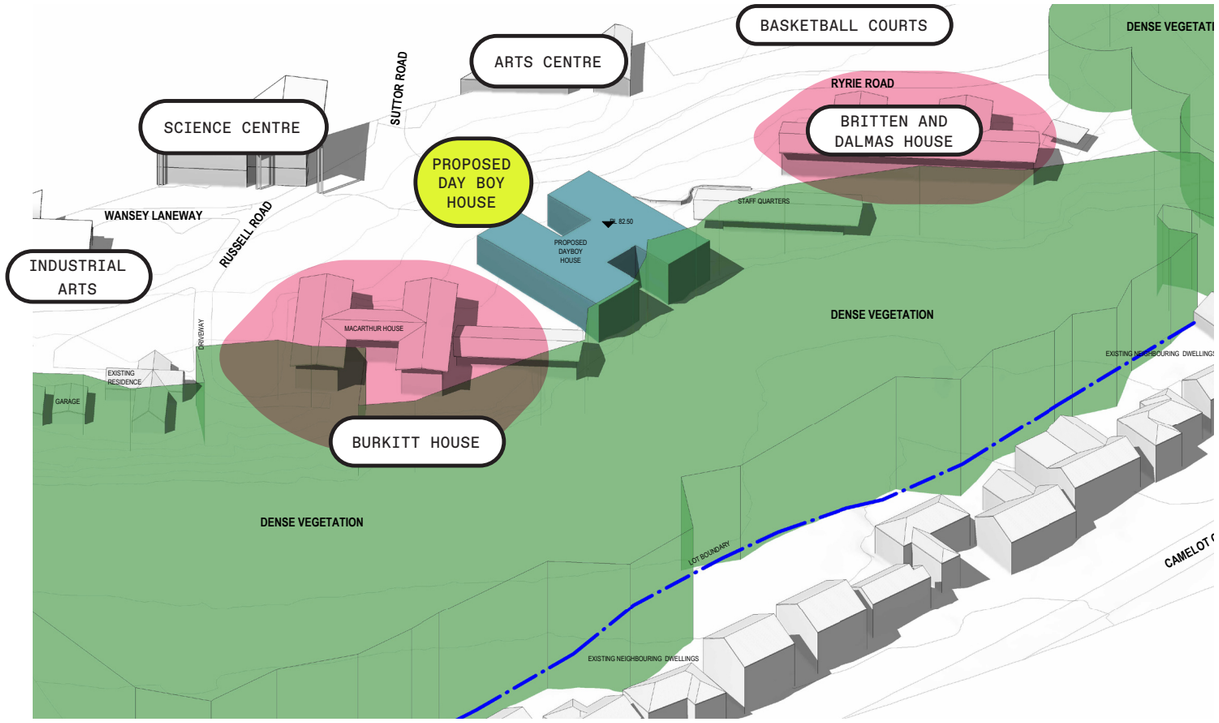
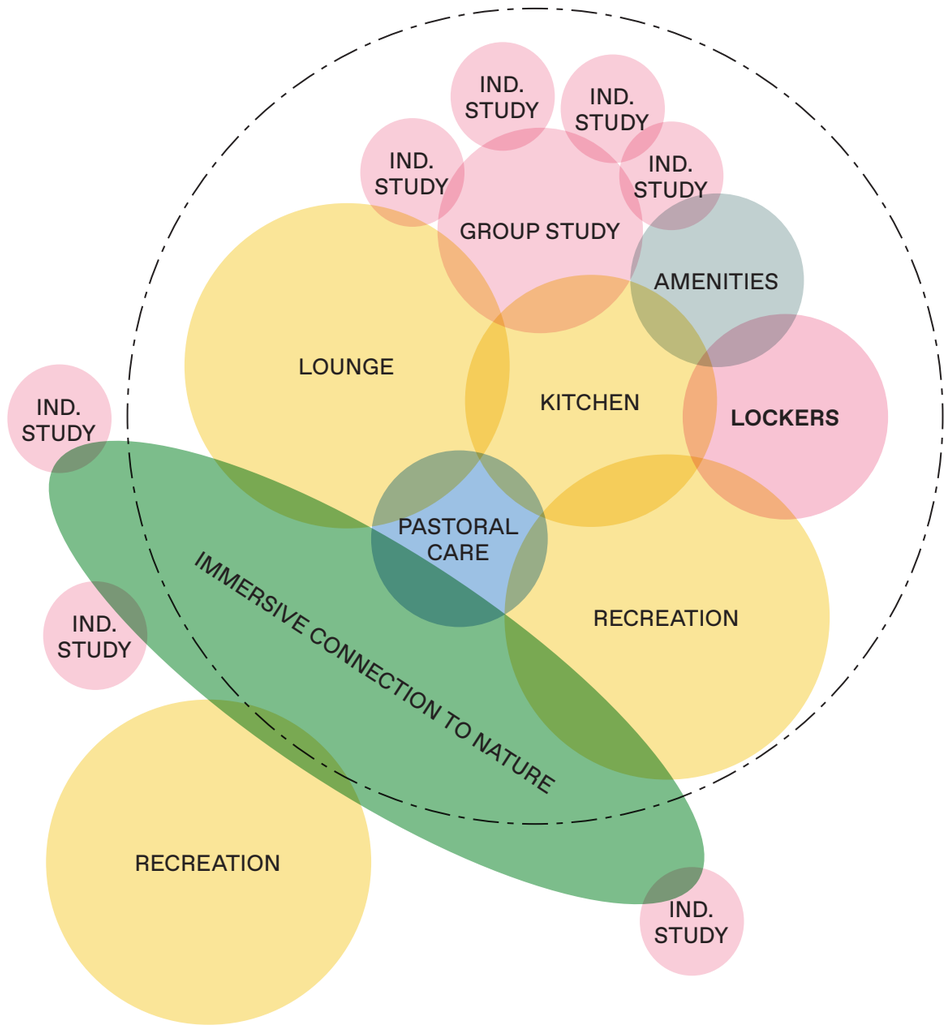


DAY BOY HOUSE - ADJACENCY DIADRAM



OUTDOOR CONNECTIONS

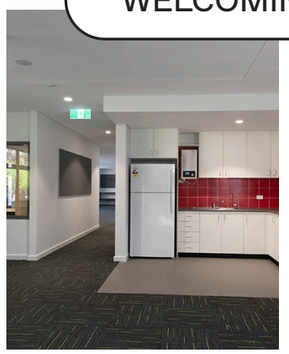




SENSE OF PLACE



WELCOMING





COMMUNITY



INDENTITY

ACADEMIC EXCELLENCE





CONNECTED WITH NATURE

10.06 DAY BOY HOUSE PROJECT PRINCIPLES



SUSTAINABILITY AND REGENERATION



PEOPLE POSITIVE DESIGN



PLACE MAKING



LEADERSHIP



STRENGTHEN COMMUNITY



CONNECTION TO NATURE



WELLBEING



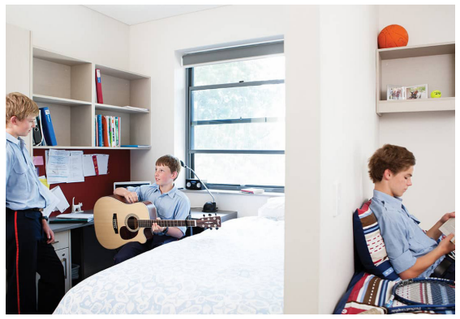
DURABILITY



CONNECTIVITY



VISABLE LEARNING

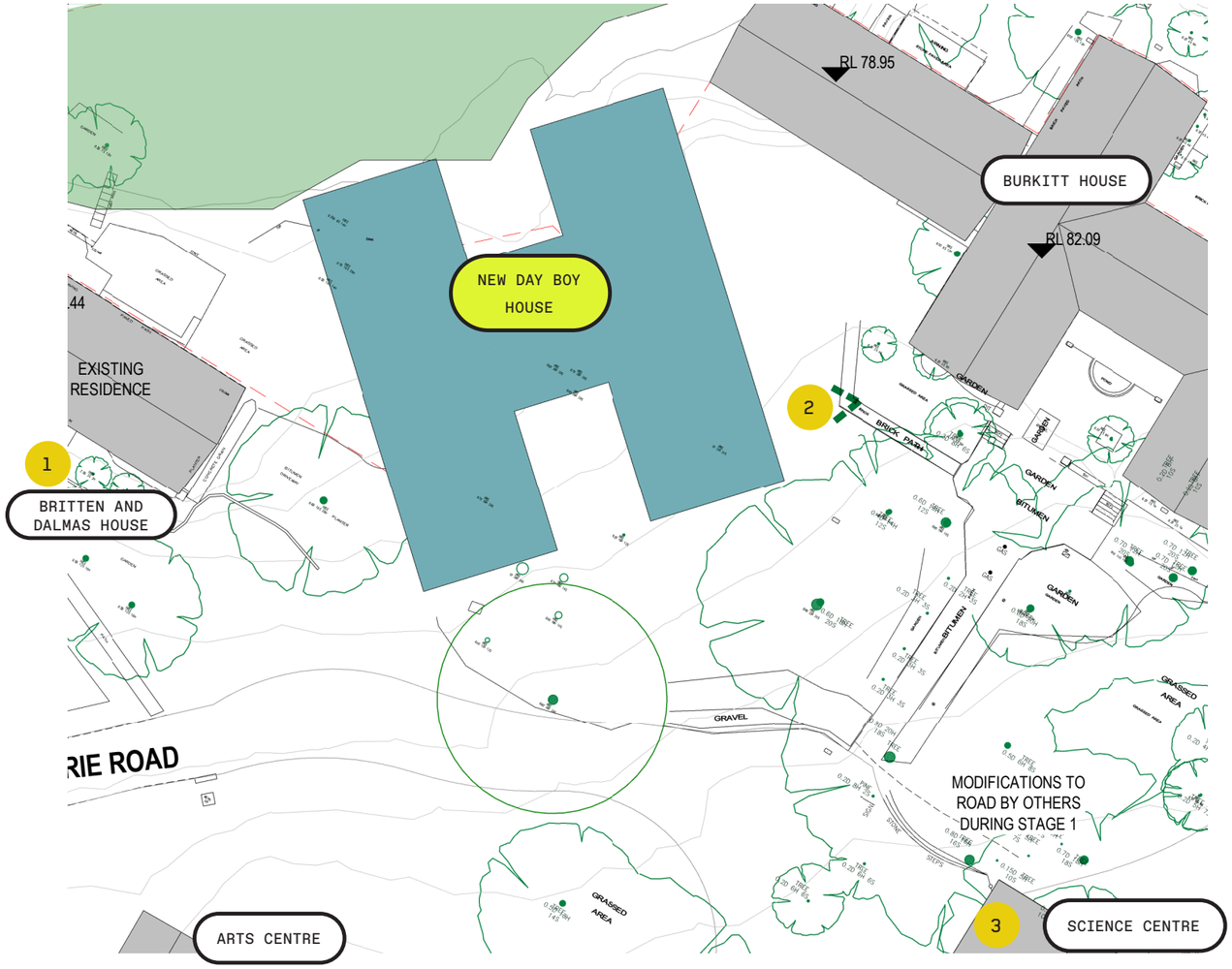


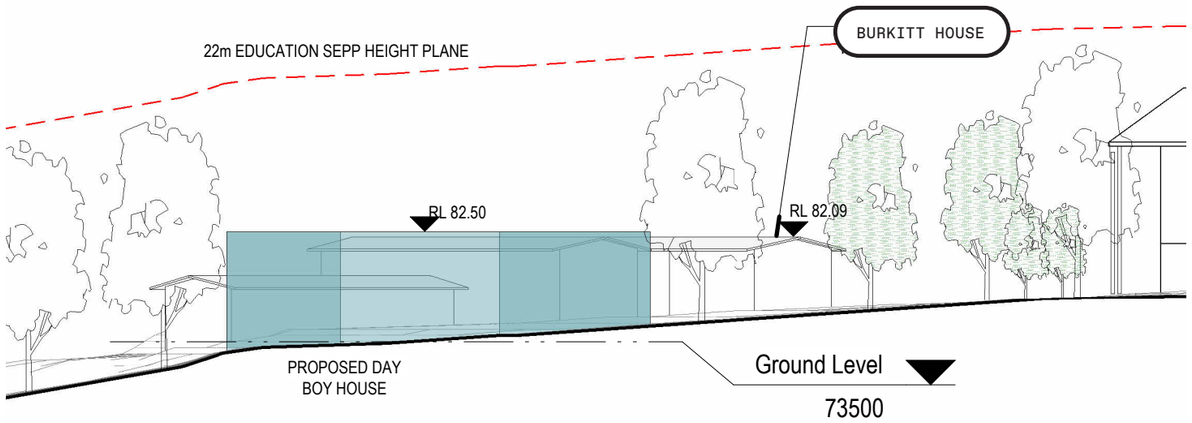
FUNCTIONALITY



SENSE OF ENTRY

10.07 DAY BOY HOUSE PRECINCT EXISTING





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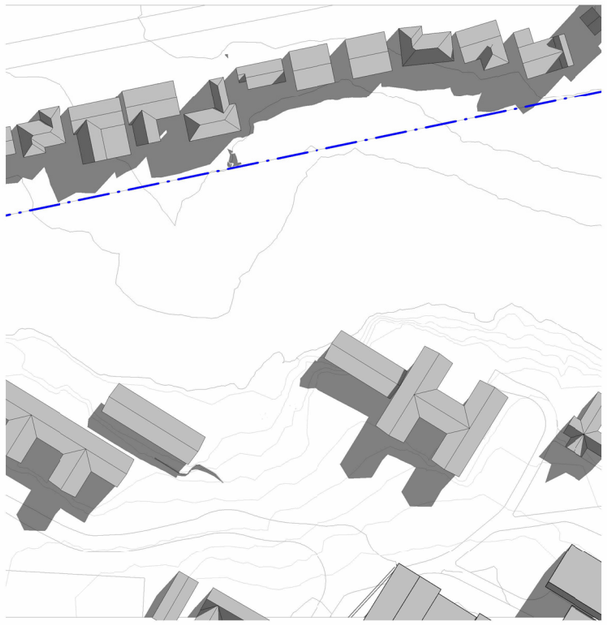
3

10.08 SHADOW ANALYSIS - JUNE 21ST



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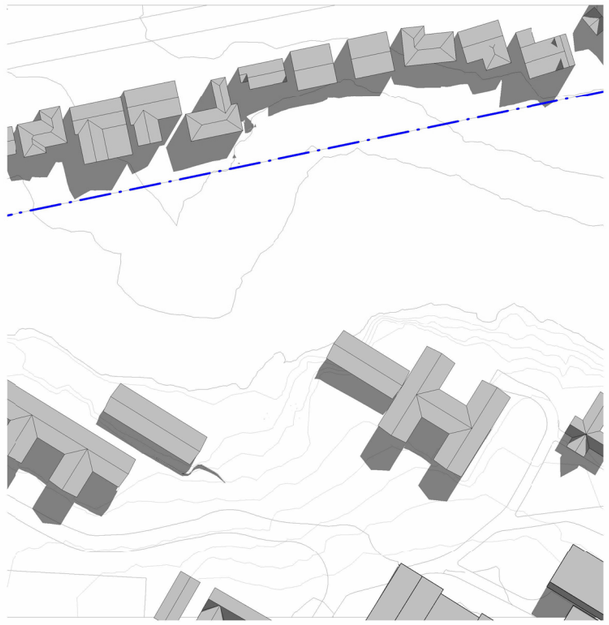

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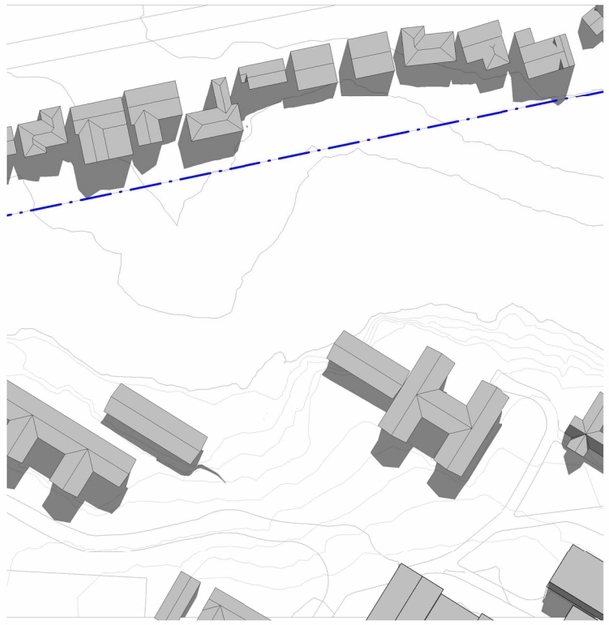

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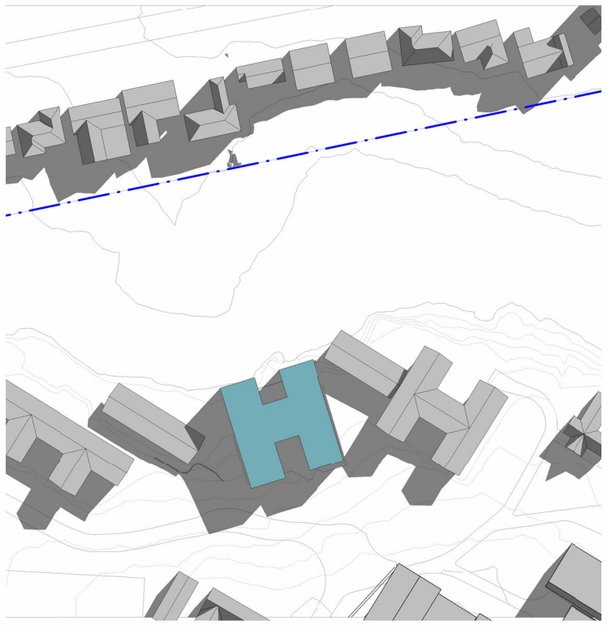

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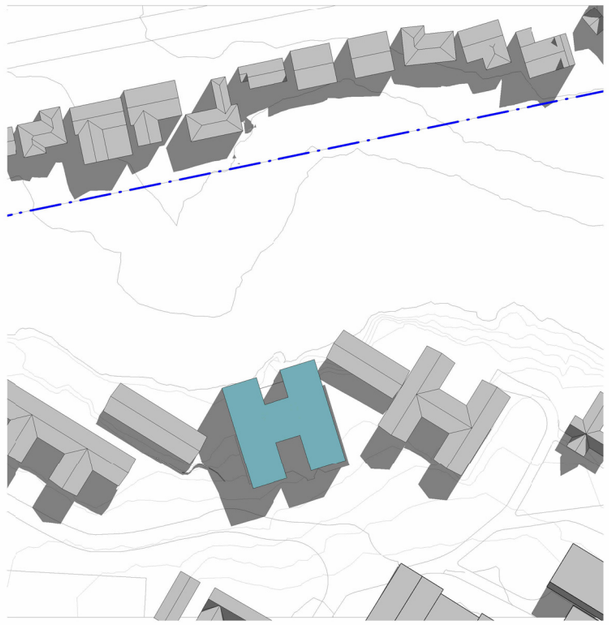

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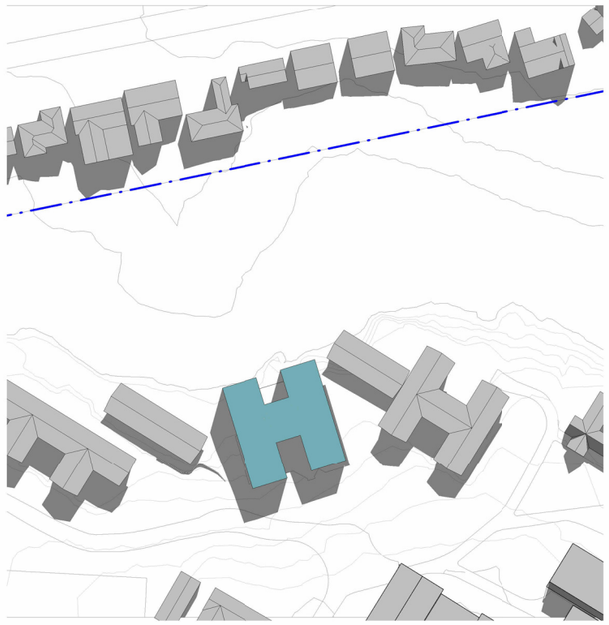

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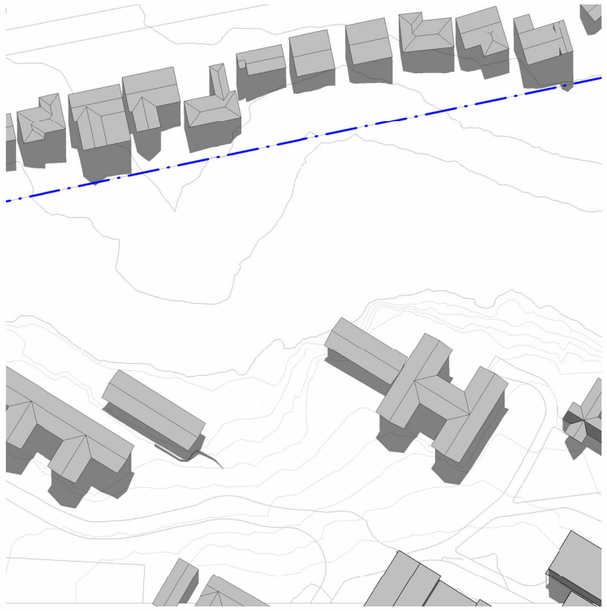

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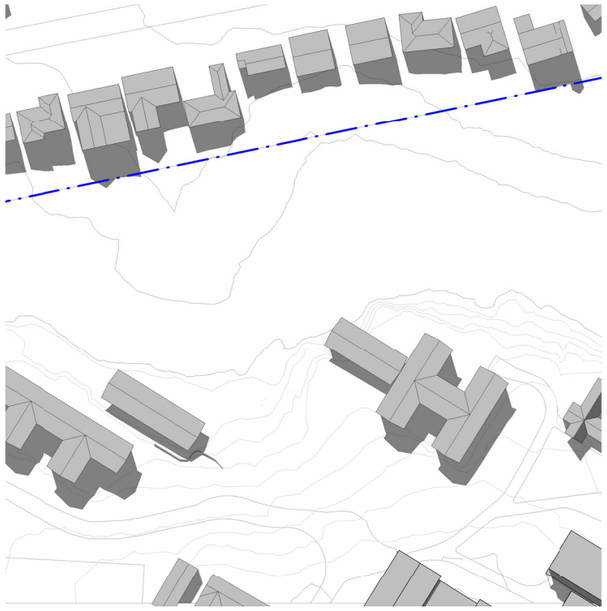

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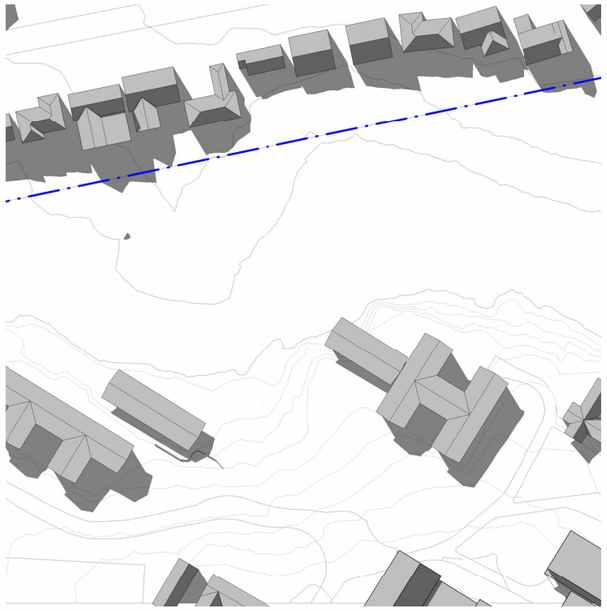

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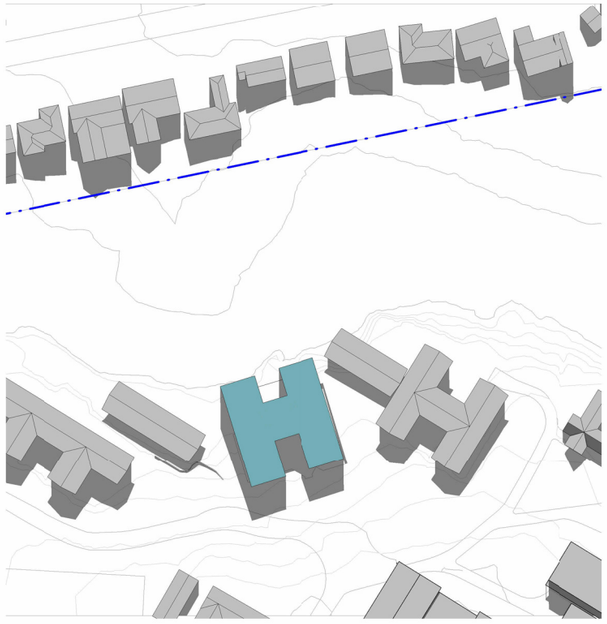

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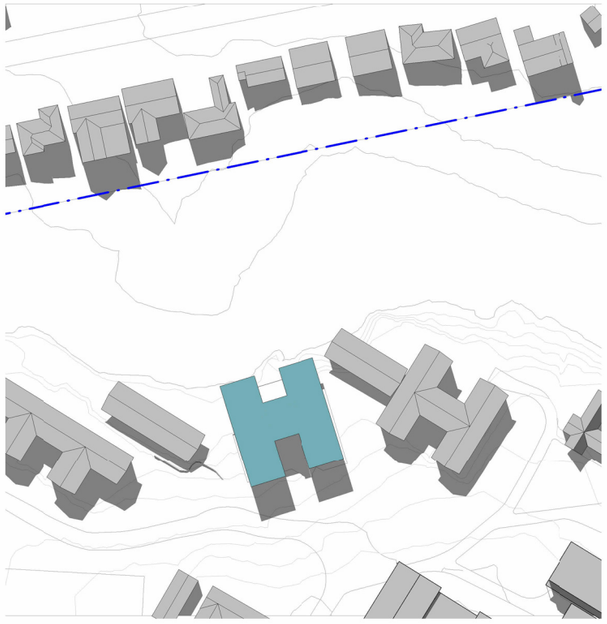

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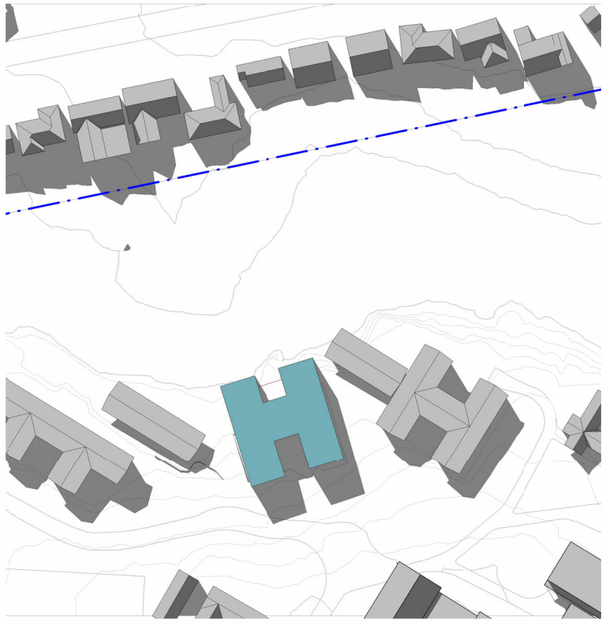

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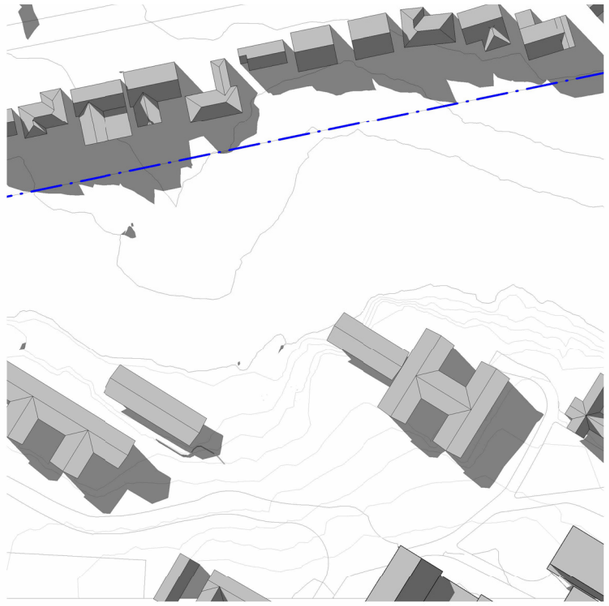

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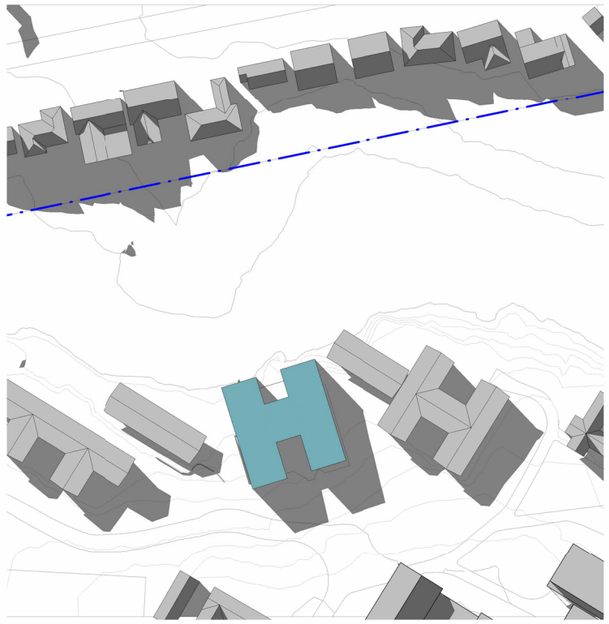

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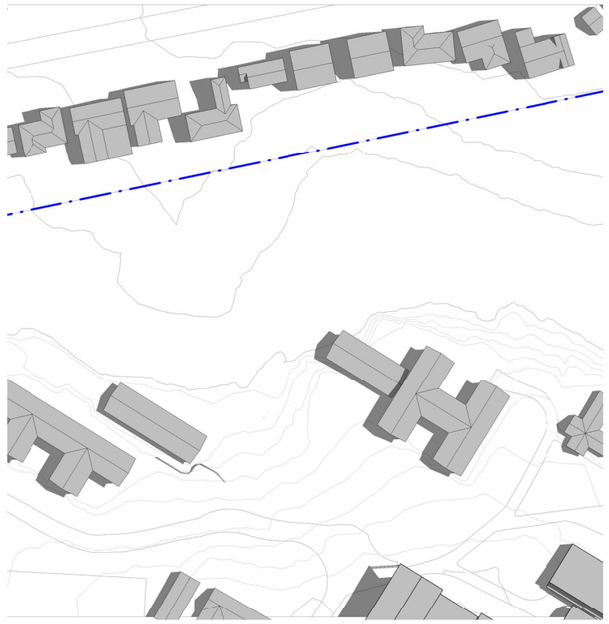
10.09 SHADOW ANALYSIS - DECEMBER 21ST



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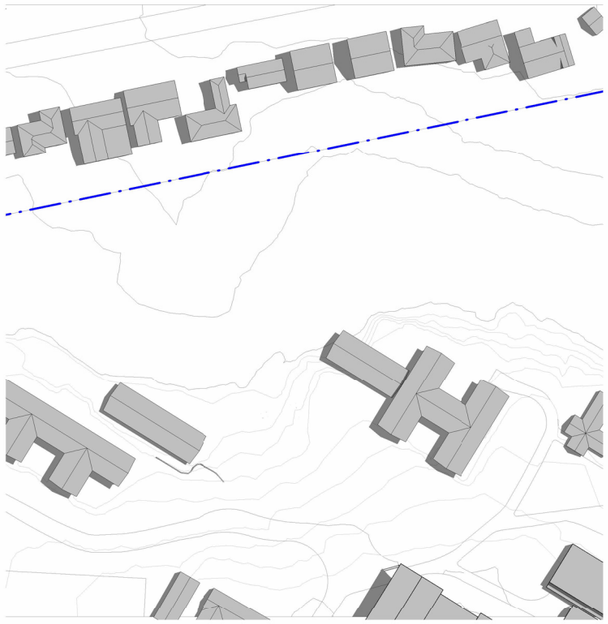

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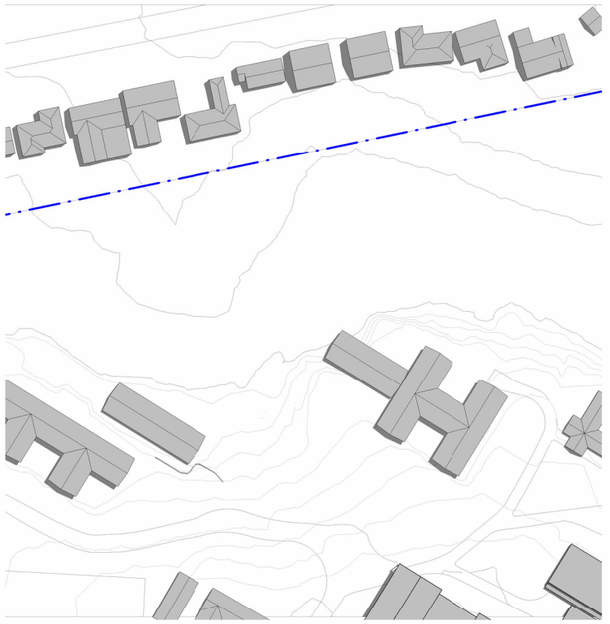

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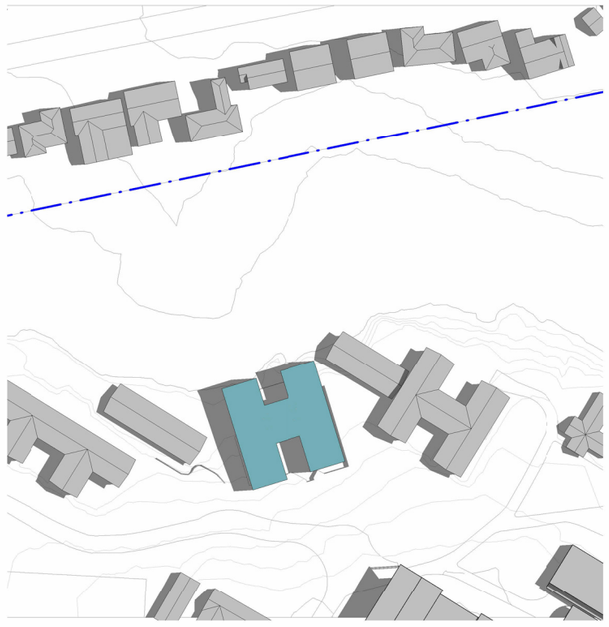

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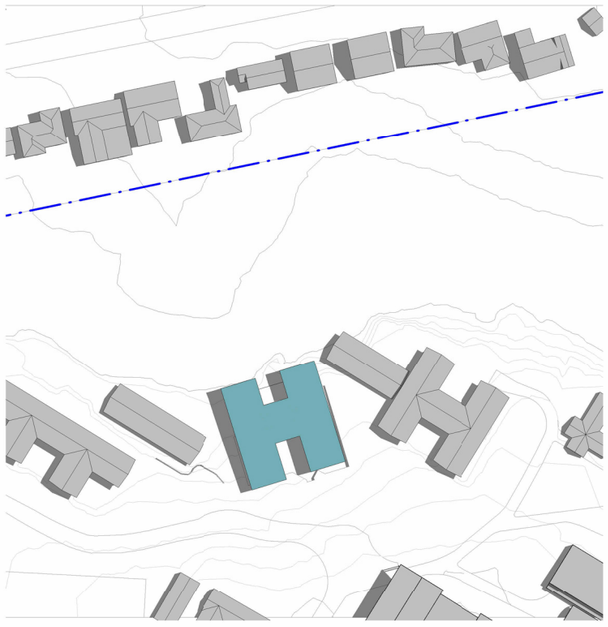

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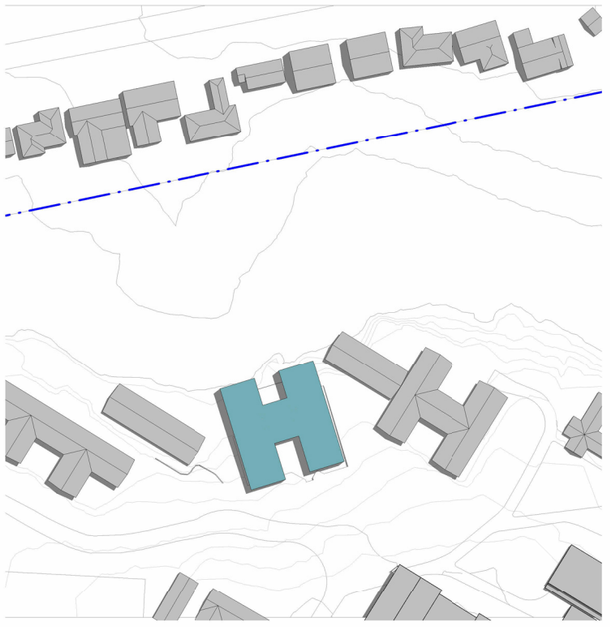

PROPOSED SHADOW DIAGRAM - 11am SUMMER SOLSTICE
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10.09 SHADOW ANALYSIS - DECEMBER 21ST



EXISTING SHADOW DIAGRAM - 12noon SUMMER SOLSTICE
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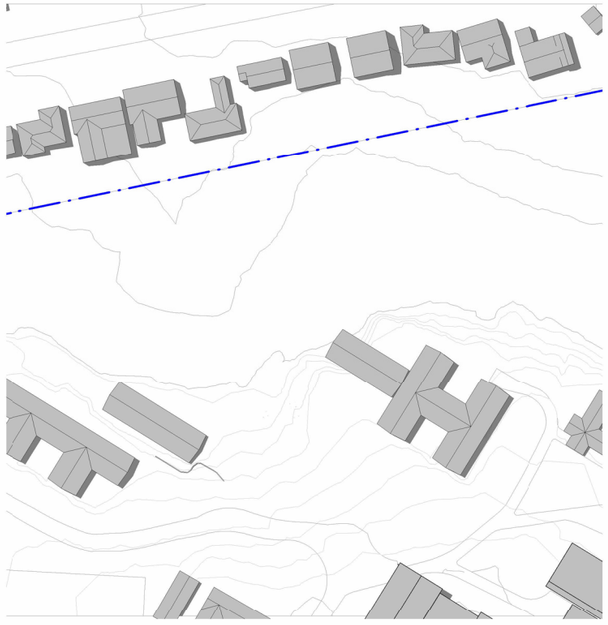

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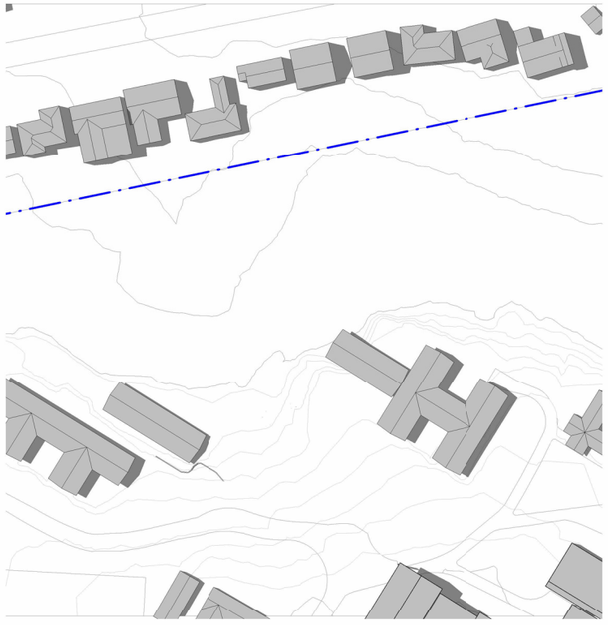

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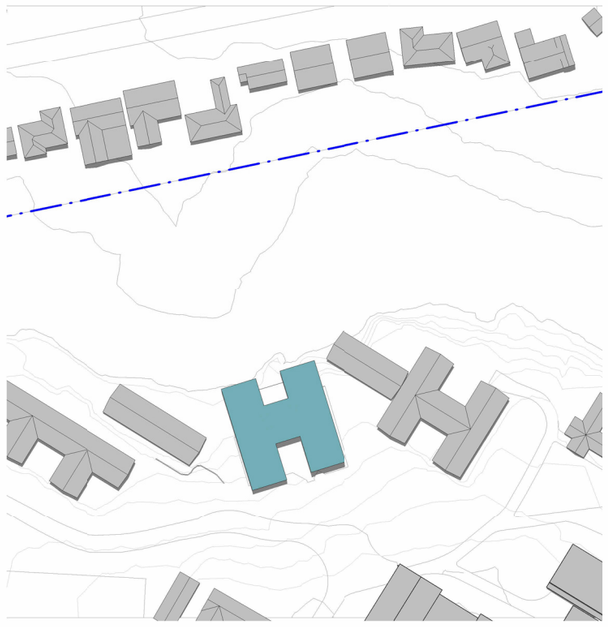

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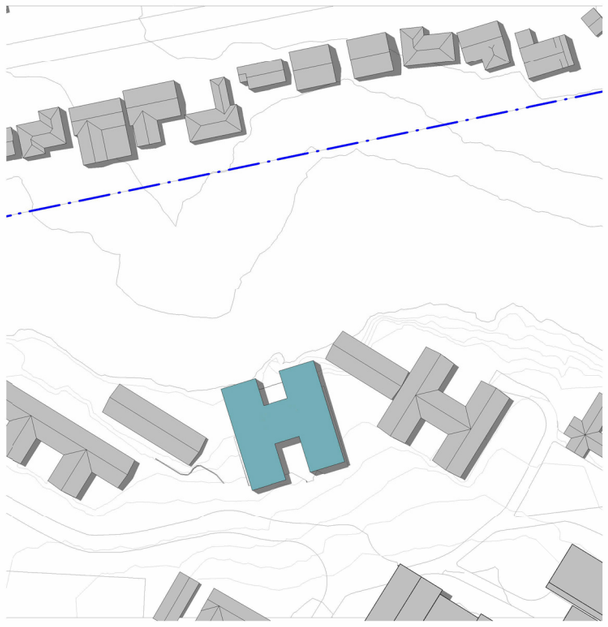

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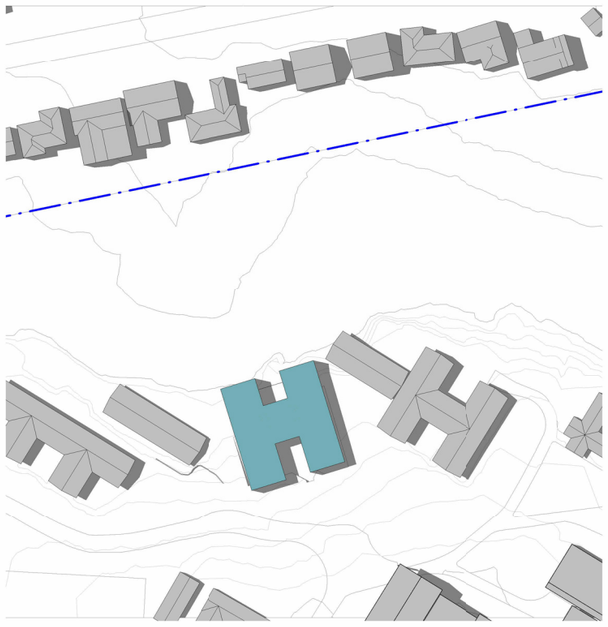

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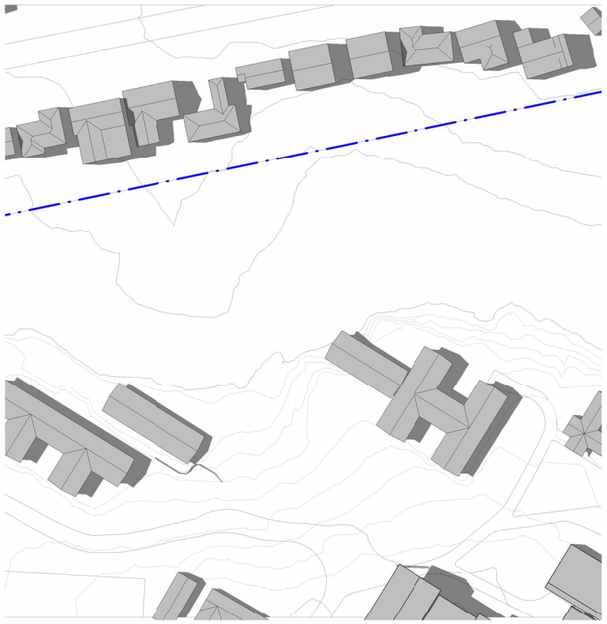
10.09 SHADOW ANALYSIS - DECEMBER 21ST



EXISTING SHADOW DIAGRAM - 3pm SUMMER SOLSTICE
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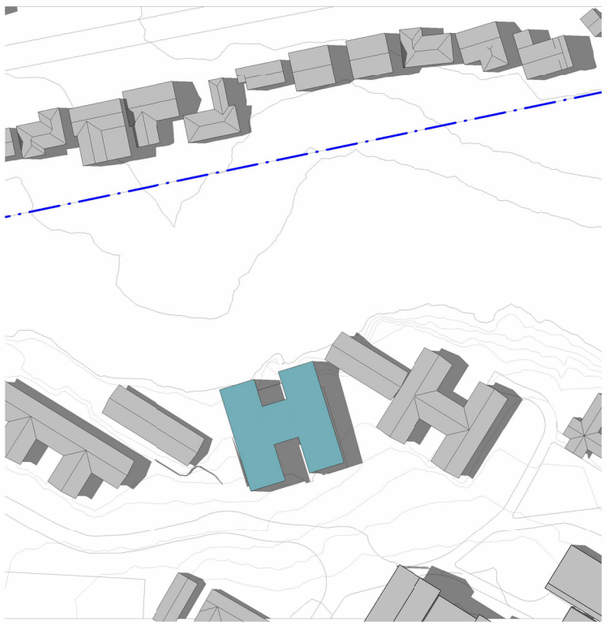

PROPOSED SHADOW DIAGRAM - 3pm SUMMER SOLSTICE
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BOARDING HOUSE

11

11.01 DESIGN APPROACH

A Home away from home... welcoming and safe.... and a rewarding learning adventure."

The scheme has responded to the Kings school culture and ethos and the unique characteristics of the bushland and parkland site settings. Multiple design precedents exist on the school campus that have informed the design of the Boarding House, in terms of architectural character, materiality and functionality.

ARCHITECTURAL AND URBAN CONTEXT

The King's School occupies a total area of approximately 320 acres of varied Landscape. To the North is a bushland setting with abundant native flora and fauna. This is contrasted against a colonial courtyard and manicured garden typology in and around the school. The school houses a number of residents on site as well as boarding houses. Pennant Hills road provides the main access into the site. To the West is Tara Anglican School for Girls and Burnside Public School. The eastern site boundary directly adjoins the rear gardens of the low scale residential dwellings. The campus is barely visible from surrounding developments, with the bushland setting providing a substantial landscape buffer to most of the perimeter.

The boarding precinct sits central to the northern edge of the school caressed by the bushlands on the north that extend into the Parramatta Lakes and the Doyle Fields to the south providing the students various avenues to find adventure.





SAFETY AND SECURITY

The proposed site of the Boarding House is situated well within the School Campus, with the School 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 additional consideration given to the safety of students at night, within the Boarding House. The boarders have direct and secure access to the Boarding House Master, who lives adjacent to the Boarding House. Staff also live inside the Boarding House, providing an additional layer of pastoral care for the students. The lighting strategy creates a safe, legible places both indoors and outdoors and the building is designed for clear site lines from each facade.

SUSTAINABILITY

The proposed building envelope has been developed to ensure that the building can provide numerous passive solutions including abundant natural lighting, natural cross ventilation through openable doors along with external sun shading devices. The building is designed to have strong connections to the natural landscape, both physically and visually.

ACCESSIBILITY

Universal accessibility is provided to all spaces within the Boarding House through considered design including generous internal circulation paths and a lift, to allow students to access the upper floors of the building. Accessible bathrooms located near key spaces with accessible bedroom spaces to be provided across each offering.

The site has a significant fall across it, hence landscape levels will be managed to provide accessible pathways.

FORM, MASS AND HEIGHT

The form, mass and height of the proposal is taken from the adjoining existing Boarding Houses including Bishop Barker Harris House, to create a visually cohesive Boarding Precinct. The form of the building aims to connect the various levels of topography on the site, including courtyards formed by 'wings' of the building and terraced landscaped areas, providing a variety of outdoor landscaped areas for passive and active recreation and socialisation and maximising links from inside to outside.

MATERIALS AND COLOUR

The Proposed Boarding House will emulate the material palette of the adjacent Bishop Barker Harris House and Macarthur Waddy House, through a mix of face brick, Stone Cladding, precast concrete and terracotta clad steel columns. This will assist to create a cohesive Boarding precinct and also tie into the architecture seen in other areas of the campus.

PASTORAL MODEL

"The emphasis of wellbeing at King's is to strive to ensure that our students have good mental health, high life satisfaction, a sense of meaning or purpose, and ability to manage stress. Wellbeing is fundamental to health, a person's ability to overcome challenges and flourish in life. This is achieved integrating our activities and programs within the King's distinctive of Academics, Character Development and Christian Community.





Good relationships are integral in supporting and improving the mental health of our students. The House system and Mentor Groups provide small communities within the School to establish closer bonds and a greater sense of identity. Our Chaplaincy team, Year Coordinators and Counsellors also make available further layers of wellbeing support." The Kings School Website

LANDSCAPE

Landscape is integral to the architectural design, aiming to provide various areas for active and passive recreation and socialisation and to help integrate the building into the sloping topography. Further detail of proposed landscape can be found in the Landscape Architects report prepared by Taylor Brammer.

STRUCTURE

The proposed building will have a concrete framed structure to enable future flexibility in line with the principle of 'long life loose fit'. The concrete will be specified with cement substitutes to reduce carbon.

OPERATIONS

The proposal will look to utilise Schools existing central waste management facilities.

AMENITY

A high level of amenity is provided for the various users of the facility including Boarders, staff and parents, through the provision of differing types and scales of spaces creating a sense of entry and welcome, places for quiet individual study, socialisation and sleep. Proposed materials and finishes will be high quality, robust and low maintenance, consistent with those provided in the other existing Boarding houses. Connection with nature is a key design principle, addressed through views to the natural bushland beyond and physical connections between indoors and outdoors in common room areas.

11.02SUPPORTING GOOD DESIGN FOR SCHOOLS

CONTEXT,BUILT FORM AND LANDSCAPE

The proposed concept for a new boarding house is positioned along Wade Road on the edge of an existing boarding house Precinct.

It is positioned to connect the student residents with the sports fields (Doyle Fields) before intergrating with the topography, reducing its bulk as viewed from the playing fields while enabling a seamless connection into the landscape and bushlands to the north.

SUSTAINABLE EFFICIENT AND DURABLE

The proposed floorplate stretches from east to west, limiting the the overall depth of the proposed building to maximise daylighting and the use of natural cross ventilation to support the overall wellbeing of occupants while reducing energy consumption.

The building looks to make the most efficient use of the footprint within a durable envelope that enables flexibility of the floorplate to meet the schools current and future requirements.

Building materials have been selected to be low maintenance robust and durable

ACCESSIBLE AND INCLUSIVE

The building will be provided with good wayfinding and a sense of ‘welcome’ that is accessible and inclusive to people of differing needs and capabilities, providing residence and amenities to empower everyone to be a part of the Kings student community.

The Positioning of the building also promotes the use of the schools surrounding grounds after school hours by the boarders.

All areas of the Boarding House will be accessible.

HEALTH AND SAFETY

The positioning of the boarding house sits within the established boarding precincts of the school. Positioned away from public entries and the main body of the school it provides a level of security and privacy for a residential precinct. Safe, well lit pathways connect the Boarding House with the rest of the school.

Consistent with the other buildings on the campus, CCTV will be integrated into the building (eg. Sensor lighting around the perimeter of the building).

The Health and wellbeing of students within the building will be supported through maximization of natural light, fresh air, views to nature, use of natural materials and those that have low VOC’s

AMENITY

The boarding house will provide a pleasant and engaging environment for student residents to live, learn and thrive.

The location is distanced from neighbouring residential properties and major roads providing ample acoustic separation.

The boarding house will flow out directly into the surrounding landscape with dedicated landscaped areas for social activities, while its proximity to the adjacent playing fields provides further variety of recreational opportunities.

Drop-off and pickup facilities are also provided to facilitate servicing of the House and ease of connection to the House for Visiting families.

The building will be light, bright, and connected with Nature, enhancing the amenity of building occupants.

WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

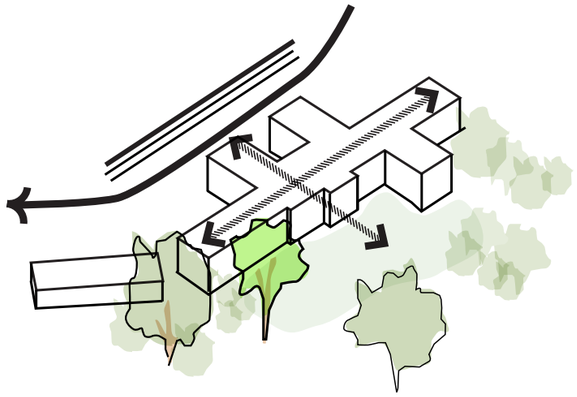
The proposed envelope will be constructed to minimize the presence of columns and other fixed obstructions in the middle of the floor plate, providing the ability for the footprint to adjust to any future needs the school may have. This coupled with the building orientation will look to ensure that the building can be fit for purpose regardless of its internal function through easy adaption

AESTHETICS

The Aesthetics of the concept Boarding House will respond to the existing context to create a cohesive, inclusive and equalitarian neighborhood to instill a sense of identity, place and belonging for the Boarders of the Kings School.

11.03MASSING & BUILT FORM IN CONTEXT

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



FORM

The proposal is a two-level building integrated with the topography to enrich internal connections to the bushland immediately surrounding it.

The shape of the building has been modelled on the adjacent Bishop Barker Harris House and positioned to sit into the landscape around several existing significant trees.

The building will have a pitched canopy roof, which is an aesthetic shared by all the other adjacent boarding houses in the precinct.

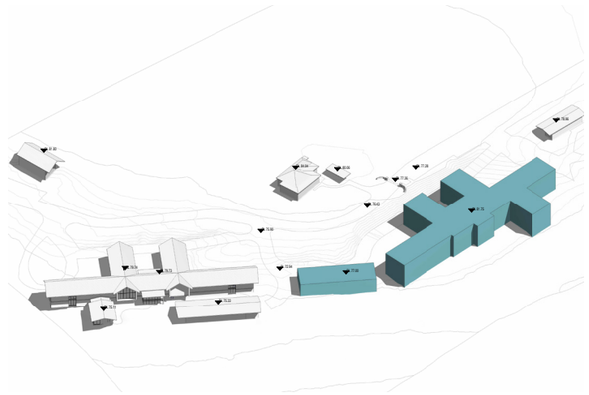


MASS

The building articulation and massing is proposed to be like that of the adjacent Bishop Barker Harris House, with a pitched roof form and 'wings' forming a central courtyard area.

The model has proven to provide a functional and efficent floorplate with the ability to adapt to future needs.

The provision of a similar sized facility also achieves equity between the Boarding Houses.



BULK

In response to the sloping topography and surrounding bushland, the building is nestled into the landscape, with excavation to the south of the site reducing the scale of the building as viewed from neighbouring Doyle Fields, while enhancing the connection to the adjacent bushlands.

The apparent bulk of the building is further reduced by articulation of the façade including masonry to the lower level which engages with the ground plane and a lighter coloured render with glazing to the upper levels.

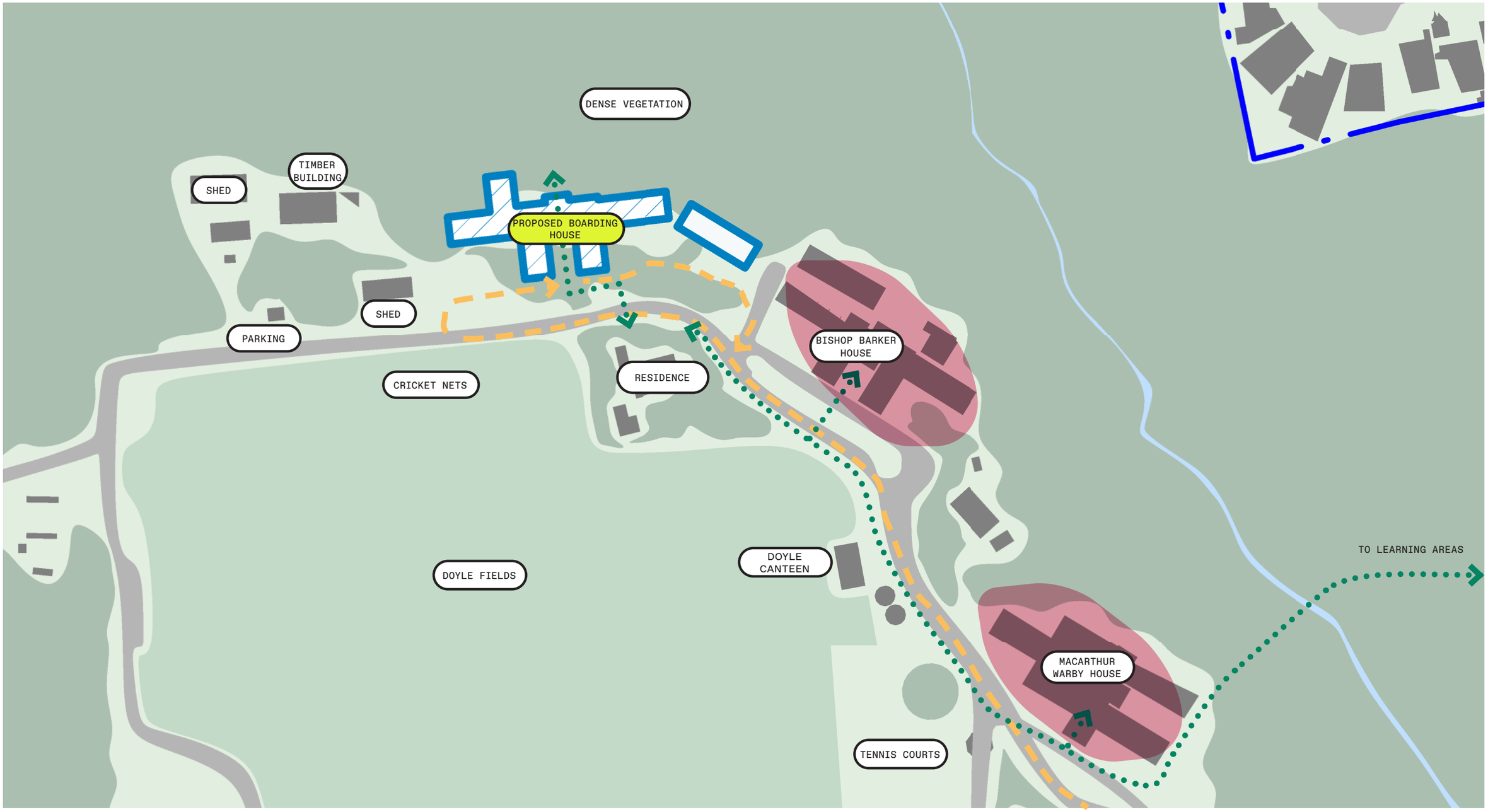
The position of the building has been carefully considered to connect to existing infrastructure within an existing Boarding Precinct.



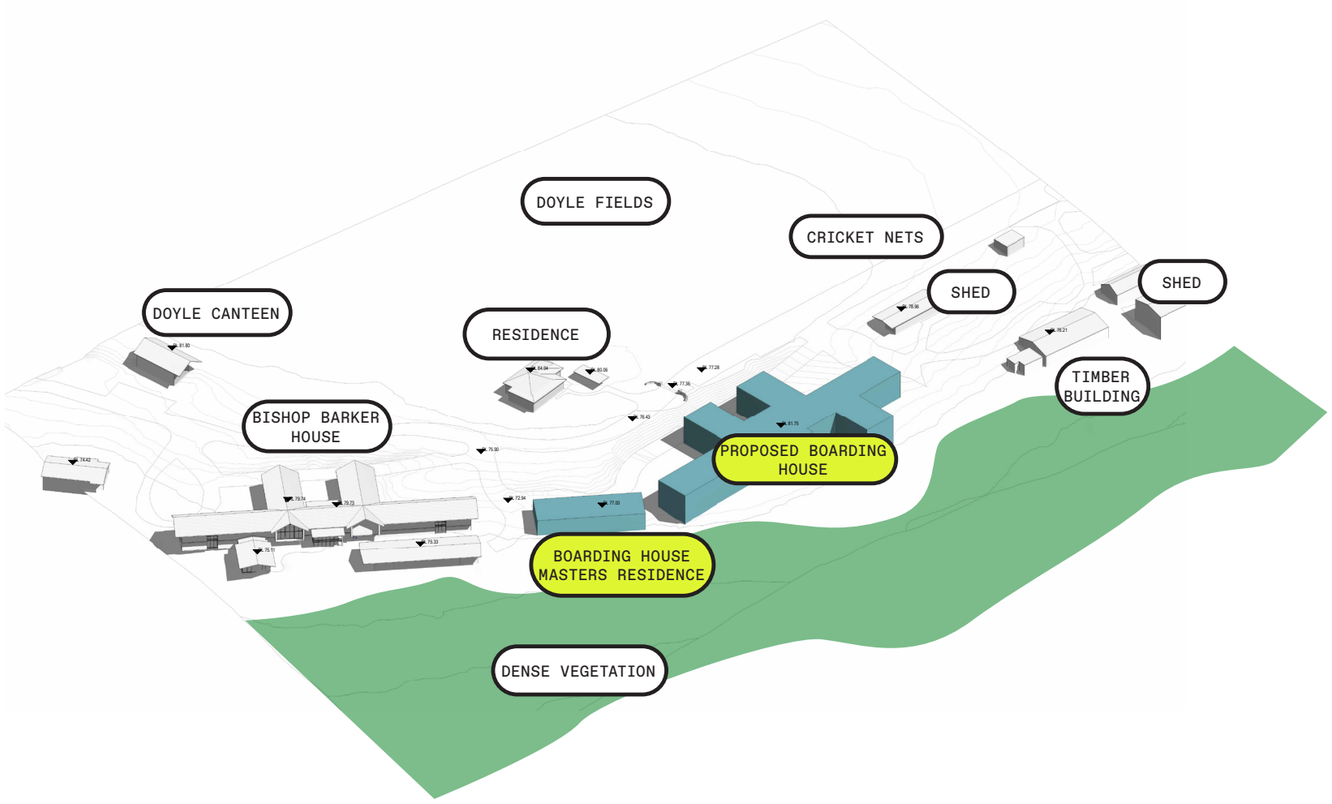
HEIGHT

The building envelope is approximately 10m tall, measured at the lowest point of the building to the North. The surrounding buildings are similar in height.

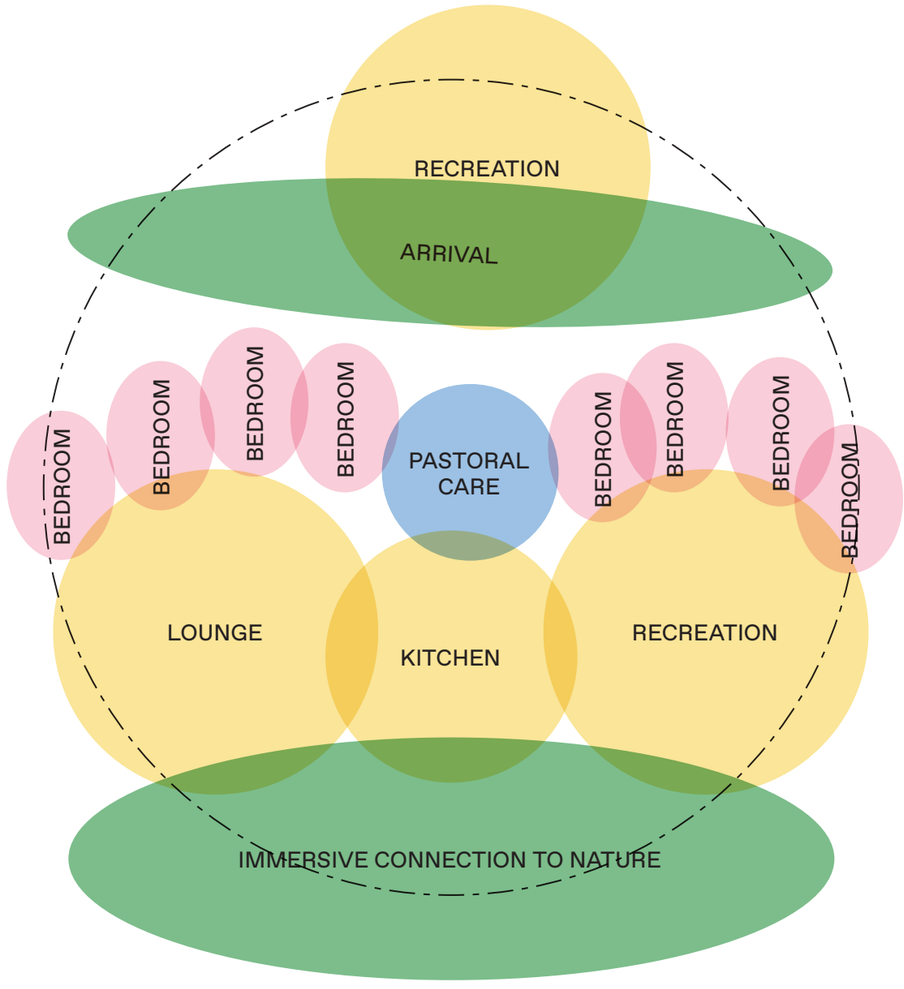
11.04 BOARDING HOUSE PRECINCT SITE ANALYSIS



11.05BRIEF AND EDUCATIONAL PRINCIPLES



BOARDING HOUSE - ADJACENCY DIADRAM



ADVENTURE





IMMERSED IN NATURE

SENSE OF BELONGING

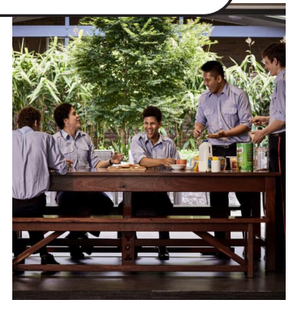








COMMUNITY





11.06 BOARDING HOUSE PROJECT PRINCIPLES



SUSTAINABILITY AND REGENERATION



PEOPLE POSITIVE DESIGN



PLACE MAKING



SENSE OF ENTRY



CONNECTIVITY



STRENGTHEN COMMUNITY



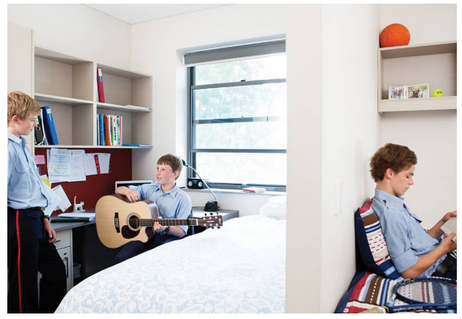
CONNECTION TO NATURE



WELLBEING

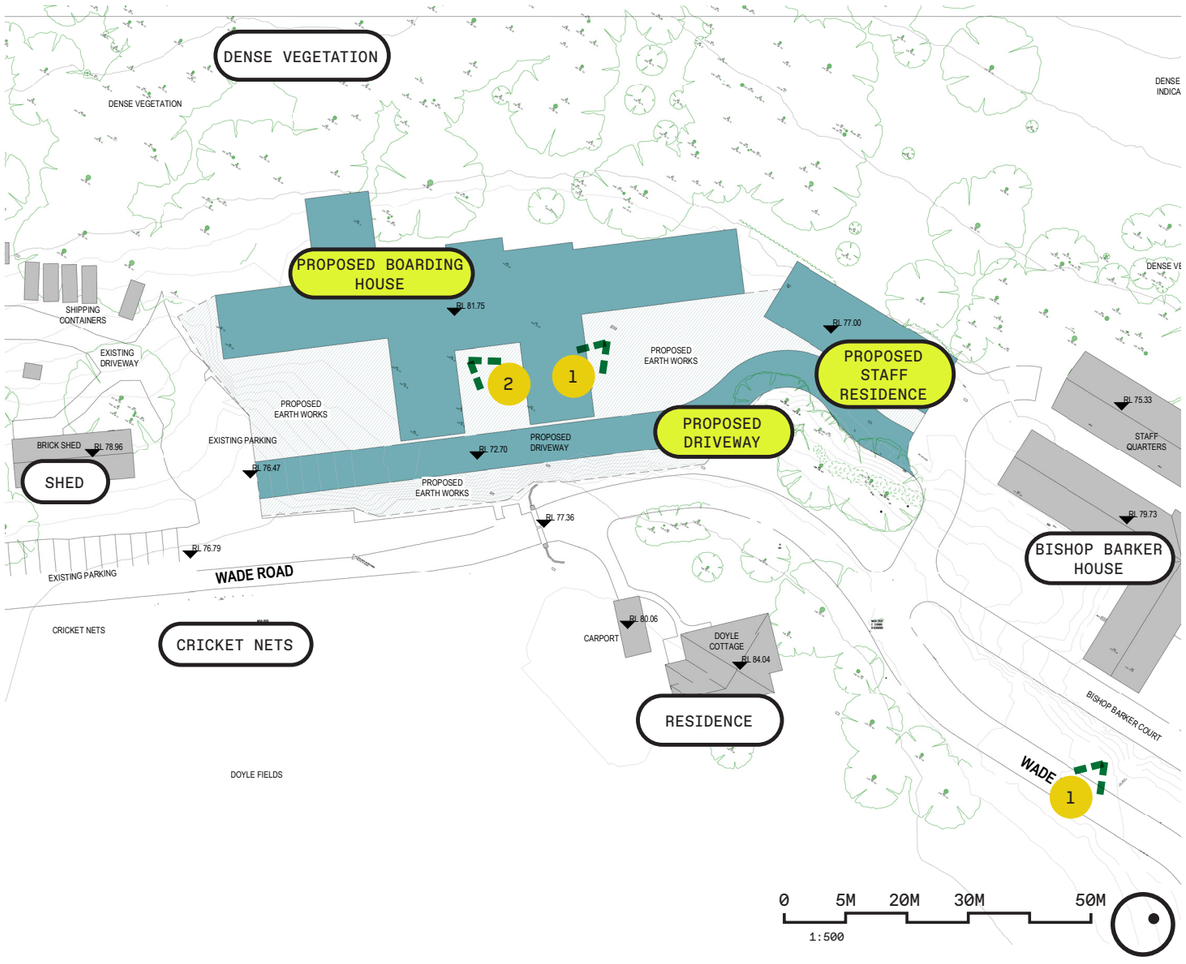


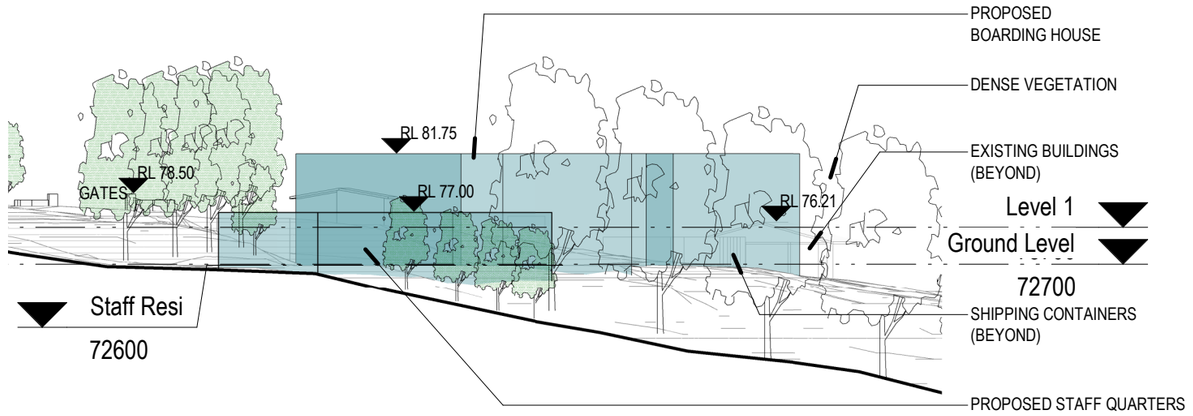
DURABILITY



FUNCTIONALITY

11.07 BOARDING HOUSE PRECINCT EXISTING







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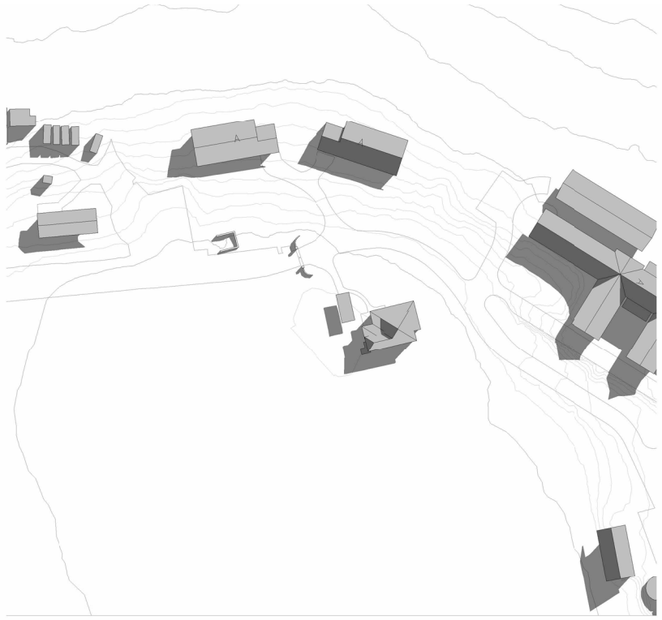
2



3



11.08SHADOW ANALYSIS - JUNE 21ST



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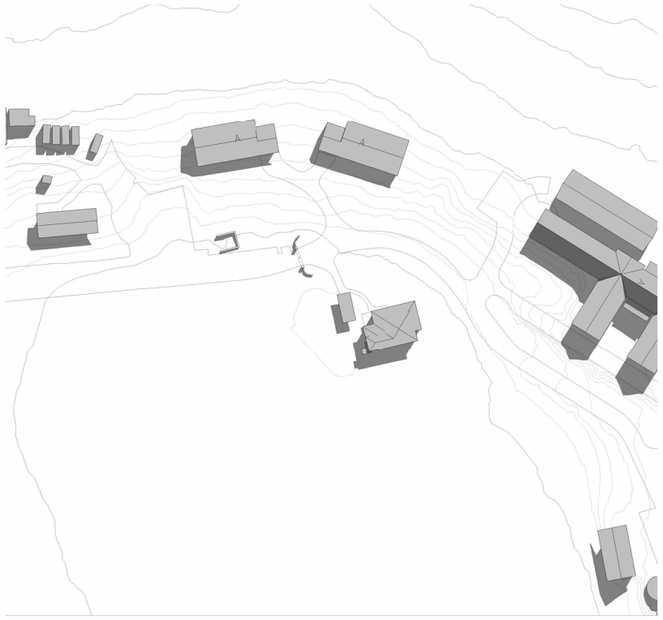

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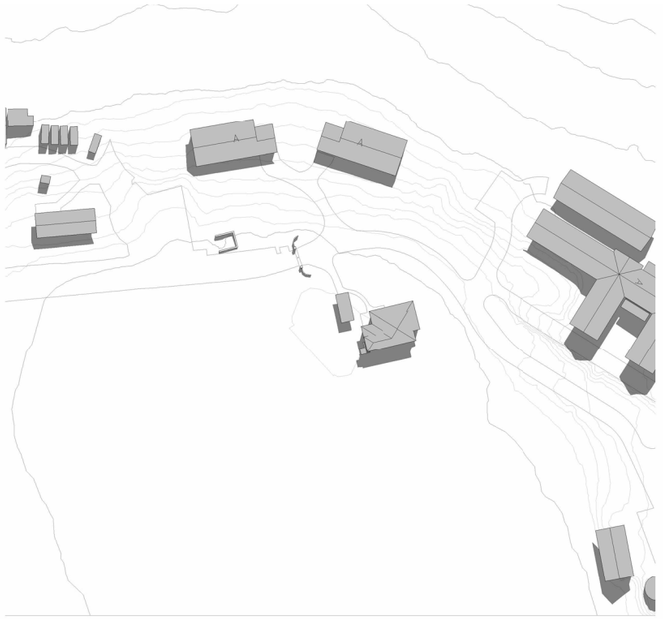

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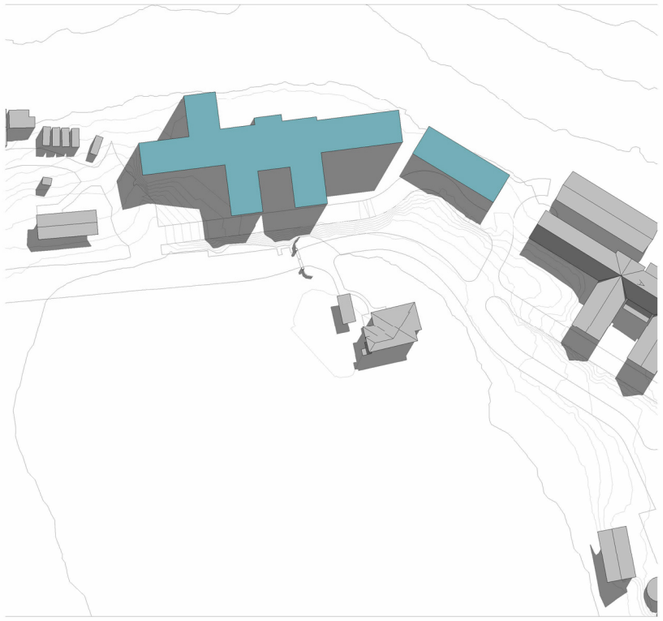

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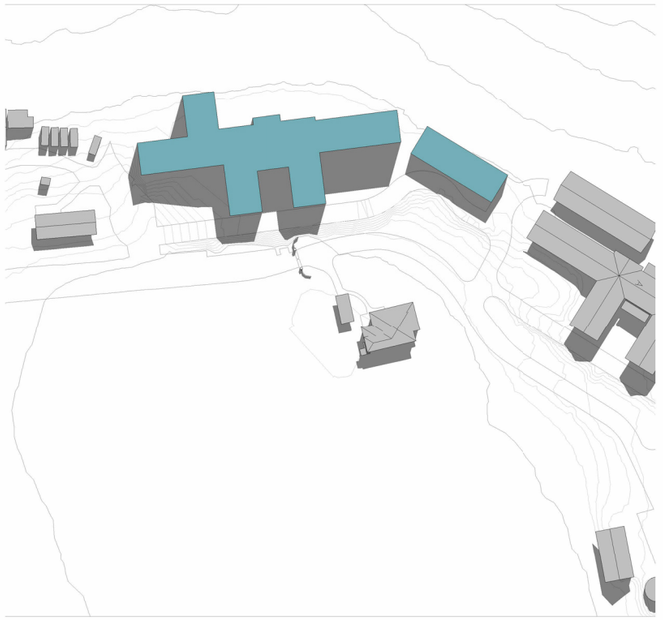

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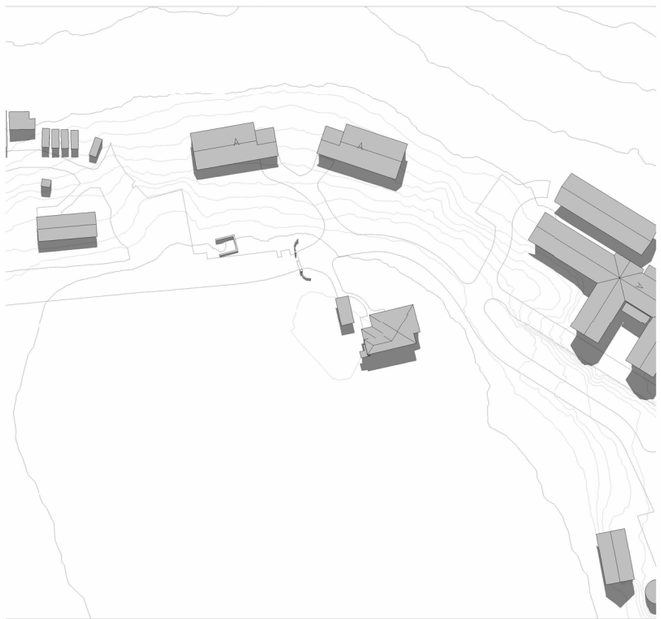

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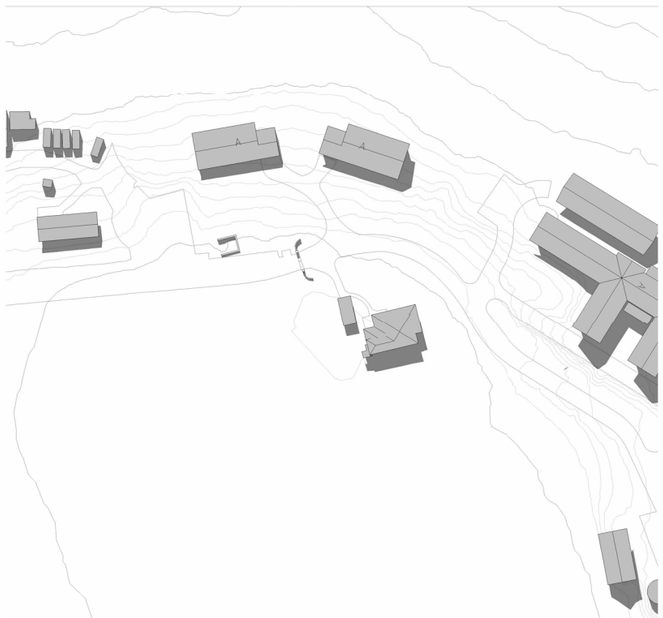

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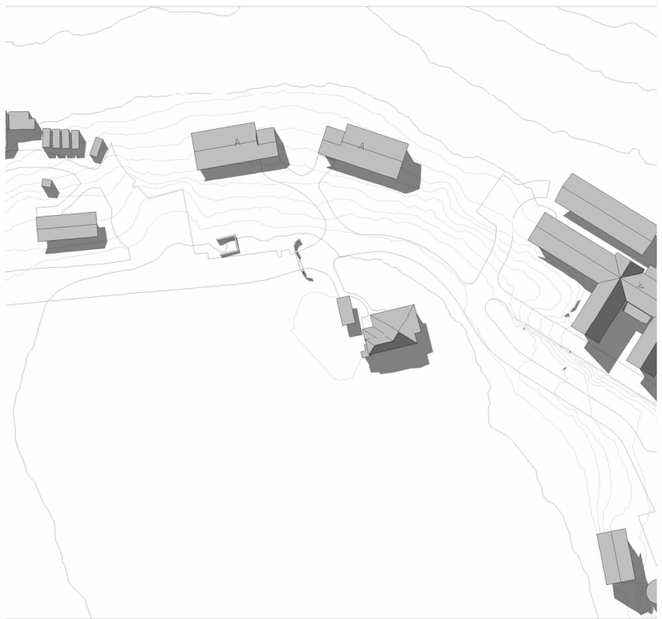

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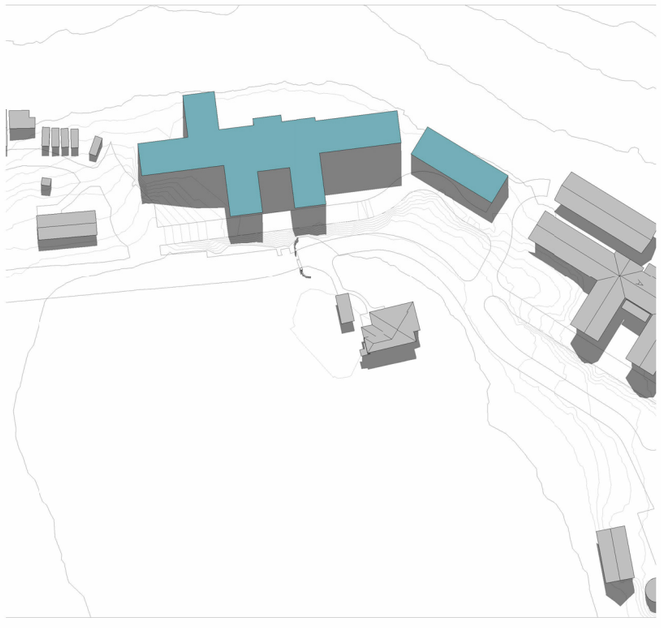

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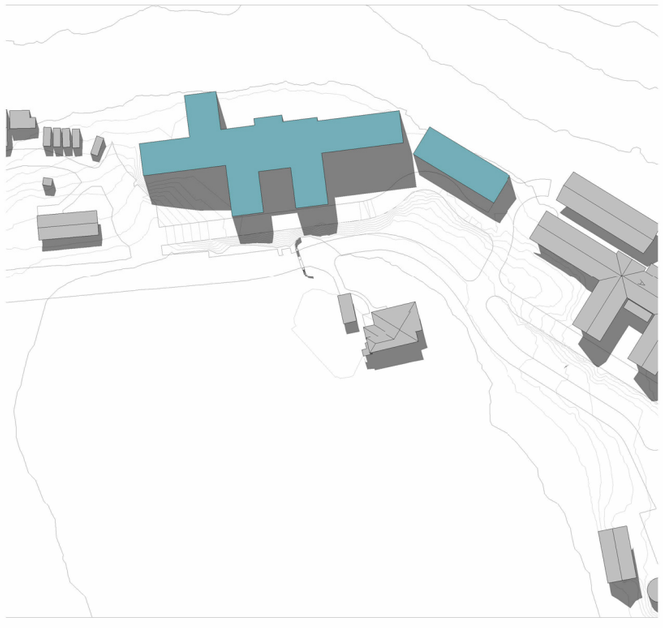

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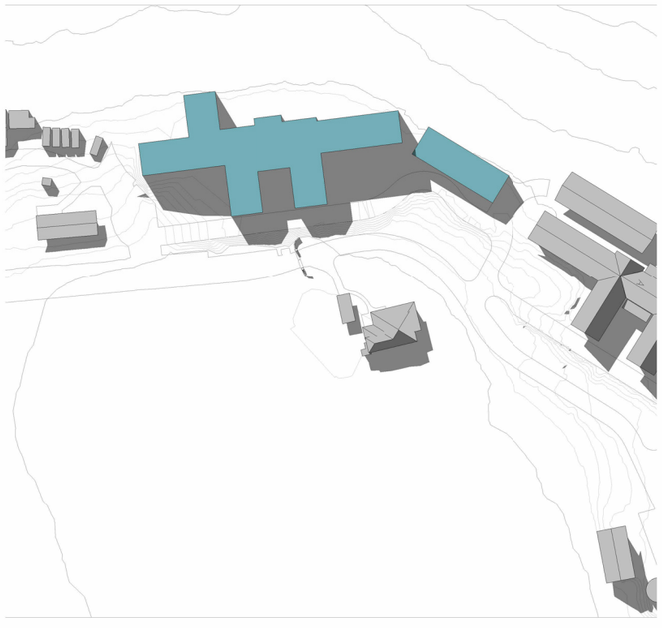

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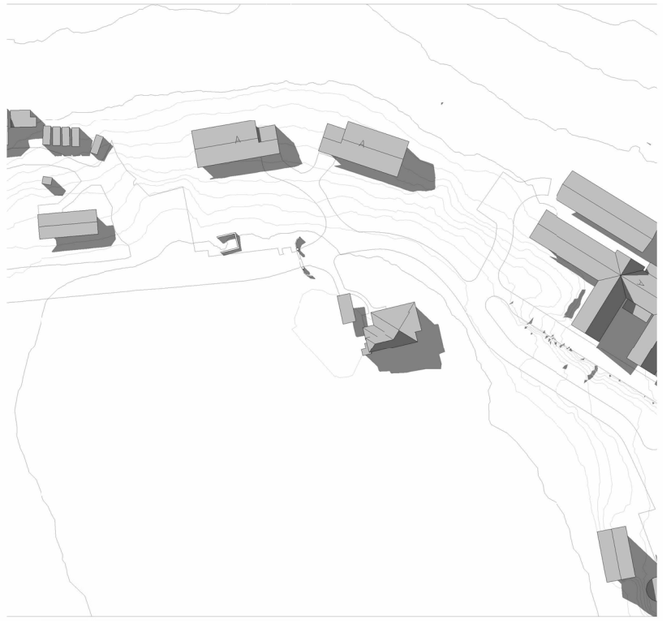
11.08 SHADOW ANALYSIS - JUNE 21ST



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PROPOSED SHADOW DIAGRAM - 3pm WINTER SOLSTICE
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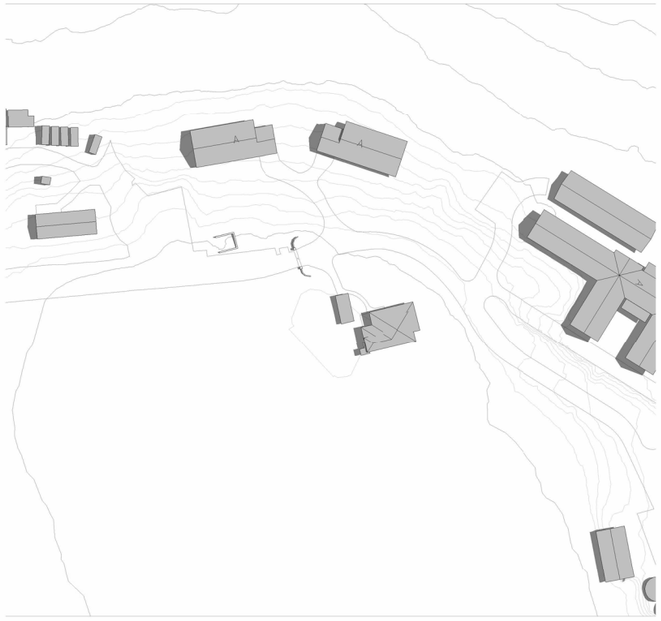
11.09 SHADOW ANALYSIS - DECEMBER 21ST



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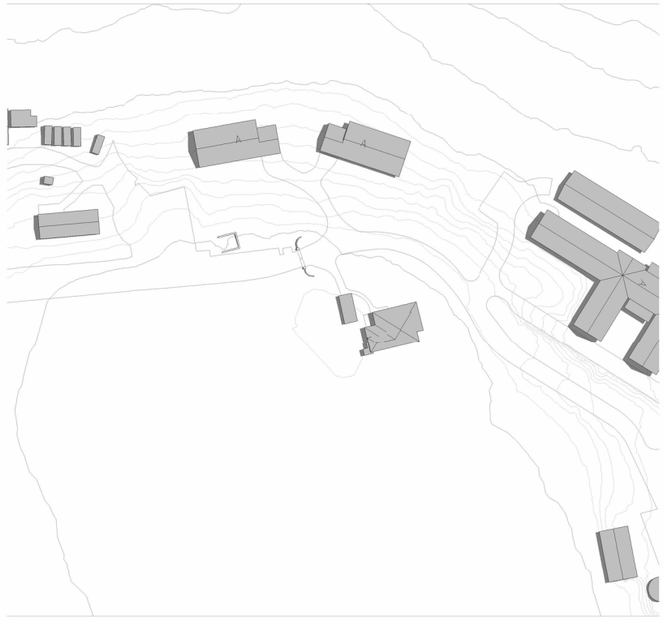

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EXISTING SHADOW DIAGRAM - 11am SUMMER SOLSTICE
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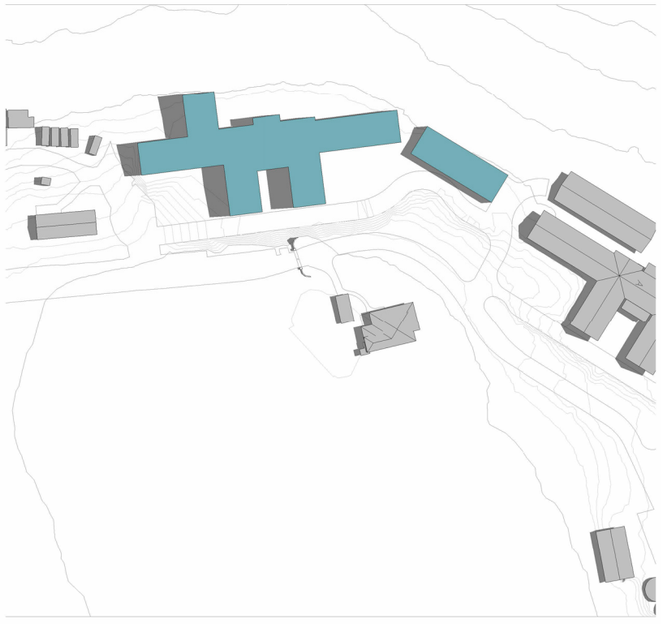

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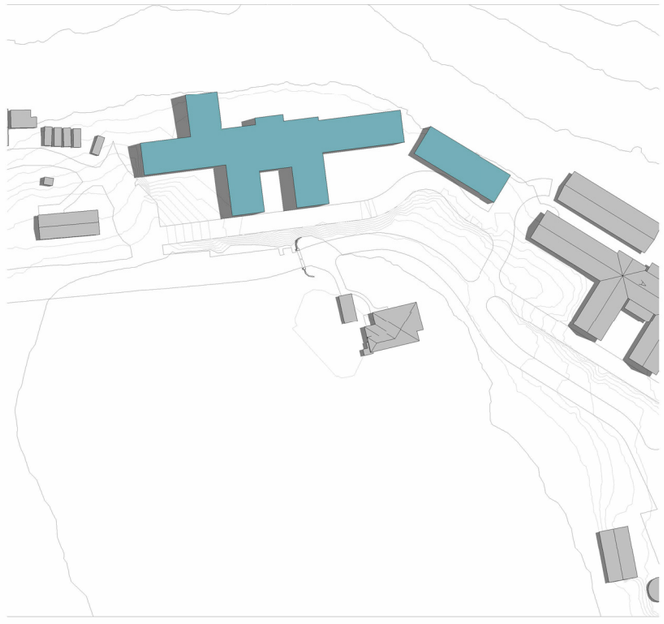

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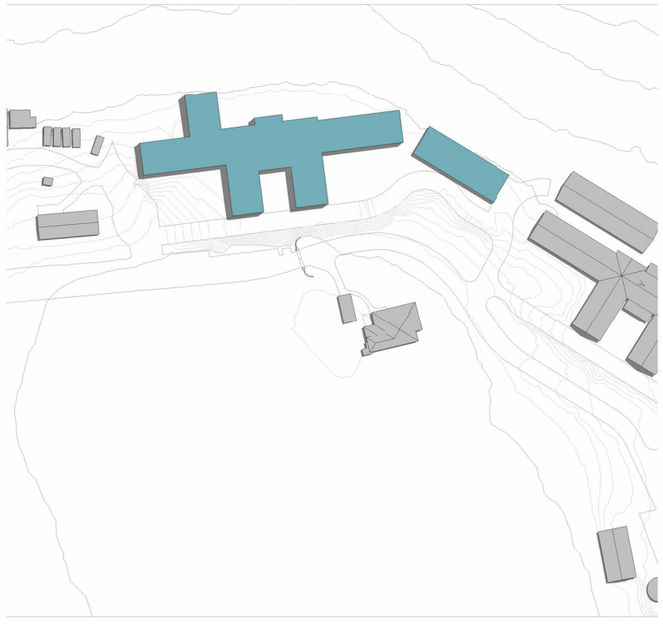

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11.09 SHADOW ANALYSIS - DECEMBER 21ST



EXISTING SHADOW DIAGRAM - 12noon SUMMER SOLSTICE
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EXISTING SHADOW DIAGRAM - 1pm SUMMER SOLSTICE
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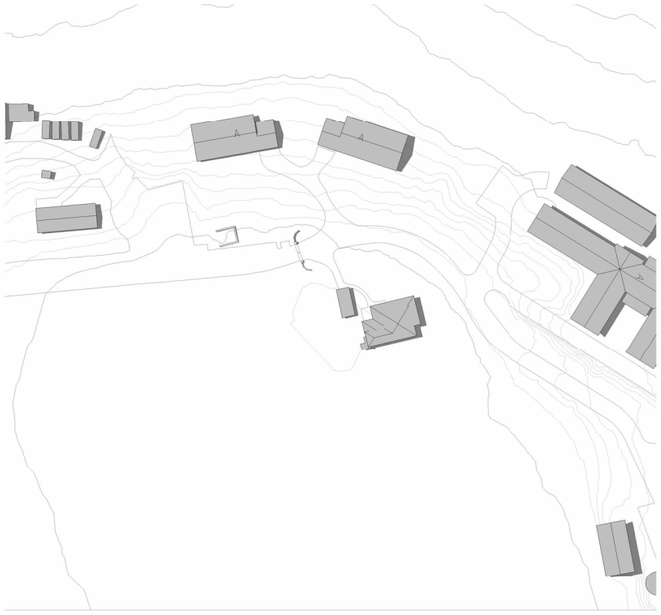

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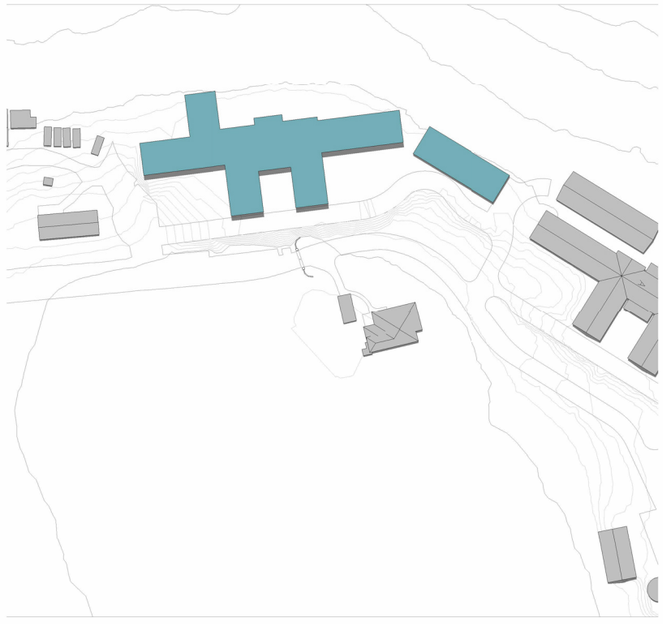

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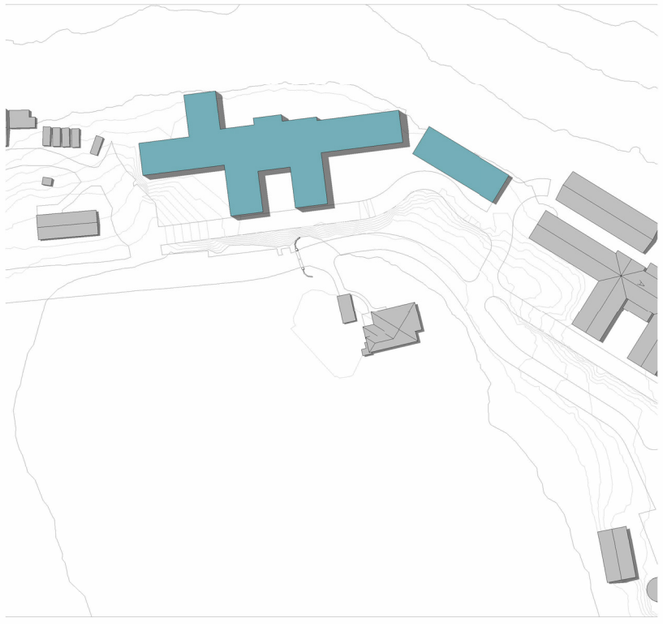

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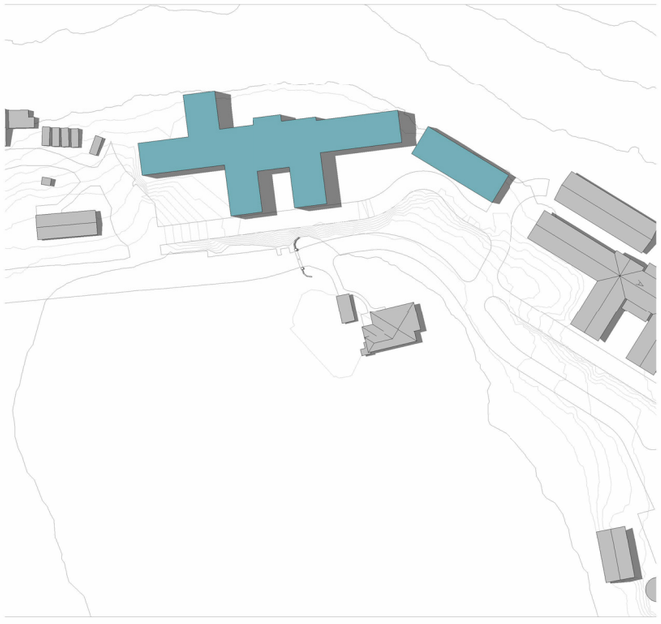

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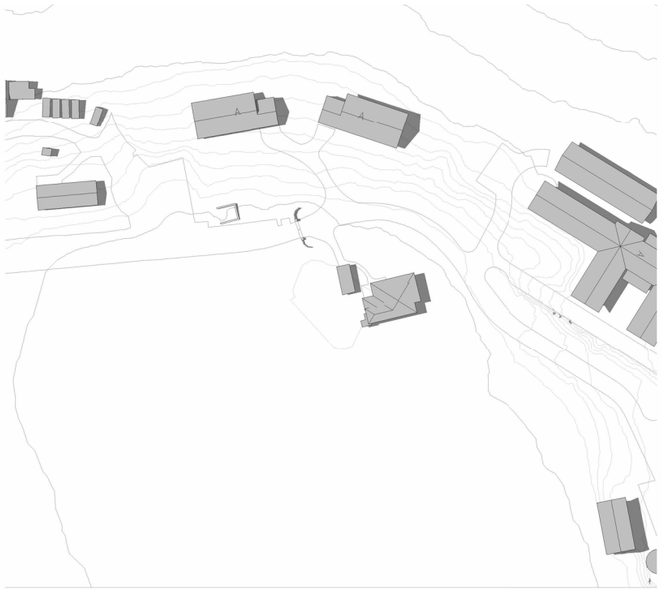
11.09 SHADOW ANALYSIS - DECEMBER 21ST



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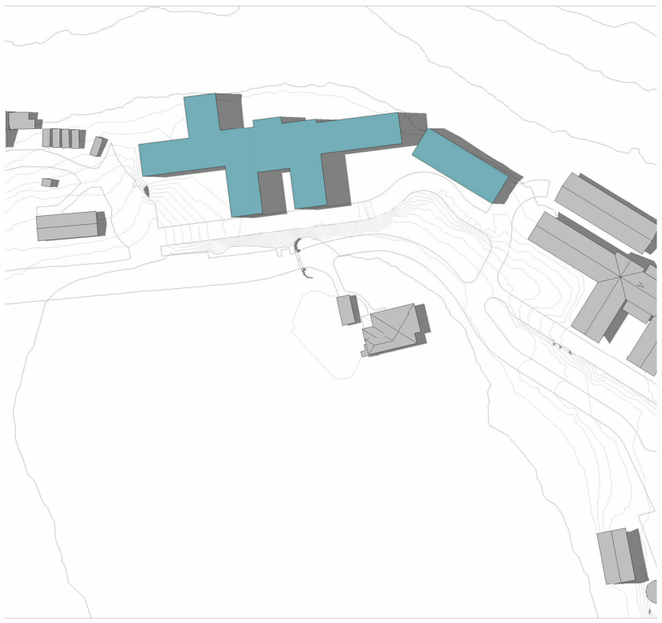

PROPOSED SHADOW DIAGRAM - 3pm SUMMER SOLSTICE
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POLICIES & FRAMEWORK

12

12.01 GANSW BETTER PLACED 2017



Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance.

The seven principles of Better Placed have been used throughout the briefing, consultation and design process. This page presents an overall summary, however this entire report should be read as a response to this policy.

For the purpose of summary the table opposite compiles a response to the Senior School - STEAM building

The GANSW Better Placed can be used to promote the importance and value of design to develop improved outcomes.

SENIOR SCHOOL - STEAM BUILDING

OBJECTIVE	DESCRIPTION	DESIGN RESPONSE
1. BETTER FIT	Contextual, local and of its place	• A Landscape response which reintroduces native species into the site, blurring the boundary between a colonial courtyard typology and the surrounding bushland setting. Significant planting to form communities of trees with undergrowth. • The scale and massing of the proposal is aligned to adjacent school buildings. • Material and colour choice is based upon significant contextual school buildings and landscape with an emphasis on low embodied carbon selections.
2. BETTER PERFORMANCE	Sustainable, adaptable and durable	• The project is on track to meet a 6 star Green Star equivalence. • Biophilic Design through extensive planting to all surrounding external spaces. • Sustainable design principles are visible to the school through PV's, bio retention through a basin oppose to a tank creates habitat for flora and fauna. • On site allotments for use by the food and hospitality department nurture care of landscape and sustainable low scale food production. Rain water retention for grey water use. • The building is flexible with open learning spaces and regular grid to allow change in pedagogy over time • High floor to ceilings, solar shading fins for improved daylight and natural ventilation for improved air quality, temperature conditions and fresh air. A mixed mode ventilation system which will be in natural mode as default. • Building shaped to avoid removal of significant tree's to the South East and North West of the building.
3. BETTER FOR COMMUNITY	Inclusive. Connected and diverse	• A scheme which takes a complex level change on site and provides multiple converging pathways to the building, inclusive of surrounding uses and access. • A variety of internal environments, allowing for flexibility and pedagogical freedom. Large scale spaces mixed with smaller cellular spaces. • Integrated facility with co-curricular, teaching spaces and pastoral care spaces to support school community and wellbeing. An incubator and industry space, to enable industry connection and research for the School to feed from whilst providing operational spaces for external industry partners to utilise. • Internal and external event / showcase spaces to inspire wonder and awe for the surrounding STEAM buildings, Science to the North, Industrial art to the East and the Centre for lifelong Learning to the West.
4. BETTER FOR PEOPLE	Safe, comfortable and liveable	• Diversity of types of space within the building, age appropriate and safe • Natural ventilation and good daylight to all spaces to create high quality teaching space that is visually connected to the broader school campus. Atrium centrally to promote stack effect and air movement through the open plan areas of the building. • A high quality and carefully considered mechanical system, creating extract systems in the building where maker spaces, robotics fabrication, food and tech and specialist art spaces are present, to ensure health and wellbeing of users.
5. BETTER WORKING	Functional, efficient and fit for purpose	• Detailed Functional Design Brief developed with the school. • 'Outdoor teaching' as an extension of the brief for the Visual arts department, maker spaces, computer tech department and during event and showcase. • Many users within the building with very specific requirements created fit for purpose spaces, whilst providing inherent flexibility for the future.
6. BETTER VALUE	Creating and adding value	• The event space and surrounding areas the atrium facilitate multiple use such as informal learning, event space for 250 people seated, robotics tournament space, art final year show space, 'TAD' type talks, industry use as well as general teaching. • Providing a sustainable strategy that is not only good for the environment but also offers financial benefits, with considerations on water and power costs in the proportion of PV and under ground storage tanks provided.
7. BETTER LOOKING AND FEEL	Engaging, inviting and attractive	• The design is contemporary, embracing the history of the site and future school vision and pedagogy • The scale, mass, entry points and form of the building have been designed to welcome visitors and enable all tree's to be retained. • Natural materials in Timber and subtle tonal variations in the brick offer an attractive and natural palette for the external appearance of the building. • Planting strategy, conceptual framework and the building materials engage with the narratives of Country

12.02 GANSW BETTER PLACED 2017



PREP SCHOOL - PA AND GLU

Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance.

The seven principles of Better Placed have been used throughout the briefing, consultation and design process. This page presents an overall summary, however this entire report should be read as a response to this policy.

For the purpose of summary the table opposite compiles a response to the Prep School areas

The GANSW Better Placed can be used to promote the importance and value of design to develop improved outcomes.

OBJECTIVE	DESCRIPTION	DESIGN RESPONSE
1. BETTER FIT	Contextual, local and of its place	• A Landscape response which reintroduces native species into the site, blurring the boundary between a colonial courtyard typology and the surrounding bushland setting. • The scale and massing of the proposal is aligned to adjacent school buildings. • Material and colour choice is based upon significant contextual school buildings and landscape with an emphasis on low embodied carbon selections. • Building placement and articulation aligned to a future Masterplan which opens out to the bushland trails to the North.
2. BETTER PERFORMANCE	Sustainable, adaptable and durable	• The project has high sustainability aspirations, with glulam proposed for the GLU, which will be a new typology for replication to future learning blocks on site. • Biophilic Design through extensive planting to surrounding external spaces and internal learning environments. • Sustainable design principles are visible to the school through roof mounted PV's • Low scale agriculture such as Chicken coups and vegetable patches linking into curriculum for the GLU's and promoting a nurturing of the landscape in the School. • The GLU building is flexible with open learning spaces and regular grid to allow change in pedagogy over time. The PA Building is sized appropriately for long term growth • Solar shading fins for improved daylight and natural ventilation for improved air quality, temperature conditions and fresh air. Considered ventilation systems appropriate for each space • Building shaped to avoid removal of significant tree's on site.
3. BETTER FOR COMMUNITY	Inclusive. Connected and diverse	• A scheme which takes a complex level change on site and provides multiple converging pathways to the building, inclusive of surrounding uses and access. • A variety of internal environments, allowing for flexibility and pedagogical freedom. Large scale spaces mixed with smaller cellular spaces. • Places for whole year groups to gather on tiered steps. Ties into a future Masterplan of 'Houses' with representation at the individual learning blocks.
4. BETTER FOR PEOPLE	Safe, comfortable and liveable	• Diversity of types of space within the building, age appropriate and safe • Natural ventilation and good daylight to all spaces to create high quality teaching space that is visually connected to the broader school campus. • A high quality and carefully considered mechanical system appropriate to individual space
5. BETTER WORKING	Functional, efficient and fit for purpose	• Detailed Functional Design Brief developed with the school. • 'Outdoor teaching' a priority for the GLU unit, with multiple options for teachers, to either open onto verandahs adjoining a learning space, or congregate into larger external areas, all overlooking vegetation and the Dam. The PA unit has a significant entrance plaza, creating a new open space for the school. • Many users within the building with very specific requirements created fit for purpose spaces, whilst providing inherent flexibility for the future.
6. BETTER VALUE	Creating and adding value	• The event space and surrounding areas the atrium facilitate multiple use such as informal learning, event space for 250 people seated, robotics tournament space, art final year show space, 'TAD' type talks, industry use as well as general teaching. • Providing a sustainable strategy that is not only good for the environment but also offers financial benefits, with considerations on water and power costs in the proportion of PV and under ground storage tanks provided.
7. BETTER LOOKING AND FEEL	Engaging, inviting and attractive	• The design is contemporary, embracing the history of the site and future school vision and pedagogy. • The scale, mass, entry points and form of the building have been designed to welcome visitors whilst fitting into the heritage context of Gowan Brae house and Cedars residence. • Natural materials in Timber and subtle tonal variations in the brick offer an attractive and natural palette for the external appearance of the building. This creates a link to the existing campus and a new timber material for distribution as part of future developments. • Planting strategy, conceptual framework and the building materials engage with the narratives of Country

12.03 GANSW GREENER PLACES FRAMEWORK



SENIOR SCHOOL - STEAM BUILDING

The draft GANSW framework for greener spaces identifies four principles. The masterplanning work, siting and development of the project brief has enabled alignment of the King's School developments and these principles.

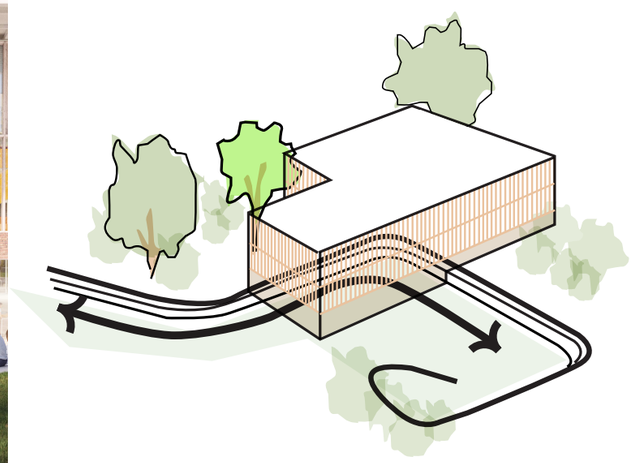


PRINCIPLE 1: INTEGRATION

Combine green infrastructure with urban development and grey infrastructure

One of the fundamental principles of the design is to create crossover between internal and external environments on all elevations, with specifically curated landscapes facilitating spill from the interior spaces.

The Building promotes healthy and active living though passive design principles, respecting existing landscape and creating new habitat, photovoltaic, water capture and reuse and external areas for discovery, learning and play.



PRINCIPLE 2: CONNECTIVITY

Create an interconnected network of open space

The building has been positioned and cut to enable retention of all the significant landscape elements on site. The ground plane is stepped to create a sweep through the building, blurring the threshold between internal and external areas. This creates a series of connected spaces through the ground planes of the building. The landscape proposals enforce a principle of introducing native species around existing vegetation, to enable a series of tree families and re-instate natural bush condition to boundary and re-introduce wildlife.



PRINCIPLE 3: MULTIFUNCTIONALITY

Deliver multiple ecosystem services simultaneously

Material selection is of high-quality and high-performance, locally sourced where possible. Diversity of types of outdoor space included within and surrounding the building will benefit social wellbeing, student learning, learning from the building as well as provide environmental benefits.



PRINCIPLE 4: PARTICIPATION

Involve stakeholders in development and implementation

Extensive consultation with students and staff has been an integral part of the design process and evolution from early brief development and concept design through to detailed design. Community engagement with local aboriginal elders has provided a base for site understanding and appreciation of the foundations of the site. This has all helped to inform all aspects of the design, from high level conceptual approaches through to selection of materials and flora.

12.04 GANSW GREENER PLACES FRAMEWORK



PREP SCHOOL - PA AND GLU

The draft GANSW framework for greener spaces identifies four principles. The masterplanning work, siting and development of the project brief has enabled alignment of the King's School developments and these principles.

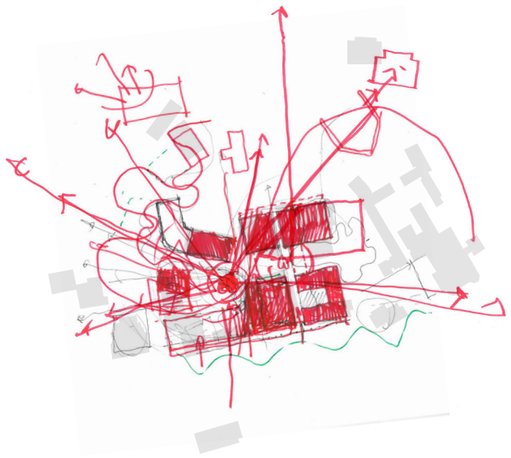


PRINCIPLE 1: INTEGRATION

Combine green infrastructure with urban development and grey infrastructure

The Prep School has a unique character of heritage and landscape, yet the current vernacular is inward looking and has poor legibility.

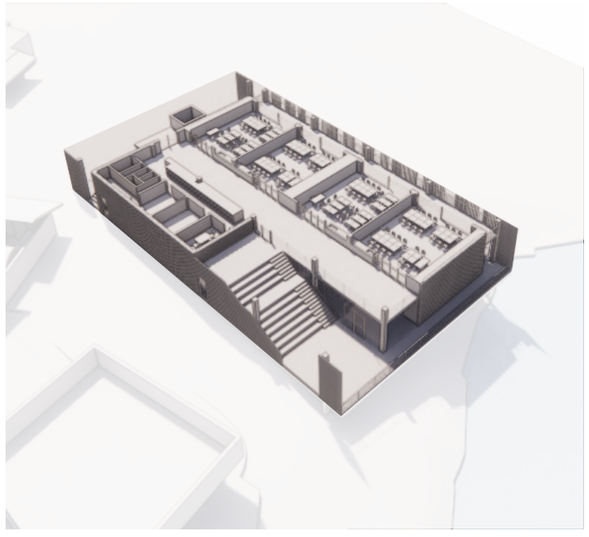
The new developments will offer a new and exciting chapter of developments which evolve from the crammed courtyard typology and create new a new vernacular with buildings engaging with new curated external spaces that engage with landscape in a more intimate way.



PRINCIPLE 2: CONNECTIVITY

Create an interconnected network of open space

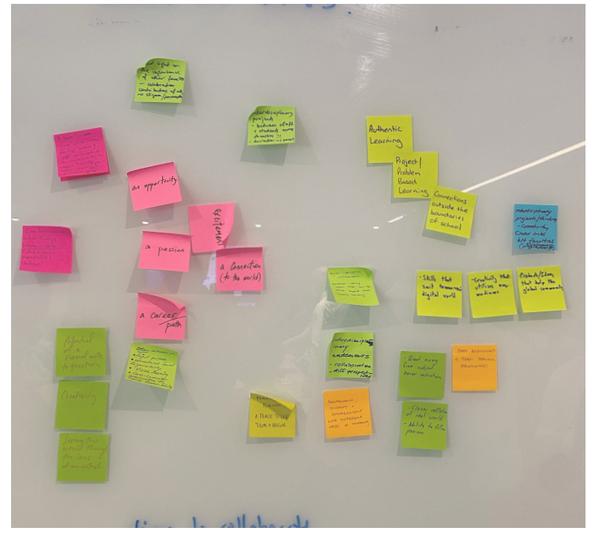
The PA and GLU buildings are positioned to face onto a new landscape green for the School. In the eventual Masterplan, this green is for primary entrance into the School, and will create a new identity for the Prep community which opens up and engages more with the bushland setting to the North. The landscape proposals use delicate interventions in the interim, with the intention on creating more substantial spaces once later phases commence, which will release more space on campus.



PRINCIPLE 3: MULTIFUNCTIONALITY

Deliver multiple ecosystem services simultaneously

Material selection is of high-quality and high-performance, locally sourced where possible. Diversity of types of outdoor space included within and surrounding the building will benefit social wellbeing, student learning, learning from the building as well as provide environmental benefits. The GLU building is seen as a new flexible typology that can be replicated for all years over the long term.



PRINCIPLE 4: PARTICIPATION

Involve stakeholders in development and implementation

Extensive consultation with students and staff has been an integral part of the design process and evolution from early brief development and concept design. Community engagement with local aboriginal elders has provided a base for site understanding and appreciation of the foundations of the site.

12.05 GANSW ENVIRONMENTAL DESIGN IN SCHOOLS



SENIOR SCHOOL - STEAM BUILDING

The GANSW Environmental Design in Schools Manual has been developed in response to a growing appreciation of the significant role that good design can play in education, with increasing evidence that student learning outcomes are closely related to the quality of the environment in which they learn.

The Design manual provides a holistic understanding of environmental design. It presents strategies for passive design as opportunities for making positive, sustainable change in the building or running of a school. This manual gives greater advice to support he Education SEPP, including the Design Quality Principle 2: Sustainable, efficient and durable.

These principles have been considered in the design of the STEAM Building and were key to informing the development of the design.



1. USE PASSIVE COOLING AND HEATING

- Operable windows as part of a mixed mode ventilation system
- Window shading through fins and cantilevered roof
- Central Atrium to promote stack effect
- Efficient use of air-conditioning with a reasonable range. Natural ventilation as a default mode of building



2. RE-DESIGN LEARNING EXPERIENCES

- Provide views to existing and new landscape
- Work Outside - Multiple terraces and external spaces curated to the department / space that they are adjacent to
- Provide noisy and quiet spaces, moderated through careful acoustic treatment
- Expose building services and promote building as teacher



3. COMMUNICATE CAREFUL USE OF RESOURCES

- Find ways to save resources (educate with regards to consumption)
- Landscape as teacher - A bio retention basin oppose to underground tanks, allotments and abundant tree shade
- Provide building sensors
- Low flow level sanitary fixtures
- Expose building services



4. ACTIVATE THE SCHOOL GROUNDS

- Encourage physical activity
- Learn outdoors
- Share environmental knowledge
- Contribute to the local environment
- Understand the importance of trees

12.06 GANSW ENVIRONMENTAL DESIGN IN SCHOOLS



PREP SCHOOL - PA AND GLU

The GANSW Environmental Design in Schools Manual has been developed in response to a growing appreciation of the significant role that good design can play in education, with increasing evidence that student learning outcomes are closely related to the quality of the environment in which they learn.

The Design manual provides a holistic understanding of environmental design. It presents strategies for passive design as opportunities for making positive, sustainable change in the building or running of a school. This manual gives greater advice to support he Education SEPP, including the Design Quality Principle 2: Sustainable, efficient and durable.

These principles have been considered in the design of the Prep School GLU and PA Buildings and were key to informing the development of the design.



1. USE PASSIVE COOLING AND HEATING

- Operable windows as part of a mixed mode ventilation system
- Window shading through fins and cantilevered roofs
- Efficient use of air-conditioning with a reasonable range



2. RE-DESIGN LEARNING EXPERIENCES

- Provide views to existing and new landscape
- Work Outside - Large gathering spaces facing on the Dam for the GLU, promoting a connection with natural surroundings
- Provide noisy and quiet spaces, moderated through careful acoustic treatment
- Increased landscaping to promote biodiversity



3. COMMUNICATE CAREFUL USE OF RESOURCES

- Find ways to save resources (educate with regards to consumption)
- Touch the ground lightly - Position the buildings to reduce excavation whilst tying into existing levels.
- Provide building sensors
- Low flow level sanitary fixtures
- Timber structure for the GLU



4. ACTIVATE THE SCHOOL GROUNDS

- Encourage physical activity
- Learn outdoors through a mix of external areas
- Share environmental knowledge
- Contribute to the local environment
- Understand the importance of trees

12.07 SEPP - EDUCATIONAL ESTABLISHMENTS, CHILDCARE FACILITIES + GANSW DESIGN GUIDE FOR SCHOOLS



SENIOR SCHOOL - STEAM BUILDING

During the course of the design the principles of the SEPP (Educational Establishments and Child Care Facilities) 2017 have been considered and addressed.

The requirements of the SEPP align to the GANSW Design Guide for Schools and the requirements of the design brief.

The GANSW Better Placed: Design Guide for Schools provides guidance on how to meet the Education SEPP Design Quality Principles. A response to the SEPP is provided separately.

The Design guide identifies 7 principles from the SEPP to be considered during the design of a school. The delivery of the King's School developments has followed a very rigorous process to help deliver an outcome that is aligned to these guidelines and to the SEPP. During the Concept and subsequent Detail Design phases, BVN and the greater design team have contributed to delivering a project measured against these principles. This process includes (amongst various other instruments):

- The King's School Master plan (prepared by Architectus Architects)
- Detailed and ongoing consultation with key stakeholders including the students, staff and community through schematic design and design development process
- School pedagogical benchmarking and analysis by Scott Alterator
- Indigenous community and neighbourhood community consultation through collaboration with Djinjama CwC consultants

Additionally, the seven objectives of the GANSW 'Good Design Outcomes have been considered.

OBJECTIVE	DESIGN RESPONSE
1. Context, built form and landscape	• The STEAM Building responds to the school setting; landscape and heritage • Implementing new buildings as part of a long term strategy for the School • Spatial organisation informed by and responds to topography and site conditions such as orientation and climate • Landscape holistically integrated into building to provide outdoor amenity wherever possible
2. Sustainable, efficient and durable	• Designed to minimise the consumption of energy through significant PVs, water harvesting and reduce waste and encourage recycling through waste management streams. Carefully considered materials with low embodied carbon and longevity in mind. • Designed to maximise flexibility of teaching spaces and be adaptable enabling building to evolve over time to meet future requirements
3. Accessible and inclusive	• Designed with clear entry points that mediate the complex levels to provide distinctive entries as well as clear identity for each of the departments within. • Accessible routes to the building and Lift access internally for equitable access • Designed to enable safe and vibrant space for extended hours and varied events. Incubator facility internally to enable industry partnerships and enhance the educational offer of the students and create a platform for start-up type enterprise.
4. Health and safety	• Student health and safety has been a strong consideration in the design and approach to engagement with the landscape, materials and tactility, diversity of types of spaces and openness. • Within the campus setting security is less of a concern and a welcoming and accessible building design has been prioritised • The School has a proportion of boarding houses and staff residences, creating a village type feel. Careful consideration has been given to lighting at night, to create safe and visible routes to and from the building and surrounding landscapes
5. Amenity	• Flexible learning spaces and in between spaces have been considered in the design to create pleasant and engaging spaces that are accessible for a wide range of educational, informal and curated activities • Siting of the building and stacking of operations considers the amenity of adjacent developments and the local neighbourhood to minimise impact • The location of the building is far from surrounding residential development which assists in providing minimal acoustic impacts on the building • Diversity of indoor and outdoor learning and play spaces incorporated into design • Access to sunlight, natural ventilation, outlook through windows, visual and acoustic privacy, storage and service areas.
6. Whole of life, flexible and adaptive	• The building plugs into the STEAM Precinct, as the fourth elevation of a quad, This links into the King's Masterplan and considers the whole site and future school planning • Flexible structural grid and durable natural materials utilised wherever possible to maximise opportunities for re-use and repurpose and to enable change for future use • Maximise multi-use within the building and future flexibility
7. Aesthetics	• Good proportions and balanced composition, embedded into the natural topography and landscape setting through a embedded base and change in podium material • Facade composition includes a consistent and well detailed timber fin system with portions of glazing to create balance and harmony in the buildings surroundings, material choice, rhythm and form referencing the Schools vernacular, whilst providing a new interpretation of the columns, masonry and timber elements • Significant planting to all elevations, with use of native species to promote bio diversity. Planting complementing and enhancing built form

12.08 SEPP - EDUCATIONAL ESTABLISHMENTS, CHILDCARE FACILITIES + GANSW DESIGN GUIDE FOR SCHOOLS



PREP SCHOOL - PA AND GLU

During the course of the design the principles of the SEPP (Educational Establishments and Child Care Facilities) 2017 have been considered and addressed.

The requirements of the SEPP align to the GANSW Design Guide for Schools and the requirements of the design brief.

The GANSW Better Placed: Design Guide for Schools provides guidance on how to meet the Education SEPP Design Quality Principles. A response to the SEPP is provided separately.

The Design guide identifies 7 principles from the SEPP to be considered during the design of a school. The delivery of the King's School developments has followed a very rigorous process to help deliver an outcome that is aligned to these guidelines and to the SEPP. During the Concept and subsequent Detail Design phases, BVN and the greater design team have contributed to delivering a project measured against these principles. This process includes (amongst various other instruments):

- The King's School Master plan (prepared by Architectus Architects)
- Detailed and ongoing consultation with key stakeholders including the students, staff and community through schematic design and design development process
- School pedagogical benchmarking and analysis by Scott Alterator
- Indigenous community and neighbourhood community consultation through collaboration with Djinjama CwC consultants

Additionally, the seven objectives of the GANSW 'Good Design Outcomes have been considered.

OBJECTIVE	DESIGN RESPONSE
1. Context, built form and landscape	• The Prep School developments respond to the school setting; landscape and heritage • Implementing new buildings as part of a long term strategy for the School and providing an overarching localised Masterplan for the Prep Campus to ensure Phase 1 developments fit in to a longer term strategy • Spatial organisation informed by and responds to topography and site conditions such as orientation and climate • Landscape holistically integrated into building to provide outdoor amenity wherever possible
2. Sustainable, efficient and durable	• Designed to minimise the consumption of energy through significant PVs, reduced waste and encourage recycling through waste management streams. Carefully considered materials with low embodied carbon and longevity in mind • The GLU building designed to maximise flexibility of teaching spaces and be adaptable enabling building to evolve over time to meet future requirements. The GLU designed as a future typology which can be replicated for other learning blocks over the long term
3. Accessible and inclusive	• Designed with clear entry points that mediate the complex levels to provide distinctive entries as well as clear identity for each of the buildings. The PA has a significant change of level which has been mediated through the proposal • Accessible routes to the building and Lift access for equitable access • Designed to enable safe and vibrant spaces, age appropriate and inclusive
4. Health and safety	• Student health and safety has been a strong consideration in the design and approach to engagement with the landscape, materials and tactility, diversity of types of spaces and openness. • Within the campus setting security is less of a concern and a welcoming and accessible building design has been prioritised • The Prep School has no borders, so a typical School day is in effect. Still, careful consideration has been given to lighting at night, to create safe and visible routes to and from the building and surrounding landscapes
5. Amenity	• Flexible learning spaces in the GLU and in between spaces have been considered in the design to create pleasant and engaging spaces that are accessible for a wide range of educational, informal and curated activities. The PA building is more specific in function and each space has been carefully considered to provide adequate facilities for long term growth • Siting of the building and stacking of operations considers the amenity of adjacent developments and the local neighbourhood to minimise impact • The location of the building is far from surrounding residential development which assists in providing minimal acoustic impacts on the building • Diversity of indoor and outdoor learning and play spaces incorporated into design • Access to sunlight, natural ventilation, outlook through windows, visual and acoustic privacy, storage and service areas.
6. Whole of life, flexible and adaptive	• The developments plug into a long term strategy of expansion to the West of the Prep site. The New Landscape area to the West of the new PA building will be a future main entry point into the site and consideration has been given to the interim and future landscape works. • Flexible glulam/CLT structural grid for the GLU and durable natural materials utilised wherever possible to maximise opportunities for re-use and repurpose and to enable change for future use. The PA building, tying into an existing building has a more bespoke structural solution due to it's necessary siting. • Maximise multi-use within the building and future flexibility
7. Aesthetics	• Good proportions and balanced composition, embedded into the natural topography and landscape setting. The GLU presents itself over the existing Dam, a Beautiful and inspiring setting for learning. The PA building is carefully curated to each facade, creating a backdrop to a new landscape space, a significant marker at entry to the prep community and an extension on the existing building stock • Materiality looks to pick up on the masonry elements of the campus and provide a softer, timber vernacular for both buildings. Creating an oade to the past and new material that can be distributed on future developments • Significant planting, with use of native species to promote bio diversity. Planting complementing and enhancing built form



STAFF RESIDENCES

Better Placed is a policy for our collective aspirations, needs and expectations in designing NSW. It is about enhancing all aspects of our urban environments, to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this, good design needs to be at the centre of all development processes from the project definition to concept design and through to construction and maintenance.

The seven principles of Better Placed have been used throughout the briefing, consultation and design process. This page presents an overall summary, however this entire report should be read as a response to this policy.

For the purpose of summary the table opposite compiles a response to the Prep School areas

The GANSW Better Placed can be used to promote the importance and value of design to develop improved outcomes.

OBJECTIVE	DESCRIPTION	DESIGN RESPONSE
1. BETTER FIT	Contextual, local and of its place	• As part of the school's long-term strategy, the Staff Residences are appropriately located within the residential precinct of the campus. • The residences are sited within the boundary of two existing tennis courts minimising impacts on existing trees and landscape. • The Staff Residences design is informed by traditional row house typologies with floor levels stepping across the site to achieve multiple accessible entry points across the topography. • The siting strategy generates a highly articulated massing of expressed party walls and ridge lines.
2. BETTER PERFORMANCE	Sustainable, adaptable and durable	• Passive sustainable design principles are a strong driver within the project. The dwellings have been carefully designed around courtyard and balcony spaces to provide occupants with good solar and natural ventilation amenity. • Traditional residential materials have been utilised with an emphasis on robust and durable materials – eg. bricks and metal cladding • Roof forms have been carefully considered with an emphasis on eaves gutters rather than box gutters to ensure the ease of ongoing maintenance. • Roof forms have been carefully considered with an emphasis on eaves gutters rather than box gutters to ensure the ease of ongoing maintenance, noting the large number of substantial trees in the immediate vicinity of the townhouses.
3. BETTER FOR COMMUNITY	Inclusive. Connected and diverse	• The gap accommodation and staff residences will facilitate the accommodation of a diverse range of teachers and students and enable them to be better connected with the campus and wider school community. • An accessible path of travel is provided to the main entry door of each dwelling. • Two accessible sole occupancy units are provided within the gap accommodation building. • Primary living spaces have been located at ground level as a priority for accessibility.
4. BETTER FOR PEOPLE	Safe, comfortable and liveable	• While the proposal is located within the secure setting of the campus the living spaces are oriented to provide an enhanced level of casual observation within the surrounding park and bushland settings • Each dwelling has been carefully designed to incorporate useful outdoor courtyards and balconies which improve both solar amenity and natural ventilation.
5. BETTER WORKING	Functional, efficient and fit for purpose	• The Staff accommodation provides appropriately sized accommodation for teachers and their families. • The spaces with the dwellings are suitably sized within an efficient overall layout to ensure spatial amenity is delivered within economical footprints. • The Gap accommodation provides former students as well as exchange students the flexibility to stay on site.
6. BETTER VALUE	Creating and adding value	• Existing staff residences are dispersed across the site. Consolidating the staff accommodation within the residential precinct will allow parts of the site to be reallocated for more appropriate uses. • Locating the staff residences over the former tennis courts repurposes an underused resource and ensures value is added with minimal impact on existing bushland.
7. BETTER LOOKING AND FEEL	Engaging, inviting and attractive	• The contemporary expression of a traditional (row house) typology acknowledges the past and ties into the character of the adjacent boarding houses while embracing the school's vision for the future. • The expressed party walls and masonry plinth of the proposed residences have been selected to reference the sandstone materiality that is characteristic across the school's vernacular and intrinsic to the geology of the site and country. • Dark metal cladding offers a recessive expression that both articulates each dwelling and makes prominent the surrounding bushland setting and new landscape treatments.

APPENDIX

13

13.01 SDRP - FIRST REVIEW FEEDBACK

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

14 July 2022

Jae Park
The Kings School
Bursar
jpark@kings.edu.au

PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 06/07 – First Review**

Dear Jae,

Thank you for the opportunity to review the above project at an early stage. Please find below a summary of advice and recommendations arising from the design review session held on the 6th July 2022.

The project team has demonstrated leadership in their decision to engage at an early stage with GANSW through the SDRP process. The comprehensive presentation enabled a deeper understanding of the site, aspirations for the project, and opportunities to enable a Country led design response.

The following elements of the proposal are supported:

- The Connecting with Country principles, and the project principle of the *Building as teacher*, which offer the potential to inform a rich and place responsive design solution.
- The early concept work, which carries the potential to elevate the experience of learning and inspire *Wonder and awe*.
- The aspiration to juxtapose the formal courtyard typology of the academic precinct with the informal bushland setting of the broader campus.
- The proposal to contain the eastern edge of the courtyard, which supports the existing axial built form strategy and provides a legible and cohesive edge to the academic precinct.
- The fine vertical pilottis, which maximise the internal sense of space and reinforce the notion of the roof plane as a forest canopy. These are considered critical to the quality of the internal space.

The following commentary provides advice and recommendations for the project:

Connecting with Country

1. The Connecting with Country principles offer the potential to amplify the place based identity for the school, and are commended. Demonstrate how these principles will inform the project vision and project specific principles.
2. As the architectural and landscape strategies are developed, incorporate physical and programmatic opportunities for deep engagement with site specific conditions – sun, breeze, topography, flora and fauna, and seasonal microclimatic variations, for example.

Masterplan & Landscape

3. Demonstrate how the values and principles developed in the 2020 Masterpan by Architectus relate to the project specific design principles and vision.
4. Demonstrate how the project specific principles, particularly *Connection to place* and *Learning from nature*, *Wonder and awe* and *Building as teacher* have informed the architectural and landscape response.
5. Provide any early options testing for the STEAM building to deepen the contextual analysis of the site, and enable a greater appreciation of the proposal's merits.
6. Given the increasingly high temperatures projected for Western Sydney, coupled with a forecast increase in the frequency and intensity of heat waves, the following applies for the academic precinct:
    a. demonstrate how canopy cover has been maximised for biodiversity, sustainability, shade, amenity and aesthetic quality
    b. provide an arboricultural assessment that identifies trees to be retained, new trees proposed and trees to be removed
    c. provide detail of the canopy cover target.
7. Consider how juxtaposing the formal courtyards with the natural bushland setting might amplify their difference and enrich the building setting and landscape strategy.
8. The challenge of accommodating the level change is acknowledged. As the proposal is developed, explore how to:
    a. manage the level difference so that all access and circulation is direct and equitable
    b. deliver a spatial generosity at each level
    c. ensure that the built form feels like an integral part of the landscape.
9. Given the volume and mass of the proposed built form, provide detailed study of the siting and form of the proposal, and external spaces adjacent the building to ensure that the desired spatial character andopen space amenity outcomes are optimised, and the diverse recreation needs of the students are met. Include:
    a. photos to understand the existing quality of these spaces
    b. detailed study of proposed setbacks and alignments to ensure optimal open space amenity, connectivity and view corridors.

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NSW GOVERNMENT

SDRP - FIRST REVIEW FEEDBACK

c. detailed drawings and views of the courtyards, transitional spaces and external learning areas to illustrate their spatial quality, character and nature of arrival from the south
d. the open space quality and amenity, including proposedshade
e. shadow studies at half hour intervals in midwinter to illustrate solar impacts created by the proposed STEAM building.
f. provide a wayfinding strategy for the entire campus

Architecture

10. Explore how the Connecting with Country design principles, particularly those generated by the *Eel Story* and *Whale Story* might inform the pedagogical approach and invite diverse spatial interactions within the central collaborative space.
11. Explore how the Connecting with Country design principle of 'enoughness' can inform the architectural strategy, including construction processes and materials, energy consumption and operation.
12. Provide detail of the sustainability strategy for the proposed building and how the central internal space might be heated and cooled given its scale and considerable western exposure.
13. Provide detail of the performative roof, including access to light, strategies for water capture and provision of pvs.
14. Demonstrate how the western façade might prevent glare and heat ingress.
15. Provide detail of the eastern elevation and any impacts to the neighbouring residential properties in terms of scale, noise and overshadowing.

Further review of this proposal is encouraged. The issues outlined above, and other projects that will form part of the SSDA submission, are to be addressed at the next SDRP session.

Please contact GANSW Design Advisor, Liz Bowra (Elizabeth.bowra@planning.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,

Emma Kirkman
Principal Design Advisor
Chair, SDRP

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NSW SDRP Panel members	Shaun Carter, Bianca Pineda, Rebecca Wark, Emma Kirkman (Chair)
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GANSW Observer	Brindha Kugan, Jeremy Giacomini
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13.02 SDRP - SECOND REVIEW FEEDBACK

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

5th December 2022

Toni Walter
Senior Consultant
Urbis
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PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 23rd Nov 2022 – Second Review**

Dear Toni,

Thank you for the opportunity to review the above project a second time. Please find below a summary of advice and recommendations arising from the design review session held on the 23rd November 2022.

The project team is commended for the clarity of their presentation which demonstrated a well-considered design approach to The Kings School, and a willingness to embrace comments from the first SDRP. A comprehensive landscape strategy, informed by Country narratives, would bring an overall cohesion to the masterplan and assist in the clarity of reading the campus as a whole, which risks being fragmented.

The following elements of the proposal are supported:

- compelling Connecting with Country narratives and principles, which have the potential to inform the macro and micro scale
- concept of Building as Teacher within the campus, including the initial vernacular studies
- spatial qualities of the STEAM building, and various functions of the learning spaces
- ESD initiatives of the STEAM building, including the performative roof
- amending the floor plan of the STEAM building to retain a significant existing tree
- intention to minimise impact when locating new staff accommodation
- overall philosophy of the school, which supports activity and a healthy approach to risk-taking
- unpicking the cluttered prep school buildings to create a connected and usable campus.

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The following commentary provides advice and recommendations for the project:

Connecting with Country

1. The design team is commended on the compelling Country narratives and principles. Consider how the five narratives can unify the individual projects, and assist in creating interconnectivity between the different sites.
2. As per previous advice, continue to incorporate physical and programmatic opportunities for deep engagement with site-specific conditions – e.g. sun, breeze, topography, flora and fauna, and seasonal microclimatic variations.
3. Enable living cultural practices to continue on the campus during the ongoing operation of the school.

Masterplan and Landscape

While each individual project on the campus is well considered, these would benefit from being further developed together as part of a holistic masterplan.

4. Prepare a site-wide landscape strategy, incorporating the established Connecting with Country narratives and principles. Consider the following:
    a. pathways between sites and landscapes across the campus to address topography and circulation between buildings
    b. soil biodiversity, ensuring soil remains connected within the landscape after works take place
    c. healing land and enriching soil through living cultural practices
    d. understanding and mapping the waterways and trees within the landscape.
5. Utilise Water Sensitive Urban Design principles to integrate the ecological systems of the dam into the wider site strategy.
6. Consider how the masterplan and landscape proposals can address climate action and integrate sustainability, including through restoration and regeneration across the campus.
7. Develop the masterplan to clearly identify demolition throughout the campus, including buildings and trees proposed be removed or retained.
8. Ensure there is sufficient budget to implement landscape proposals across the campus which are key to providing accessibility and creating connections.

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SDRP - SECOND REVIEW FEEDBACK

Prep School

9. Improve the clarity of the prep school. Consider the current limitations and proposed amendments required to improve the existing arrangement of buildings and wayfinding within the campus.
10. The concept of age-appropriate familiarity as a vernacular response is supportable, however in this instance it risks being overly restrictive. Allow the architectural proposal to respond to its context and embody the principle of 'wonder and awe', without relying too heavily on strict formal representations.
11. Review the depth of the floorplate of the performing arts centre. Consider providing opportunities for natural light between the new extension and existing hall.
12. Clarify the spatial quality and amenity of the lower ground undercroft spaces beneath the performing arts centre and general learning units, including how these are proposed to be accessed and utilised.
13. Ensure there is sufficient budget to allow for any decontamination or remediation associated with the demolition of existing buildings, which can be a significant cost.

Staff Accommodation

The ambition to minimise the impact and keep all landscape unharmed beyond the boundary of the existing tennis courts is supported, however the accommodation options as discussed at the SDRP should be presented to determine the best fit.

14. Present options for the arrangement of the accommodation, considering orientation, internal and external amenity and integration with the surrounding boarding houses.
15. Involve the landscape architect to propose any enhancements to the existing site and influence the final planning of the residences.
16. The preferred scheme comprises proportionally long and thin terraces. Consider the following:
    a. breaking down the traditional 'terrace' typology to allow more light into the space, utilising voids and internal lightwells
    b. amenity provision for teachers and their families, including gardens.

STEAM Building

The STEAM building has shown considerable development and continues to be supported.

17. Due to the bespoke nature of the proposal, continue to ensure there is sufficient budget to see the vision through, particularly in terms of the material selection.
18. Retaining the existing tree to the east, to support Country and reduce excavation is supported. Consider connection to surrounding trees and/or planting more native trees, which may be germinated from the existing tree, to create a family of trees.

Further review of the masterplan as a whole is encouraged. The issues outlined above, and other projects that will form part of the SSDA submission, are to be addressed at the next SDRP session. Please contact GANSW Design Advisor, Jeremy Giacomini (jeremy.giacomini@dpie.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,

Emma Kirkman
Principal Design Review
Chair, SDRP

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SDRP - SECOND REVIEW FEEDBACK

SDRP REVIEW - STAFF ACCOMMODATION RESPONSES

14.

In response to the SDRP feedback the planning of the staff residences has been significantly reworked to enhance the outcomes for internal and external amenity. The dwellings have been carefully designed with courtyards spaces in a "terrace with linked pavilion" typology to increase solar and natural ventilation amenity. Expressed party walls have been utilised to articulate the massing and provide definition to each of the dwellings.

15

The design is intended to "sit" within its landscape setting. The landscape design incorporates new plantings to embellish the surrounding bushland setting. A non-linear entry footpath enhances connection to the setting.

16

The proposal is constrained by its setting (tennis court) and existing trees.

The combination of stepped facades, courtyard spaces, balconies, raised planters and lawned terraces have been adopted in response to the SDRP feedback.

13.03 SDRP - THIRD REVIEW FEEDBACK

GOVERNMENT
ARCHITECT
NEW SOUTH WALES

8th February 2023

Toni Walter
Senior Consultant
Urbis
twalter@urbis.com.au

PROJECT: **The Kings School – STEAM Building**
RE: **State Design Review Panel – 1st Feb 2023 – Third Review**

Dear Toni,

Thank you for the opportunity to review the above project a third time. Please find below a summary of advice and recommendations arising from the design review session held on the 1st February 2023.

The project team is commended on a clear presentation of the Connecting with Country principles and campus-wide landscape strategy which demonstrates a considerate and cohesive design response. While the Country-centred approach appears to have informed the various design principles, the response would benefit from a rationalisation of these to assist in unifying the project.

The following elements of the proposal are supported:

- Connecting with Country principles, which have informed the landscape design strategy
- protection of the existing landscape to support the concept of flourishing non-humans
- cohesive and collaborative design approach
- breaking down the 'institutional' language, creating a village feel
- relocating the service area and bus parking
- net positive impact to landscape on the site
- intent to allow community use of facilities outside of term time
- development of landscape response to the STEAM building.

The following commentary provides advice and recommendations for the project:

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Connecting with Country

1. Explore how the Connecting with Country principles can be realised in the operation and curriculum of the school, such as encouraging access for the local and Indigenous community.
2. Demonstrate how living cultural practices will be supported on the campus.
3. Explore the concept of flourishing non-humans within the landscape and masterplan design, including the identification of any endangered wildlife, insects etc.
4. While the various design principles are supported and appear to be established with a Country-centred approach, the project would benefit from combining these:
    a. Rationalise the various principles into one set of holistic design principles.
    b. Establish a hierarchy of design principles.
    c. Consider the look and feel of the design principles and explore how these will be realised in the designed output.

Masterplan and Landscape

5. Explore the school's interface with the broader community, including physical and visual connections, and the opportunities and challenges of its contribution to environment, heritage, traffic, urban fabric etc.
6. Prepare a traffic assessment. Include:
    a. common methods of travel to school and proposed direction of access, including pedestrian, bus, train, and vehicle routes
    b. active transport provision location within the school and connections to existing and proposed cycle infrastructure
    c. pick up and drop off location, including alternative locations for the 'servicing zone'
    d. proposed parking capacity and location
    e. vehicle roads vs shared ways within the campus.
7. Explore how the concept of 'building as teacher' can extend to the pedagogy of the landscaped areas, ensuring opportunities for learning are present throughout the campus.
8. Further develop the landscape strategy and provide detailed drawings of the landscape response across the campus and particularly surrounding new buildings.

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NSW GOVERNMENT

SDRP - THIRD REVIEW FEEDBACK

Prep School

9. Consider the scale of the architectural proposal, particularly the large staircase at the main entrance, to avoid it being overwhelming for prep school age children.
10. Further develop the breaking down of the institutional language and the idea of 'village making'.

The following commentary from the SDRP 02 advice letter is still to be addressed:

Staff Accommodation

The ambition to minimise the impact and keep all landscape unharmed beyond the boundary of the existing tennis courts is supported, however the accommodation options as discussed at the SDRP should be presented to determine the best fit.

10. Present options for the arrangement of the accommodation, considering orientation, internal and external amenity and integration with the surrounding boarding houses.
11. Involve the landscape architect to propose any enhancements to the existing site and influence the final planning of the residences.
12. The preferred scheme comprises proportionally long and thin terraces. Consider the following:
    a. breaking down the traditional 'terrace' typology to allow more light into the space, utilising voids and internal lightwells
    b. amenity provision for teachers and their families, including gardens.

The issues outlined above, and details of the other projects that will form part of the SSDA submission, are to be addressed in the application and/or at the next SDRP session.

Please contact GANSW Design Advisor, Jeremy Giacomini (jeremy.giacomini@dpie.nsw.gov.au), if you have any queries regarding this advice.

Sincerely,



Emma Kirkman
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