

SPORT, WELLBEING & SENIOR LEARNING PRECINCT



ARCHITECTURAL DESIGN REPORT

PREPARED FOR: KAMBALA 21 AUGUST, 2020



GANSW DESIGN VERIFICATION STATEMENT

PROJECT NAME	KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT
PROJECT ADDRESS	794 NEW SOUTH HEAD ROAD, ROSE BAY, NSW 2029
ARCHITECTS NAME	MICHAEL HEENAN
REGISTRATION NUMBER	5264

I confirm responsibility for designing the proposed development and have applied the Education SEPP Design Quality Principles

Response to Education SEPP Design Quality Principles can be found within Section 12 of this report and on the pages as noted below:

1	2.1	Context, built form + landscape	Page 100
1	2.2	Sustainable, efficient + durable	Page 102
1	2.3	Accessible + inclusive	Page 103
1	2.4	Health + safety	Page 104
1	2.5	Amenity	Page 105
1	2.6	Whole of life, flexible + adaptive	Page 106
1	2.7	Aesthetics	Page 107

Visualisation of the Senior Learning precinct, image taken from corner of Tivoli, looking down the campus spine towards New South Head Road. 2020

KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT

ARCHITECTURAL DESIGN REPORT



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1.0 ARCHITECTURAL DESIGN STATEMENT

1.1 PROJECT SUMMARY

Greening the heritage campus and adding future-focused learning and sports facilities

The Kambala Sport, Wellbeing & Senior Learning Precinct is a once-ina-generation opportunity for Kambala to holistically reshape its campus and honour the school's heritage, with an innovative design reflecting the school's excellence in education, while cultivating a sense of community, care and place.

The Kambala Sport, Wellbeing & Senior Learning Precinct (KSWSLP) raises and expands the school's sporting fields to a rooftop level. A new sports hall, general learning areas, a senior learning commons, staff facilities and a centre to house the school's SHINE (wellness) program are located below. The new expanded sports precinct and its facilities will not only see Kambala continue to host sporting events, but to host compliant Netball games within a sports hall on campus for the first time. Raising the fields to be level with the roof of the adjacent Massie building will afford harbour views from the fields. Removing an accumulation of ad hoc campus buildings creates the opportunity to provide three new green spaces in addition to the sports fields, including a landscaped forecourt at the New South Head Road gates. Crucially, the project reinstates some of the historic curtilage to the heritage listed and centrally located Tivoli House. Originally constructed c1834 as a colonial gentlemans house and altered in 1845 and 1885 into a richly detailed two to three story residence, Tivoli House is a significant example of the Federation Arts and Crafts Style.

KSWSLP is stage one of a larger vision that unlocks other significant works in the masterplan by AJ+C. The KSWSLP and future projects will embody innovation in both the learning/teaching paradigm and sustainability in construction and future of operations.



2.0 SUMMARY OF NSW GA FEEDBACK

2.1 RESPONSE TO FEEDBACK

COMMENTS FROM NSW GA

'Development of the project is positive and delivers on the promise of a strong concept.'

Rory Toomey, NSW Government Architect Representative, 28/04/2020

The school engaged Woollahra Council, RMS and the NSW Governments Architects Office throughout the early stages of the project, November 2019. Most recently the NSW Government Architects Office reviewed the KSWSLP drawing package dated March 27, 2020 which included detailed architectural and landscape documentation prepared by AJ+C Architects and OCULUS Studio.

The following comments were provided in support of the project:

- + Development of the project since the last presentation to GANSW is positive and delivers on the promise seen in the strong concept design.
- + The resolution of levels and equitable circulation around the school campus appears simple in diagram and clear in resolution and is commended.
- + The design is supported and we look forward to seeing further development.

COMMENTS RECEIVED FROM NSW GA	RE
Integration of landscape and architectural ideas is becoming apparent and should be a priority as the project develops further.	Re
Opportunities for WSUD and the inclusion of renewable energy sources in the scheme should be explored and taken up.	Re Re
Utilisation of passive means to provide thermal comfort in the sub-ground spaces is strongly recommended given the opportunities of the project – eg. high thermal mass and proximity to harbour micro-climate and breezes.	Re
Introduction of the largest possible replacement trees is encouraged when implementing the landscape plan.	Re
Perimeter fencing to the top level sports courts and fields should be selected for maximum transparency and the structure engineered for visual lightness	Re

Kambala Sport, Wellbeing & Senior Learning Precinct illustration, view taken from Music Building entry, looking towards Tivoli, and the campus spine beyond - Irene Still, 2020

RESPONSE LOCATION

ESPONSE LOCATION

efer to Kambala Landscape Design Report by Oculus

efer to Kambala Landscape Design Report by Oculus + efer to Architectural Design Report - Section 12.2 + 12.5

efer to Architectural Design Report - Section 12.2 + 12.5

efer to Kambala Landscape Design Report by Oculus efer to Architectural Design Report - Section 10.8





Visualisation of proposal, image taken from 889 New South Head Road. 2020

3.0 RESPONSE TO SEARS

KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT | ARCHITECTURAL DESIGN STATEMENT | ALLEN JACK+COTTIER 11

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J			

Kambala Sport, Wellbeing & Senior Learning Precinct Proposal SEARS Requirements (Architectural Design Statement)

Response Location

4. Built Form and Urban Design	
Address the height -	Refer to Archit
Density	Refer to Archit
Bulk and scale	Refer to Archit
Setbacks	Refer to Archit
Interface of the proposal in relation to the surround development	Refer to Archit
Topography	Refer to Archit
Streetscape	Refer to Archit
Public open spaces	Refer to Archit

Idress the height -	Refer to Architectural Design Report - Section 10.3
Density	Refer to Architectural Design Report - Section 10.5
Bulk and scale	Refer to Architectural Design Report - Section 10.4
Setbacks	Refer to Architectural Design Report - Section 10.2
Interface of the proposal in relation to the surround development	Refer to Architectural Design Report - Section 10.13
Topography	Refer to Architectural Design Report - Section 5.4
Streetscape	Refer to Architectural Design Report - Section 5.8 + 12.0
Public open spaces	Refer to Architectural Design Report - Section 5.3
Idress design quality with specific consideration of the overall site layout -	Refer to Architectural Design Report - Section 12.0
Built form with specific consideration of the overall site layout	Refer to Architectural Design Report - Section 10.5
Streetscape	Refer to Architectural Design Report - Section 5.8 + 12.0
Open spaces	Refer to Architectural Design Report - Section 10.12 + Refer to Kambala Landscape Design Report by Oculus
Façade	Refer to Architectural Design Report - Section 10.6
Rooftop	Refer to Architectural Drawings by AJ+C
Massing	Refer to Architectural Design Report - Section 10.4
Setbacks	Refer to Architectural Design Report - Section 10.2
Building articulation	Refer to Architectural Design Report - Section 10.6 + 10.7
Materials and colours	Refer to Architectural Design Report - Section 10.7
ovide details of any digital signage boards, including size, location and finishes.	Refer to Architectural Drawings by AJ+C
	Pofer to Architectural Design Papert Section 12.0

Detail how services are integrated into the design of the development.		
Waste management	Refer to Demol by Waste Audit	
Loading zones	Refer to Traffic by The Transpo	
Mechanical Plant	Refer to Archite	

lition & Constuction Waste Management Plan it & Consultancy Services

c Impact Assesment oort Planning Partnership

Refer to Architectural Drawings by AJ+C

Provide detailed site and context analysis to justify the proposed site planning and design approach including:

Massing options	Refe
Preferred strategy for future development	Refe
Provide a detailed landscape strategy	Refe
Provide a visual impact assessment	Refe
Address CPTED Principles	Refe
Demonstrate good environmental amenity including:	Refe
Access to natural daylight	Refe
Access to natural ventilation	Refe
Acoustic seperation	Refe
Access to landscape and outdoor spaces	Refe
Future flexibility	Refe

Demonstrate that Aboriginal culture and heritage is considered and incorporated holistically in the design proposal.

Demonstrate consideration of opportunities for incorporation of: Green Roof, Cool Roof and / or Green Walls into the design of the new facilities.

5. Environmental Amenity	
Assess amenity impacts on the surrounding locality, including:	
Solar access	Refe
Visual privacy	Refe
Visual amenity	Refe
Overshadowing	Refe
Acoustic impacts	Refe

Conduct a view analysis to the site from key vantage points and streetscapes locations (photomontages or perspectives should be provided showing the building and likely future development).

er to Architectural Design Report - Section 9.0 er to Architectural Design Report -Section 11.0

er to Kambala Landscape Design Report by Oculus

er to Visual Impact Assessment by Urbis

er to CPTED Report by Ethos Urban

ier to Architectural Design Report - Section 12.5 ier to Architectural Design Report - Section 10.2

er to Architectural Design Report - Section 9.2, 11.0 + 12.6

Refer to Architectural Design Report - Section 12.1

Refer to Kambala Landscape Design Report by Oculus

er to Visual Impact Assessment by Urbis

er to Architectural Drawings by AJ+C

er to Environmental Impact Assesment by Ethos Urban

er to Visual Impact Assessment by Urbis

er to Architectural Drawings by AJ+C

er to Noise and Vibration Impact Assesment by Wilkinson Murray

Refer to Visual Impact Assessment by Urbis

nclude a lighting strategy and measures to reduce spill into the surrounding sensitive receivers.	Refer to Lighting
dentify any proposed use of the proposed facilities outside	Pofor to Social I
of school hours (including weekends)	
Assess any resultant amenity impacts on the immediate locality	Refer to Social Ir
Propose mitigation measures	Refer to Social Ir
Detail amenity impacts including:	
Solar Access	Refer to Archited
Acoustic impacts	Refer to Noise a
Visual Privacy	Refer to Environ
View loss	Refer to Visual Ir
Overshadowing	Refer to Architec
Wind impacts	Refer to Environ
A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Refer to Environ
Provide a view impact assessment that has been prepared in accordance with the established planning principles.	Refer to Visual I
3. Staging	
Provide details regarding the staging of the proposed development (if any).	Refer to Archited
Plans and Documents	
Architectural drawings showing: Key dimensions, RL's scale bar and north point.	Refer to Archited
Site Survey Plan, showing: Existing levels, location and height of existing and adjacent structures / buildings and site boundaries	Refer to Architec Survey drawings
Site Analysis and context plans	Refer to Architec

ng Strategy by LCI

Impact Assesment by Ethos Urban

Impact Assesment by Ethos Urban

Impact Assesment by Ethos Urban

ectural Drawings by AJ+C

and Vibration Impact Assesment by Wilkinson Murray

onmental Impact Assesment by Ethos Urban

Impact Assessment by Urbis

ectural Drawings by AJ+C

onmental Impact Assesment by Ethos Urban

onmental Impact Assesment by Ethos Urban

Impact Assessment by Urbis

ectural Design Report - Section 11.0

ectural Drawings by AJ+C

ectural Drawings by AJ+C + gs by RPS

Refer to Architectural Design Report - Section 5.0 + Architectural Drawing DA1002

Sediment and Erosion Control Plan	Refe
Shadow Diagrams	Refe
View Analysis -	Refe
Photomontages	Refe
Architectural Renders	Refe doci
Visual Impact Assessment	Refe
Geotechnical and Structural Report	Refe Refe
Accessibility Report	Refe
Acid Sulphate Soils Management Plan	Refe
Schedule of materials and finishes	Refe

3.0 RESPONSE TO SEARS

er to drawing C02 by TTW

er to Architectural Drawings by AJ+C

er to Visual Impact Assesment by Urbis

er to Visual Impact Assesment by Urbis

er to Architectural Drawings by AJ+C, also included throughout this ument

er to Visual Impact Assesment by Urbis

fer to Geotech Report by PSM fer to Structural Report by TTW

er to Access Review Report by Funkiton

er to Acid Sulphate Soils Management Plan Report by JBS&G

er to Architectural Design Report - Section 10.7



Tivoli Lawn, taken from Massie roof - Max Dupain, 1968

4.0 BACKGROUND

KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT | ARCHITECTURAL DESIGN STATEMENT | ALLEN JACK+COTTIER 17

4.1 KAMBALA'S HISTORY

Since the pioneering days of the late 1800s, Kambala's community has shared a common goal: to educate 'the whole girl'.

Kambala began as a humble class of 12 girls, taught in a terrace house in Woollahra by Miss Louisa Gurney, the daughter of an English clergyman. Louisa was later joined by Mademoiselle Augustine Soubeiran who became Co-Principal. The School moved in 1891 to a larger property in Bellevue Hill called 'Kambala'.

In 1913, with an enrolment of nearly 50, the School moved again to its current site, on New South Head Road in Rose Bay. The School operated within the Tivoli townhouse, the former home of Captain William Dumaresq. Tivoli has undergone several extensions and restorations; today, it remains the home to Kambala's boarders in Years 7 to 9, the Principals office, administration offices and the Health Centre who all enjoy some of the best harbour views Sydney has to offer.

Kambala has strengthened its reputation for academic excellence and the education of the whole girl through continually evolving teaching and learning practices, improving facilities and expanding the opportunities provided to students.



FIG.1











- FIG. 2 Taken from New South Head Road prior to 1928. Note the windmill situated in the space where the oval was later constructed.
- FIG. 3- View from Tivoli of Hawthorne Garden and Harbour beyond, 1969.
- FIG. 4 Kambala Athletics Competition in 1934.
- FIG. 5 Taken from Tivoli towards Sydney Harbour pre bridge construction, 1920'.
- FIG. 6 -Sports Field, taken in the 1950's.





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4.2 KAMBALA TODAY

Inspired learning. Empowering young women of integrity.

Kambala is an independent day and boarding school for girls up to 18 years. Kambala also has an early learning centre catering for approximately 70 girls and boys aged between 6 months and four years.

Kambala has evolved in an organic and ad-hoc manner over the last 100 years as the School, and its demands have grown.

This proposal seeks to increase the capacity of the school from the permitted number of 950 students to 1,020 students (increase of 70 students). No increases to staff numbers are proposed. It is understood that the existing school enrolments currently exceed the existing cap with 1,015 students. Therefore, the proposed increase in the school capacity would enable the school to continue its existing operation.



4.3 KAMBALA'S VISON

KAMBALA'S VALUES

Humanity | Courage | Curiosity | Respect

KAMBALA'S MISSION

Kambala's mission is to challenge and nurture every girl to realise her full potential for personal and academic excellence. They honour their heritage and Anglican traditions while creating an environment of innovation and change. As a community Kambala embrace diversity, foster inclusion and celebrate their capacity to make a difference in the world.

KAMBALA'S STRATEGIC PLAN - KEY PILLARS

- + Academic Excellence
- Care
- + Community
- Sense of Place

A KAMBALA EDUCATION

- + Allow students to make decisions and choices regarding their learning
- Encourage collaboration and shared thinking
- + Offering 2 higher education pathways; IB and HSC
- Provide integrated experiences which cultivate curiosity
- Provide opportunities to document, assess and reflect on learning
- + Foster independence and responsibility

Our Vision - Inspired learning. Empowering young women of integrity.

	Academic Excellence	Care	
Key Pillars	We foster a culture of personal excellence and growth in our students through academic rigour and a holistic approach to every girl's education.	We continue the Kambala traditions of respecting and caring for every student's unique abilities while nurturing their God-given potential.	We valu fam and t foster we pr
Focus Areas	Differentiated Learning Teacher Quality	Sport, Co and Extra Curricular Activities Service Learning and Reflection	Par
	Creative Assurants of a to Curriculum	High Quality Coast Coast	
Initiatives	Teaching and Learning	Extra Curricular Activities	Cu
	Develop creative approaches to curriculum, teaching and learning including STEM.	Deliver high quality activities to support our students in their pursuits beyond the classroom.	Foster the K innov throug
	New Frameworks for Feedback	Experiential Education and Service Learning	Coc
	Develop new frameworks for teacher/ student/parent feedback to enhance learning and encourage a broad use of data.	Review and continuously enhance our approach to experiential and service learning opportunities and emphasise the importance of students giving back to the community.	Deve philant to Kar
	Enhanced Teacher Practices	Visible Culture of Care for	Di
	and Knowledge	Staff and Students	_
	Review and enhance our approach to professional learning opportunities and introduce teacher coaching with greater observation of classroom practice and reflection.	Introduce and develop wellness support tools for staff and students. Enhance our framework for student pastoral care.	De and e
Blc ms	KITE (Kambala Institute of Teaching Excellence)	Passport to help e	every st
Prograi	Develop the Kambala Institute of Teaching Excellence to attract, retain and develop outstanding teachers.	Develop the Kambala SHINE pass experience through a comprehensive competencies that will prepare	port to sh program a e our your



tudent SHINE	SITE
hape the Kambala student's assisting in the development of ng women for the future.	Deliver a focused and timely program of capital works with disciplined project implementation.

4.4 KAMBALA'S FOCUS - FOR THE PROJECT

At first the project had a limited and tentative brief which was restricted by the confined nature of the site and the burden of history. Once the potential of the campus was revealed, AJ+C worked with Kambala to generate a brief to capitalize on this once-in-a-generation opportunity. The resultant brief is an attempt to physically implement the Kambala Strategic Plan 2019-2023, a blueprint to help the school to fulfil its vision.

The brief has three key components: sports, wellbeing and learning.

- Sports facilities include a multi-purpose sports hall located under the field, spaces for dance, strength and conditioning, a new all-weather synthetic sports field on the roof, plus amenities, which will allow Kambala to continue to host sporting events, as well as indoor netball and basketball games within the sports hall on campus for the first time.
- The wellbeing component involves a new centre to accommodate the Kambala SHINE program, which promotes development of the 'whole girl' – mind, heart, body and soul.
- The learning component includes a new senior learning precinct comprising flexible learning areas, a new senior learning commons and new staff facilities.
- The Kambala Institute of Teaching Excellence (KITE Centre) has been developed to attract and retain outstanding teachers. The KITE Centre will provide Kambala's teaching faculty with flexible workspaces promoting cross disciplinary interaction and collaboration.

Relationship Diagram, 22/03/2020

- Sports facilites
- Wellbeing / SHINE Centre
- Senior learning precinct
- Outdoor learning areas
- Staff amenities



4.0 BACKGROUND

4.5 BRIEFING PROCESS

AJ+C undertook a carefully considered and extensive briefing process with Kambala, which saw input gained from the following range of Kambala's stakeholders:

- Kambala's executive team
- The school council
- Heads of departments
- Staff representatives
- Student groups

Briefing workshops took place over the course of 10 weeks; from October to December 2019. Workshops primarily focused on the following areas; the briefing process itself, teaching and learning, sports, music, facilities, extra and co-curricular activities, general items and student interviews, the latter conducted in association with WMK.

The collected data was compiled and re-presented to Kambala as a

KAMBAL SPORTS PRECINCT REDEVELOPMEN FUNCTIONAL BRIEF





Functional Brief - 03 March 2020_ Issue D

Functional Briefing Document. The Functional Brief has been reviewed by Kambala's engaged stakeholders multiple times to date to ensure that the vision for the KSWSLP has been comprehensively captured.

4.6 KAMBALA STAKEHOLDER CONSULTATION

WMK conducted multiple workshops on the 27th of November 2019, which consisted of 3 sessions, senior students, junior students and teaching staff. WMK also conducted online surveys and interviews with Kambala's wider community.

Major themes arriving from this process demonstrate a desire for welcoming environments with visual connectivity, proximity to nature with an emphasis on native planting, natural lighting and operable windows and withdrawal spaces that feel cosy and embody a neutral palette.



Student Workshop, 27 November 2019



Output from Student Workshop , 27 November 2019



Functional Brief - 27 March 2020_Issue E

4.7 KAMBALA'S VISON FOR THE PROJECT

The excavation of part of the existing sports field to facilitate the construction of the following:

- sports facilities including weights room and dance studios.
- indoor multi-purpose sports courts for use by up to 1500 pax;
- innovative and flexible teaching and learning spaces.
- amenities, changerooms, storerooms, plant, circulation and ancillary spaces
- reinstatement of the sports field surface on the roof (sports field and perimeter fencing)
- spectator seating / bleachers.

The removal of the tennis courts (currently on the roof of the music building), and the construction of the following:

- + a wellbeing centre, called the SHINE centre, to accommodate the Kambala SHINE program
- a new staff centre, called the KITE centre, to accommodate staff workstations, meeting area and amenities
- reinstatement of the tennis courts, lighting and perimeter fencing on the new roof

A new eastern COLA and forecourt for the school, new external landscaped areas and new courtyards with amphitheatre.

Minor works to the existing music building to facilitate a new connection to the new courtyard.

The partial demolition of the Hawthorne building and the construction of a new façade, roof and landscaping; and

The demolition of the Arts building and the construction of new façades to adjacent affected buildings, and new landscaping to the footprint of the demolished building.

- Sports facilities
- Wellbeing / SHINE centre
- Senior learning precinct
- Outdoor learning areas
- Staff facilities / KITE centre
- Connection Links









LEVEL 1

ENTRY

Relationship Sketch, 17/03/2020



Photograph of Tivoli taken from the existing Tennis Courts, 2020



5.1 LOCATION

Kambala is located at 794 -796 New South Head Road, Rose Bay and is within the Woollahra Council local government area (LGA). Situated in the eastern suburbs of Sydney, the School is approximately 8km east of the Sydney CBD. The School is located on New South Head Road which is a classified road connecting the City with the eastern beaches. Predominantly residential uses surround the School.

The campus is bound by New South Head (to the east), Bayview Hill Road (to the north) and Tivoli Avenue (to the west). Fernbank Boarding House is located at 1A -3 Bayview Hill Road opposite the Kambala School grounds. No works are proposed to this part of the campus in this DA. The locational context of the School is illustrated in the image adjacent, which provides an aerial map of the School and its immediate surrounds.



📕 Kambala site

📕 1km radius

5.2 REGIONAL LOCATION, PUBLIC TRANSPORT & VIEWS

The site is accessed by the public transport bus routes; L24, 324, 325 + 386. With opportunities to transfer to the NSW Train network at Edgecliff, Kings Cross, Town Hall + Wynard Stations.

The Rose Bay Ferry Wharf is a 20min walk from Kambala.

- B1 WALSH BAY BUS TERMINUS
- B2 WATSONS BAY BUS TERMINUS

F1 - CIRCULAR QUAY WHARF

- F2 ROSE BAY WHARF
- F3 WATSON BAY WHARF
- T1 NORTH SYDNEY STATION
- T2 MILSONS POINT STATION
- T3 CIRCULAR QUAY STATION
- T4 WYNARD STATION
- T5 ST JAMES STATION
- T6 TOWN HALL STATION
- T7 MUSEUM STATION
- T8 KINGS CROSS STATION
- **T9 EDGECLIFF STATION**

📕 Kambala site

- Bus routes : L24, 324, 325 + 386
- Ferry route + wharves
- Train stations



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5.4 EXTENT OF SITE, BUILT FORM, HERITAGE ITEMS & TOPOGRAPHY

The School campus slopes down from New South Head Road in the east to the west and comprises a series of existing buildings in the western part of the campus that range in height and age. The south western and north western part of the campus accommodates much of the school's existing built form, while the eastern part has the school's sporting fields and tennis courts.

Topography is shown in 1m contour lines, with an RL of 49 as a high point on New South Head Road and an RL of 40 on the existing play field.

The majority of Kambala's campus is considered a heritage item, inclusive of Tivoli house, its interiors, gateposts, gates and flanking walls with railing facing Tivoli Avenue, as well as 2 Norfolk Island Pines. All are listed as heritage items in the Woollahra Local Environmental Plan 2014 (WLEP 2014).

The property description of the subject site is inclusive of

- + Lot 67 DP2538
- + Lot C DP310074
- Lot 1 DP1089403
- + Lot 1-12 DP1116858
- Lot SP64653
- + Lot 1 DP175832 (Bayview Hill Road)
- Lot 45 DP2538 (Bayview Hill Road)
- + Lot 46 DP2538 (Bayview Hill Road)
- H1 TIVOLI + INTERIORS
- H2 SANDSTONE GATE PIERS, GATES + REMNANT PALISADE FENCE LOCATED ON TIVOLI AVENUE

H3 + H4 - 2 X ARAUCARIA NORFOLK ISLAND PINES

Kambala site

- Heritage items
- Topographic RL's



5.0 SITE & CONTEXT ANALYSIS

5.5 EXISTING AMENITY

The School has excellent access to solar penetration to the majority of existing built form with any new buildings able to capitalise on passive solar design principles.

Between June to October, the site experiences prevailing winds from the north-west with east and southerlies during the spring and summer months.

The campus affords excellent views of Sydney Harbour as well as views of the Harbour Bridge and Opera House from some buildings and the Tivoli lawn. Existing buildings currently block views from the sports courts and field to the harbour.

New South Head Road is a classified road, which wraps the eastern border of the Schools campus. Due to its elevated height atop a steep embankment road noise on campus is minimised. A screen of trees towards the east boundary provides both the School and road with a visual buffer.





5.6 CIRCULATION & WAY-FINDING

Private vehicle access to Kambala is via New South Head Road, Bayview Hill Road and Tivoli Avenue with an underground car park for staff and logistics, (deliveries, waste and loading) located underneath Hampshire House off Tivoli Avenue.

Dedicated drop-off and pick up locations converge around the Bayview Hill Road and Tivoli Avenue Corner - staged collection times facilitate the movement of cohorts before and after School. Emergency vehicle access is via the New South Head Road gates which provides access into the centre of the School.

The Schools main entry point is off Tivoli Avenue through the heritage gates which provides access to Tivoli Lawn - primarily the centre of the campus. The site topography falls steeply from the northeast of New South Head Road; this constraint provides multiple pedestrian connection points to the north, west and south of the island site.



Kambala site

- Vehicle access
- Drop off / pick up locations
- Underground carpark
- Driveway / central spine

- > Service vehicle access
- Emergency vehicle access
- ▶ Pedestrian access
- B STA bus stop
- -- STA bus routes

5.7 VIEWS

The geographical location of the campus affords glorious views from elevated vantage points (VIEWS 1-3) to the south, west and north of Sydney Harbour including:

- A. NORTH SHORE HEADLAND
- **B. FORT DENISON**
- C. SYDNEY HARBOUR BRIDGE
- D. SYDNEY OPERA HOUSE
- E. CBD
- F. ROSE BAY BEACH

The new development will elevate the tennis courts and sports fields to align with the parapet of the Massie Building, which reinstates the harbour views previously hindered by the existing built fabric. (VIEW 4)

The elevated tennis courts and sports fields will not only provide a fantastic viewing platform for the greater school community of the harbour but the proposed KITE Centre, to be located above Music but beneath the Tennis Courts will provide teaching staff with generous Northern and Southern terrace spaces both with fantastic views towards Sydney Harbour.

The tennis courts and sporting fields will be enclosed by a perimeter wire fence, specially selected for maximum transparency and visual lightness to ensure maximised views.



Kambala site

- 🗾 Views
- 📂 Views blocked
- 🛹 View barrier



LOCATION PLAN, indicating side wide views.



VIEW 1 - From Hampshire House Harbour Room towards Sydney CBD and Harbour



VIEW 2 - From Tivoli towards Sydney Harbour



VIEW 3A - From Playfair towards Rose Bay Beach and Sydney CBD



VIEW 3B - From Playfair towards Sydney CBD and Harbour



VIEW 4 - From existing Tennis Courts towards Sydney arbour. View blocked by Massie. KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT | ARCHITECTURAL DESIGN STATEMENT | ALLEN JACK+COTTIER 33

5.0 SITE & CONTEXT ANALYSIS

5.8 STREETSCAPE

The site has the distinction of being an 'island' site which is relatively self-contained, with a minimal shared south boundary that neighbours a single residential block. The surrounding streetscape to the south-east of the campus, namely Tivoli Avenue is primarily characterised by large high-end residential houses on large landholdings, with plots that often run from Tivoli Avenue to the water's edge of Rose Bay. To the north of the campus is Bayview Hill Road which consists of similarly large residential blocks, Kambala's boarding facilities known as Fernbank and the wonderfully vegetated Forsyth Park, which has stunning harbour views across the Kambala Campus.

The current design has been rigorously tested to consider the impact of the built form on the surrounding streets. While Tivoli Avenue is unaffected, the new building mass and form will be visible from both New South Head Road and Bayview Hill Road.

The implications for New South Head Road are, for the most part, minimal. While the project will create a substantial new entry and forecourt which will be visible from the existing gates (VIEW 1), this alteration is a positive outcome, in that it provides Kambala with an eloquent street presence. New South Head Road rises 7-9 meters to the north, this height difference between the road and the playing fields is embraced by an embankment which runs along the site boundary. This unique topography significantly conceals the development (VIEW 3-4), which is further hidden by the proposed synthetic grass roof, resulting in minor visual impacts to the New South Head Road and its neighbours. The implications for Bayview Hill Road, will be affected by the additional level to be built above the existing Music Building (VIEW 6). It is important to note that the Music Building currently has an approved DA that permits construction higher than the KSWSLP proposal. Option testing led the design team to arrive at an overall lower RL height for the project than that previously approved. This move results in a project that maintains harbour views from Forsyth Park (VIEW 5), the corner of Bayview Hill Road and New South Head Road.



📕 Kambala site



VIEW 1 - Entry gates looking south on New South Head Road



VIEW 2 - From bus stop and gates on New South Head Road of trees as visual buffer



VIEW 3 - From New South Head Road towards Sydney Harbour





VIEW 6 - From Bayview Hill Road overlooking tennis courts towards Tivoli



VIEW 4 - From New South Head Road towards Minter



5.0 SITE & CONTEXT ANALYSIS

5.9 INTERNAL CAMPUS STUDY

The entry to Kambala from New South Head Road is through flanking gates (VIEW 1). This access point is not the primary entrance to the school; however, as it is adjacent to New South Head Road is often mistaken for being so.

The New South Head Road entrance gates lead to a driveway flanked by the Minter Building to the left and the sports fields to the right. (View 2)

Descending the driveway towards Tivoli and the centre of the campus, both Minter and a high-level densely planted embankment rise on either side. (VIEW 4) This landscape feels limited and reduces visibility across the school, even from the second story of the Minter Building. (VIEW 3)

Once arriving at the end of the driveway, ad hoc additions to buildings become prominent (VIEW 5) within the already limited space.

This KSWSLP proposal recommends the demolition of the addition to Hawthorne in favour of honouring the original façade, restoring the heritage curtilage to Tivoli and begin to introduce campus sight lines along a central spine.



Kambala site

liew direction


VIEW 1 - From campus spine towards entry gates on New South Head Road



VIEW 2 - From entry gates towards Minter, campus spine and Sports Fields



VIEW 3 - From Minter across campus spine towards south east end of Sports Fields



VIEW 4 - From campus spine towards Hawthorne



5.0 SITE & CONTEXT ANALYSIS

VIEW 5 - From Tivoli courtyard, towards Hawthorne extension and campus spine

5.9 INTERNAL CAMPUS STUDY CONT.

By demolishing ad hoc additions and restoring the heritage curtilage, the significant Tivoli House (VIEW 6) will be able to be seen from vantage points that it has not been for more than half a century.

The Tivoli courtyard is a campus node, offering access to multiple destinations, Music, Hawthorne, the canteen, Tivoli, Tivoli lawn, the tennis courts, and the sports fields. (VIEW 7) The KSWSLP proposes additional amenities to the above list, including an outdoor courtyard, the senior learning precinct, and the sports hall. As such, this area becomes a central node, of enormous architectural importance for the campus.

The proposal provides a beautifully detailed tri-level stair and visually transparent lift access to address existing accessibility issues across the level changes of Kambala's campus.

Oculus has provided landscape design for this area that incorporates native planting and re purposes the excavated sandstone. The school is committed and invested in the design excellence of this project, which can be seen in the intention to incorporate excavated sandstone into the permeable landscape design.

Ascending the stairs in VIEW 3 sees the arrival at the existing tennis courts to the left, and sporting fields to the right. The current height of the tennis courts negates harbour views (VIEW 8) as views are obscured by the presence of a heritage-listed Norfolk Island Pine Tree and the Massie parapet.

VIEW 10 demonstrates the significant level difference between existing sporting fields and New South Head Road. In contrast, VIEW 11 reflects the width of the existing sporting fields, currently too narrow to host compliant, competitive sporting games.



📕 Kambala site

🧢 View direction

New South Head Road entrance



VIEW 6 - From Tivoli courtyard of the rear of Tivoli



VIEW 9 - From tennis Courts towards Tivoli and Sydney CBD, bocked by Massie



VIEW 7 - From Tivoli courtyard towards Music, campus spine and Hawthorne extension



VIEW 8 - From Tivoli courtyard towards Stairs to Sports Fields and campus spine



VIEW 10 - From Sports Field towards New South Head Road along RMS retaining wall



VIEW 11 - From south east end of Sports Fields, towards Kicoppal depicting width



6.0 ACKNOWLEDGMENT OF FORMER PROPOSALS BY OTHER ARCHITECTS **DISCARDED BY KAMBALA**

Photograph of Norfolk Island Pine and Tivoli Lawn, taken from tennis courts, 2020

6.1 ANALYSIS OF SCHEME BY GARDNER WETHERILL

In 2004 a Development Application (511/2004) by Gardner Wetherill and Associates was submitted to Woollahra Municipal Council, seeking approval to construct a new Performing Arts Centre and Music Building at Kambala. This application was approved.

In 2005 a Section 96 was lodged (387/2005/1) that proposed the construction of a Gym, Sports Hall, Change Room, Offices and Performing Arts Centre. Development Consent for this amendment was received on 16 November 2006. Condition 11.2 of DA387/2005/1 notes the overall height for the Performing Arts Centre at 14M.

Two subsequent Section 96 modifications were lodged and approved, however neither modified the approved height of 14M's.

Kambala constructed the Anne and John Lewis Music Building. Which to date, consists of a two-level brick building with tennis courts located on the roof. These tennis courts are at the same level of the existing sports oval and are accessed via the oval.

The proposed Gym and Sports Hall were never constructed on top of the existing Music Building.

Had this construction gone ahead, harbour views for neighbours would have been significantly impacted as well as sight lines towards the heritage listed Tivoli lost.

FIG. 1 - Multi-purpose Centre - Roof Plan 31.08.09

- FIG. 2 Multi-purpose Centre First Floor Plan 31.08.09
- FIG. 3- South East Elevation 31.08.09
- FIG. 4 South Elevation 31.08.09
- FIG. 5 West East Elevation 31.08.09

FIG. 6 - Section (Looking North) 31.08.09









FIG.6





OUTH FLEVATION - VIEW FROM TIVOLI FORECO

SECTION AA - THROUGH MULTI PURPOSE CENTRE & SPORTS HALL - LOOKING NORTH 1.200

6.2 ANALYSIS OF SCHEME BY DURBACH BLOCH JAGGERS

In 2018 Kambala requested Durbach Block Jaggers Architects to prepare a feasibility study for the Hawthorne Building. The feasibility proposed an Amphitheatre to Level 3, lift to all levels, Refurbishment of levels 3 and 4 and importantly an additional fifth level on top of the existing four storey building. The feasibility also proposed a new amenity block to be located underneath the existing sports fields.

AJ+C were asked to provide thoughts on Durbach Block and Jaggers feasibility scheme. AJ+C believe increasing the height of Hawthorne by an additional level and taking the RL to 47.250 would -

- Significant impact the solar access and increase shadows to southern courtyards
- Significantly impact solar access and increase shadows to southern buildings +
- Block sight lines to heritage listed Tivoli, from New South Head Road entry
- Critically, block harbour views from neighbouring homes



FIG.1



FIG.3

- FIG. 1 Site plan, indicating Hawthorne in red. 2018
- FIG. 2 Site plan, indicating location of new amenities under sports field. 2018

FIG. 4 - Section, indicating proposed additional level. 2018

6.0 ACKNOWLEDGMENT OF FORMER PROPOSALS



FIG. 3- Axonometric, indicating proposed additional level to Hawthorne. 2018



7.0 DESIGN OBJECTIVES

Concept Sketch Kambala Forecourt - Peter Ireland, 2019

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"Design plays a critical role in achieving the aspiration we have for our future, because good design is about deep understanding and a creative synthesis of ideas, issues and people. Design offers both a stand-alone and contributing process to planning our future by bringing together creative intelligence, lateral thinking and capturing the collective imagination. Importantly, design is an iterative and inclusive process with much more to offer to decision making and planning in government."

NSW Government Architect 2017



7.1 DESIGN OBJECTIVES FOR KAMABLA

At AJ+C, our overarching mission is to seek outcomes that are creative, sustainable and innovative. For this project, this mission translates directly to our design objectives.

At Kambala, AJ+C's architectural design principle is to balance the poetic and aesthetic design qualities with technical and pragmatic considerations through creative, sustainable and innovative design. To seek an architecture with the appearance of a 'light touch' (for the community) but with 'maximum impact' for the School.

CREATIVITY

SUSTAINABILITY

The project delivers a totally new and unexpected way of accommodating additional GFA and quality learning facilities onto a highly physically constrained campus. Using the existing site fall to raise and expand the sports fields and build a new senior learning precinct beneath will unlock the vast potential of the site which harmonises with Kambala's Strategic Plan (2019-2023) and maximises land value.

Taking a holistic view of sustainability for the project and for the school operations means looking beyond materials, energy and water consumption to community, wellness and the future-proofing of the campus.

INNOVATION

below.

Design that explores flexible teaching and learning spaces and utilizes the cantilevered sports fields for innovative strategies around insulation, ventilation, air flow and natural lighting to the brand new learning commons





Kambala Sport, Wellbeing & Senior Learning Precinct illustration - Irene Still, 2020

8.0 DESIGN PRINCIPLES

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8.1 DESIGN PRINCIPLES

Through designing additional floor space under the sports field, we could remove some of the intrusive building additions from the campus, open up new courtyards, and reinstate the historic curtilage of Tivoli House, thereby 'greening' the campus, vastly improving its amenity and flexible teaching opportunities.



Proposed new green spaces for Kambala

Elevating the playing fields, reinstates harbour views.

OUR INITIAL APPROACH

Having come to this brief circuitously, we approached Kambala with fresh eyes and a radical proposal: what if, instead of adding more building mass to an already crowded campus, we instead, peel away decades of ad hoc intrusive additions, then raise up and expand the sports fields, and use them as the roof for an entirely new learning precinct below. The benefits of unlocking the campus in this way are enormous - both in educational outcomes and increased land value.

GREENING OF THE CAMPUS

CONSTRAINT

An accumulation of ad hoc buildings and extensions throughout the campus obscure Tivoli House, the beautiful mansion at the heart of the campus, and cause general congestion to the built form of Kambala's campus.

OPPORTUNITY

Remove the ad hoc building additions. This creates the opportunity to provide three new discrete green spaces in addition to the sports fields, including a landscaped forecourt at the New South Head Road gates.

The greening of the campus restores historic curtilage around the heritage-listed Tivoli House, re-establishing its presence at the centre of Kambala's prominent harbour-side campus.

MAXIMISE & MAINTAIN VIEWS

CONSTRAINT

The height of the Massie Building currently blocks the harbour view from the tennis courts and sports fields. Any proposed additions on top of existing school buildings would block neighbour's views to the harbour. Despite this Kambala currently has an approved DA for an additional story above the existing Music Building.

OPPORTUNITY

Raise the new sports fields to align with the Massie building roof to provide improved views and the opportunity to increase Kambala's GFA.





Building underneath elevated playing fields provides essential GFA.

Cantilevering the playing field, provides Kambala with a football field.

Providing additional GFA in a highly constrained campus

UNLOCK CAMPUS LEVELS AND CONNECTIVITY

CONSTRAINT

The existing sports fields are elevated above Kambalas circulation path, with central access provided only by stairs. The current circulation is not ideal for access or visibility across the campus.

OPPORTUNITY

The existing sports fields are significantly lower than New South Head Road, which provides an opportunity to elevate the sports fields and locate the Senior Learning Precinct beneath. New stairs, and lift access will be provided, improving accessibility and campus connections.

INCREASE SPORTING AMENITIES

CONSTRAINT

The existing field is too narrow to host compliant sports events and there is no available volume on the campus large enough to fit a sports hall with a 7m ceiling.

OPPORTUNITY

Making the new elevated sports field sufficiently wider would allow the hosting of sports events. This would simultaneously provide shade to the new learning spaces below and weather protection for the external areas. Working with the levels means we can fit the high sports hall partially below existing ground level but still with transparency to the outside.

INCREASE AVAILABLE GFA

CONSTRAINT

The site is landlocked with no possibility of purchasing additional land to build an equivalent building.

OPPORTUNITY

Optimise land value by raising the sports fields to the height of Massie to accommodate a new sports hall, senior learning common and staff facilities to be contained beneath. Providing 5,700 m2 of additional learning space under the elevated new sports fields allows the campus to breathe.

8.0 DESIGN PRINCIPLES



8.2 STRUCTURE PLAN - LEVEL ONE

The following outlines the key design principles forming the Level One Structure Plan to establish a vibrant and attractive outcome that contributes to the growth and identity of Kambala.

Greening of the Campus

- + Enhance indoor / outdoor connections
- + Provide landscaped amphitheatre /courtyard

Maximise and Maintain Views

+ Provide two new view corridors to Tivoli, from Central Spine and Courtyard

Unlock Campus Levels and Connectivity

- + Enhance open space and pedestrian networks
- + Enhance connectivity between levels

Increase Sporting Facilities

- + Sports Hall
- + Amenities

Increase GLA's

- + Implement a Senior Learning Precinct
- 📕 Kambala site
- No change
- Existing Kambala buildings
- Significant buildings offsite
- III STA transit route
- Underground
- → Through site link
- Vertical circulation

- Open space
- Significant landscape
- Outdoor learning area
- ↔ Indoor / outdoor interface
- Central spine / paved
- 💉 Community Hub
- Teaching and learning
- Sports facilities



8.2 STRUCTURE PLAN - LEVEL TWO

The following outlines the key design principles forming the Level Two Structure Plan to establish a vibrant and attractive outcome that contributes to the growth and identity of Kambala.

Greening of the Campus

- + Enhance school address with landscaped central boulevard
- + Provide landscaped terrace to KITE and SHINE
- + Provide COLA at forecourt

Maximise and Maintain Views

+ Provide planters to L2 classrooms, to activate views of greenery

Unlock Campus Levels and Connectivity

+ Enhance campus connectivity

Increase Sporting Facilities

Multipurpose Spaces

Increase GLA's

- + Implement a Senior Learning Precinct and Learning Commons
- 📕 Kambala site
- No change
- Existing Kambala buildings
- Significant buildings offsite
- STA transit route
- Underground
- --+ Through site link
- → Ramp to sports fields
- Vertical circulation
- Central spine / paved

Open space

- Significant landscapeOutdoor learning area
- _____g
- Indoor / outdoor interface
- Landscape buffer
- 🔌 Community Hub
- Senior learning precinct
- Multipurpose sports facilities
- Staff facilities (KITE)
- Wellness facilities (SHINE)



8.4 STRUCTURE PLAN - ROOF

The following outlines the key design principles forming the Roof Level Structure Plan to establish a vibrant and attractive outcome that contributes to the growth and identity of Kambala.

Open space

Significant landscape

Indoor / outdoor interface

Sporting fields + Tennis Courts

Outdoor learning area

Landscape buffer

Community Hub

 \leftrightarrow

*

Maximise and Maintain Views

- + Enhance harbour views from elevated level
- + Provision of webnet fencing

Unlock Campus Levels and Connectivity

+ Provide connectivity from sporting fields to street

Increase Sporting Facilities

- + Sports Fields
- + Tennis Courts

	KINCOPPAL	
	BAYVIEW HILL ROAD	
	TVOL	HAWTHORNE
	TIVOLI AVENULE	
PORT JACKSON		
	DUMMARESQ ROAD	

- Kambala site
- No change
- Existing Kambala buildings
- Significant buildings offsite
- III STA transit route
- Underground
- --+ Through site link
- → Ramp to sports fields
- Overtical circulation
- Central spine / paved







9.0 MASSING OPTIONS & FUTURE FLEXIBILITY

Photograph of Kambala and Sydney CBD beyond, taken from Forsyth Park on the corner of New South Head Road and Bayview Hill Road, 2020

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Existing Conditions

9.1 MASSING OPTIONS

OPTION 1 - SPORTS HALL ABOVE MUSIC

OPTION 2 - ADDITIONAL LEVEL TO HAWTHORNE

The AJ+C team carried out a series of meetings with key stakeholders at Kambala, to ensure a carefully considered, documented, and thoroughly reviewed set of principles drove a high-quality design outcome.

AJ+C undertook a massing study to explore options for locating major building elements. The design team analysed these options by considering solar amenity, overshadowing, future flexibility and connectivity.

A double height sports hall above existing Music Building results in significant overshadowing to the campus, harbour views impacted for neighbours and sight lines lost to heritage listed Tivoli House.

Additional GLA's above existing Hawthorne Building results in overshadowing to southern courtyards and buildings and reduces sight lines to heritage listed Tivoli. Additionally, minimal GFA would be gained from this extension.



OPTION 3 - GLA'S ABOVE MUSIC

OPTION 4 - SPORTS HALL TO COURTYARD

OPTION 5 - PREFERRED SCHEME

Single story GLA's above music, with terraces to the north - west and south. Compared with Option 1, a single story would reduce the height and view impact to neighbours, however the existing building structure reduces flexibility of teaching and learning spaces.

Sports Hall to interface with north facing courtyard. Potential for indoor / outdoor sporting activities. Location of Sports hall is fantastic for natural light and ventilation, however significant sun shading would be required to reduce the glare in the hall. This arrangement also results in little to no natural light to GLA's which are buried in the centre of the volume.

This scheme was the preferred option, which met the objectives and needs of the brief. This arrangement prescribed a solution that allows for future flexibility and a range of uses in the future. This scheme also provides the most efficiencies, such as a shared lobby between the Senior Learning Precinct and the Sports Hall, which doubles as a significant entrance for students, staff and visitors.

Importantly, this scheme positions the learning areas on the sunniest side, creating a senior learning precinct with high amenity and comfort.

- Senior Learning Precinct / GLA's
- KITE Centre / Staff Facilities
- SHINE Centre
- Sports Facilities

9.0 MASSING OPTIONS & FUTURE FLEXIBILITY

9.2 INTERNAL FLEXIBILITY

The proposed KSWSLP is designed to adapt to changes in teaching and learning pedagogy, advances in technology and societal change. The concept of a 'base building plus fitout', like a commercial office project, has been applied to the design.

The structural grid is rationalised to a flexible large-span grid of circular concrete columns, allowing a multitude of interior configurations. The outermost columns of the grid are external to the façade, further improving this flexibility.

Base building elements such as stairs and wet areas are designed and located to function with a variety of future modes in mind. The detailed design of services and acoustics will continue to inform the design development of the interior spaces.





Structural Grid

LEVEL 2 - Opportunity Analysis





LEVEL 2 - Priority Facade Study

LEVEL 2 - Internal Layout - Prioritising Common Area

LEVEL 2 - Flexible Floorplate







9.0 MASSING OPTIONS & FUTURE FLEXIBILITY



9.2 INTERNAL FLEXIBILITY CONT.

Briefing for the project was done in parallel with an independent campus-wide education study which included a gap analysis, benchmarking, development of teaching models, and functional area briefs. The findings of this study inform the initial fit-out of the project.

A key aspect of this was to provide general learning areas of different sizes to cater for Year 11 and Year 12 class sizes, ranging from 1 to 22 students. The fit-out also incorporates a flexible 'learning commons' to provide further flexibility for teaching. The learning commons provides for a range of activities such as group learning, presentations, specialised focus sessions, project space, display areas, student breakout, teacher meetings and quiet, individual areas.



LEVEL 2 - Interior Layout Option 1

LEVEL 2 - Interior Layout Option 2











LEVEL 2 - Interior Layout Option 3

LEVEL 2 - Interior Layout Option 4

LEVEL2 - Interior Layout Option 5





9.0 MASSING OPTIONS & FUTURE FLEXIBILITY





10.0 DESIGN RESPONSE

Visualisation of the Senior Learning precinct, image taken from corner of Tivoli, looking down the campus spine towards New South Head Road. 2020

KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT | ARCHITECTURAL DESIGN STATEMENT | ALLEN JACK+COTTIER 65

10.1 PROJECT SITE WITHIN THE CAMPUS

The site of this SSD project is illustrated in pink within the School campus in the diagram adjacent. The extent of the site proposed for new buildings is on top of the existing sports field and music building. Demolition works , associated façade redevelopment and landscaping works are to a limited component of the existing Hawthorne Building and the Arts Building. New landscape works will include all external spaces connecting the work mentioned above.

The existing embankment to New South Head Road is partially covered by stone facing which is subject to an RMS easement. This portion of the campus is not considered a part of the project site. However, it is proposed that the raised sports field will partially cantilever over the embankment.

Kambala anticipates the construction works to be staged. Therefore the construction site for any given stage will be smaller than the overall site identified.

10.2 SETBACKS

Kambala is effectively on an island. The only adjoining neighbours are at the corner of Tivoli Avenue and New South Head Road.

There are no established setbacks in the area of the School that is to be redeveloped.

As such, the new setbacks are the result of an urban context analysis to ensure that the proposal's relationship and interface with the public domain will be a positive contribution to the area.



SSD Project Site

10.3 HEIGHTS

It is a core principal of the KSWSLP proposal to not add any height to existing buildings (other than to the Music Building – the roof of which is presently level with the sports field). Instead, the proposal works with the existing site slope to largely conceal the building below the level of New South Head Road. An extensive view analysis has been undertaken to validate the success of this approach. The maximum building height for KSWSLP is 12.5M.

10.4 MASSING, BULK AND SCALE

The KSWSLP design proposal was initially a reaction to an alternative proposal to construct a new top floor upon the existing Hawthorne building, AJ+C believed this proposal would have cast more shadows over other buildings and courtyards and, critically, block harbour views from neighbouring homes.

Kambala has a long frontage to New South Head Road, a busy vehicle corridor. The campus level is generally well below the level of the footpath, offering a visual connection from the public domain to Rose Bay and the city beyond. While this edge condition will be preserved, there is little opportunity to improve conditions beyond the site, due to its level difference.

The building's longest façade flanking the sports field directly facing the Hawthorne and Minter buildings provides an undercover walkway for staff and students from new South Head road to the heart of the campus and is modulated to balance its mass and scale in response to the setting. To the east it is recessed creating a generous COLA, while the remaining façade is split into two sections of different architectural expressions that relate to interior uses. One appears as a two-storey concrete-framed structure, the other is a steel-framed sports hall. The cantilevered sports field above is the unifying element offering shade and weather protection to all three sections of the façade below.



- Existing Built Form Levels
- Proposed Levels

10.0 DESIGN RESPONSE

[•] Existing Road Levels

10.5 DENSITY AND BUILT FORM

GROSS FLOOR AREA

Pre Development : 14,824m

Post Development : 19,717m

FLOOR SPACE RATIO

Pre Development : 0.66:1

Post Development : 0.88:1

BUILT FORM

The proposed built form sits underneath the raised sports fields and is split into 2 portions separated by a central courtyard.

From a bird's eye view, the project has a continuous roof, from the ground plane it has been designed as a series of buildings - the northern portion is a vertical extension of the music building (Building A) and the southern portion is a wholly new building.

The new building has been articulated to express three distinct albeit contiguous buildings – referred to as buildings B, C and D. The variations in building articulation are relative to the functions contained within, and are described on the following pages.



Building B

- Building C
- Building D

[•] Building A

10.6 FACADE - BUILDING B

Building B is the two-storey concrete-framed senior learning precinct. This building contains the foyer, change rooms, store room and seating for the sports hall adjacent Building C.

This building occupies a prominent corner position in the heart of the school campus at a crossroads between landscape areas and through-site sight lines. The articulation of the facade is designed to balance the aesthetic requirements of this setting with the functional requirements of the enclosed spaces.

Aesthetically, the façade is banded into 2 storeys to break down the vertical scale. External columns (used to free up the flexibility of the floor plate) create a rhythm of facade bays. Each bay is articulated by glazed openings with a soft arched profile created by the vaulted soffit lining. The geometry and scale is similar to the proposed newly-restored Hawthorne façade opposite, which is intended to create consistency between the two buildings. The façade is dominated by horizontal planter at the expressed edge of the level 2 slab, which softens the architecture and creates a pleasant outlook from the learning areas.



10.0 DESIGN RESPONSE

10.6 FACADE - BUILDING C

Building C is a double-height large span sports hall. The floor level of the hall sits below the external level – so the fully glazed façade is actually high-level glazing when viewed from inside.

The design intent is threefold:

- + To create a simple and honest expression of the building's structure is deep steel portal frames at 3.6m centres
- + To permit the maximum amount of natural cross-flow ventilation and mechanical relief air by maximizing the area of automated operable glass louvres
- + To enable a high degree of visual transparency so that the activities within the hall can be viewed by passers-by on the forecourt above

The sculptural acoustic ceiling inside the hall continues through the glass line and forms a rhythmical vaulted covered walk. The geometry of the vaults is repeated across buildings B, C and D creating a consistent roof plane



10.6 FACADE - BUILDING D

Building D is a single-storey concrete framed building designed for flexibility, it will accommodate a variety of uses including a weights room, multi-purpose dance rooms, PDHPE staff room, storage and plant.

The façade has been pushed back by approx. 8.8m relative to building C adjacent, to create a generous covered outdoor learning area (COLA). Building D marks the point of address for visitors to the school arriving via the New South Head road gates. The façade and deep COLA have been designed as the edge to, and extension of, the school forecourt area.

The façades are simple and fully glazed, providing views into the weights room and dance room, and importantly, into the sports hall.

The central feature of this façade is proposed to be a pair of columns clad in sandstone cut from the site during the excavation.



10.7 MATERIALITY AND COLOURS

MATERIALITY CONTEXT

In its current state the campus lacks a cohesive architectural and landscape language. It reads as an assemblage of building styles representing 100 years of construction and expansion. The landscape spaces are primarily understood as leftover spaces between buildings with little character or amenity of their own. The most distinguished building on campus is Tivoli House, c1834, a richly detailed two-storey residence in the Arts & Crafts style.

The aesthetic of the proposed KSWSLP responds to this setting with a holistic approach to the architecture and landscape design which seeks to restore a sense of place to the campus. The material palette is a key part of this ambition. The architecture and landscape materials have been carefully selected to deliver aesthetically pleasing and inspiring spaces for students and staff, visitors, and residential neighbours.

MATERIALITY RESPONSE

The aesthetic of the proposed buildings will defer to Tivoli House, and subtly reference its aesthetics of colour, line and decorative motifs. In this way the new architectural language offers a 'light touch', so that from most vantage points. once completed, the tectonic changes of the project will be barely perceptible. The facades are simple and streamlined, adopting a regular grid, expressing their structural intent. The facades typically have a high window-to-wall ratio for indoor-outdoor connection, with high transmittance glass that delivers a timeless clear appearance, while optimising daylight.

The building's longest façade, directly facing the Hawthorne and Minter buildings, is modulated to balance its mass and scale in response to the setting. The façade is split into three sections of different architectural expressions that relate to interior uses. To the west it appears as a two-storey concrete-framed structure, in the centre is the steel-framed sports hall, and to the east is a single-storey concrete framed building with a COLA.

Façades will use durable materials including sandstone (with the intent being to saw stone on site during excavation), marine ply (soffit lining), off-form concrete and high-performance glass. The marine ply soffit lining to the main external covered walkway is curved such that its arched geometry references the iconic central bays on the west façade of Tivoli as well as the original (to be restored) north facade of Hawthorne. The repetitive segmental arch motif becomes a unifying element for Tivoli, Hawthorne and the new building and will provide definition to the new external spaces these buildings create.

The palette of landscape materials is similarly robust: a mix of natural stone paving in various sizes and finishes, concrete, sandstone, steel edging and seasoned hardwood. The landscape design includes large areas of soft landscaping, deep soil zones and permeable paving, to maximise re absorption of water into the ground plane.



All-weather acrylic hard

court surface

Synthetic

multi-sport turf

Stainless steel tensile webnet fence Steel balustrade

Off-form concrete floor and roof slabs

Ref. to Landscape Arch. Dwgs.


match to original

match to original

10.8 TENSILE WEBNET FENCE

The key to the project is to elevate the sports field and build beneath it – this unlocks the campus potential and removes pressure to shoehorn additional functions into a physically constrained site. The proposal works with the existing site slope to largely conceal the building below the level of New South Head Road.

Any elements extending vertically above the sports field level have the potential to be obstructive to views towards the harbour – both from the public domain as well as from private dwellings. Therefore the design of the sports field perimeter fence is considered to be of importance to the success of the project. This consideration was reinforced in the response we received from the Government Architect NSW in April 2020.

The design must be selected for maximum transparency and the structure engineered for visual lightness. We propose to respond to this limitation by using a stainless steel tensile webnet fence. This fence design relies on vertical posts and has only a thin steel rod top and bottom to provide the tension to the fence. The gauge of the steel mesh is fine and the apertures are large – this means that this fence design balances the requirements for robustness and safety with the desire for transparency.



- FIG. 1 Visualisation of proposed Sports Fields, view from New South Head Road, 2020
- FIG.2 Prince Alfred Park Pool Fence, Sydney CBD, 2019
- FIG. 3 Abbotsleigh Sports Field and Fence, 2016
- FIG. 4 Entrance to Abbotsleigh Multipurpose Hall and Fence, 2016







10.9 VISUAL IMPACT ASSESSMENT

Through rigorous testing of each architectural study we assessed the height, density, bulk, scale, and setbacks in relation to the neighbouring buildings, streetscape, and existing topography to minimise any negative impacts.

A Visual Impact Assessment (VIA) has been prepared by Urbis in collaboration with Richard Lamb and Associates, and forms part of the application. Twelve view locations were tested and the locations most likely to be impacted are as follows:

+ View 6, View 9, View 10, View 15 and View 16.

There would be low to medium visual exposure to most publicly accessible view locations other than some elevated close views from New South Head Road, that may be associated with higher levels of visual effects, generally characterised by a change in site levels and the visibility of new and approved buildings.

'View loss to the public domain would be likely to be minor.'

Page 4. Public Domain Views Analysis, April 2020

The design response achieves a sensitive approach to the massing and elevational treatment of the development. The preferred option for KSWSLP nestles the bulk of the building within the topography to conceal as much of the mass as possible from its neighbours. The new development seeks to enhance and celebrate the existing built form within the campus by being sympathetic to heritage buildings and minimising impact to the amenity and views of the neighbouring properties.

Kambala site

Views impacted



10.10 HERITAGE STRATEGY

The school is listed as a local heritage item under the Woollahra LEP 2014 and a detailed Heritage Impact Statement has been undertaken to assess the impact of the new development in accordance with the NSW Heritage Branch guideline 'Assessing Heritage Significance'.

At the centre of the Kambala's campus are built and landscape items which are considered to be highly significant to the social and historical context of the site. Namely, Tivoli House, its interiors, the gateposts, gates and flanking walls with railings facing Tivoli Avenue as well as two Norfolk Island Pine trees.

To construct the new Sport, Wellbeing and Senior Learning Precinct the proposal is to excavate the existing sports fields as well as build an additional level on top of the existing Music Building (for which an approved DA has previously been granted). The Heritage Impact Statement has assessed the existing Sports Fields which date from c1935 to have been modified, determined not original or to be considered as a significant element to the place.

Demolition of contemporary additions and structures to the rear of Tivoli, part of Hawthorne Building and the Arts Building will recapture open space surrounding the heritage listed Tivoli building and improve the buildings setting and curtilage.



EXISTING VIEW - Central driveway / spine, looking towards Hawthorne and Tivoli



PROPOSED VIEW - from central spine, towards new Hawthorne facade and Senior Learning Precinct with Tivoli being revealed

10.11 SIGNIFICANT VEGETATION

The school has identified a protection plan for the heritage-listed trees on-site and a tree replanting strategy to ensure that any trees to be removed, for various reasons, are replenished to protect the natural environmental qualities of the campus.

The subject site identified as item 325, Kambala School, as listed under schedule 5 of the Woollahra Local environment Plan (LEP) 2014, The listing mentions the following trees:

+ 2 Norfolk Island Pines

The Arboricultural Impact Assessment report prepared by Arborlogix identified that there is one historically significant tree documented within the school grounds, a Norfolk Island Pine (A) located within Tivoli Lawn that has been recorded as essential, for retention and will be protected.

The report further identified that for the development of the KSWSLP there would be a need to remove at least 16 trees within site to accommodate the development. However, there would only be one high retention tree (a Chinese Elm located near the centre of the campus) and four medium retention trees that will require removal. The remaining 11 trees recommended for removal are all ranked as low retention trees and all but two Cocoa Palms will be reinstated elsewhere within the Kambala campus.



- Heritage listed trees
- Trees to be removed and replanted

Trees to be removed

- Trees to be retained and protected
- New trees

10.12 LANDSCAPE STRATEGY

Oculus's landscape design strategy is a direct response to the campus, its physical context, natural character, heritage and harmonises with the architectural concept and proposed built form.

The landscape design proposes to increase the green spaces throughout the campus significantly. Oculus will provide a legible entrance to Kambala and reinforces the east and west pedestrian axis. The design also creates a network of connected outdoor spaces and distribute mature trees across the campus, which will not only increase the visual connection to the natural environment from classrooms but will provide covered areas for classes to take place outdoors.

This holistic re imagining of outdoor space is transformational, not only for its physical effect on the campus but in the provision of new educational possibilities creating a functional, flexible and modern school for Kambala.

- 01 All-weather sports field and tennis courts
- 02 Entry plaza
- 03 Covered outdoor learning area (COLA)
- 04 Tivoli Walk (central spine)
- 05 North courtyard with densely planted terraces
- 06 Tivoli Plaza / Town Square
- 07 Southern courtyard and café hub
- 08 Common lawn with mature trees



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10.13 INTERFACE

The KSWSLP project has been positioned to align with the existing built form of the campus. This strategy provides an opportunity to improve clearances between buildings and enhance the existing central spine by creating a landscaped boulevard out of what is currently a driveway.

Thorough site analysis revealed that a previously underutilised area 'VIEW 1 Before / After' (Ref. to Page 81) could become a pivotal circulation node for Kambala's campus. The area shown as Town Square, plays a vital role in the KSWSLP project, encompassing connectivity and visibility previously not available to the school.

VIEW CORRIDORS

- + TO COURTYARD
- + TO TIVOLI LAWN AND BEYOND
- + TO ALEXANDER
- + TO NSH ROAD

ACCESS FROM TOWN SQUARE

- + SPORTS FIELDS
- + MUSIC BUILDING
- + TIVOLI
- + SENIOR LEARNING PRECINCT
- + SPORTS HALL
- + HAWTHORNE





A. From New South Head Road

B. From Courtyard

10.0 DESIGN RESPONSE



VIEW 1 Before - Underutilised area (Ref. Page 80)



VIEW 1 After - View of KSWSLP from Town Square (Ref. Page 80) KAMBALA SPORT, WELLBEING & SENIOR LEARNING PRECINCT | ARCHITECTURAL DESIGN STATEMENT | ALLEN JACK+COTTIER

10.14 CIVIL STRATEGY

EXISTING STORMWATER PIPES AND THEIR EASEMENTS

A stormwater management report has been undertaken by TTW to identify the potential for the diversion of the existing stormwater pipes and easements across the campus to accommodate the proposed new work.

The stormwater system analysis was completed using DRAINS software for the 1% Annual Exceedance Probability (AEP) flood event. Results confirm that significant overflow would occur on New South Head Road during 1% AEP flood event (1 in 100-year event) of about 10.7 m3/s. To maintain the stormwater system capacity under the proposed building, we propose increasing the pipe size as well as relocating the easement. We propose upgrading the existing 450mm diameter pipe to a 750mm diameter pipe. The increased pipe capacity will allow the proposed development to be built over the stormwater system without affecting the performance of the stormwater system or the overland flow capacity through the site.

The design has carefully considered future access requirements to the pipe in order to allow maintenance or repairs to be carried out. We understand that such maintenance is a rare occurrence but that provision for it is critical to the idea of building over the pipe. Accordingly, the pipe underneath the new building is proposed to be a steel pipe to satisfy the 20m head requirement. It is exposed in the back of the store room behind the sports hall on level 1, providing good visibility. In the design, maintenance access can be from above or to the side.

It is also proposed to divert the south-eastern easement pipe entering the site from the east to prevent impact to the existing stormwater system by the new building structure.

STORMWATER DESIGN

The proposed pit and pipe system has been designed to cater for storm events up to and including the 1 in 20year ARI storm event where an overland flow path is available, in line with the Woollahra DCP. The overland flow path is designed to cater for all storm events above the 1 in 20 year ARI storm event up to and including the 1 in 100 year ARI storm event.

The design incorporates on-site detention (OSD) to meet Council's requirements to limit the flow discharged from the site. The OSD catchment area has been divided into 2 catchments. Catchment 1, with an area of approximately 0.26ha, is the western side of the site which generally falls towards the south-west. Catchment 2, with an area of approximately 0.64ha, is the eastern side of the site which generally falls towards the south-east.

All stormwater on site is proposed to undergo water quality treatment measures to meet Council's water quality targets as stated in Council's DCP E2.2.3 Stormwater treatment.



10.15 TRANSPORT AND PARKING

As the proposal seeks an increase in the number of student enrolments by 70 i.e. from 950 students to 1,020 students, there will be a corresponding minor increase in vehicle movements to and from the site. A Traffic Impact Assessment report (TIA) has been prepared by ttpp, and forms part of the application. The key findings of the report are summarized below:

- The proposed scheme is expected to generate an additional demand of 16 vehicle movements per hour during the school's morning and afternoon peak periods.
- Roads and Maritime uses "Level of Service" (LoS) as a measure of performance for all intersection types operating under prevailing traffic conditions. The level of service ranges from "A" to "F" which is directly related to the average delay which vehicles experience when travelling through an intersection. LoS "A" is considered "good operation".
- All three intersections surrounding the school's island campus (NSHR / Tivoli Avenue; NSHR / Bayview Hill Road and Tivoli Avenue Bayview Hill Road) all operate at a LoS of "A" in both the existing and post-development scenarios, indicating that the development does not significantly affect intersection / traffic performance.
- To manage the increase in vehicle movements precipitated by the proposal, the school will implement travel demand management measures. These measures will include the provision of a green travel plan (GTP) for the school
- The proposed travel demand measures are expected to reduce school car usage by 5%
- The achievement of a 5% modal shift away from cars will ensure that traffic levels post-development will be similar to those currently achieved

Overall, it is concluded that the traffic and parking aspects of the proposed scheme would be managed and thus be acceptable. With the implementation of green travel strategies, the vehicle trip generation by the school post-development would be reduced such that it would be comparable with that generated by the current approved school capacity. Thus, the surrounding key intersections would operate at a satisfactory level.

Regular management and extensive education / consultation with key stakeholders of the school, including staff and parents, is required to ensure the success of the proposed green travel strategies.



Arrival and departure times for students and staff of Kambala. Prepared by ttpp. 2020

- Year 3 Year 12
- Prep Year 12
- Staff
- Adjoining Road Network Peak Hour

10.0 DESIGN RESPONSE

10.16 ESD STRATEGY

OUR COMMITMENT

Allen Jack+Cottier acknowledge the evidence that the built environment contributes to climate change and the destruction of our natural environment.

The construction (11%) and operation (28%) of buildings accounts for 39% of global CO2e emissions annually.

Global Alliance for Buildings and Construction 2018 Global Status Report

We understand the responsibility that building designers have to improve the sustainability of our buildings, which is why AJ+C signed Architects Declare in 2019.

In the Paris Climate Agreement, Australia promised a 26-28% emissions reduction by 2030 compared to 2005 levels. To meet the goals of the Paris Agreement, the built environment's energy usage needs to improve by 30 percent by 2030, according to UN Environment. These targets give us a framework within which to strive for improvement – and a framework within which to design the Kambala Sport, Wellbeing and Senior Learning Precinct.

OUR ESD FRAMEWORK

For AJ+C, sustainability is more than just building efficiency and reducing carbon emissions, critical though that is. For us it also involves considerations such as improved connection to nature, sourcing ethical materials and promoting the wellness of building users. We have assessed a range of industry rating tools such as Green Star, Passivhaus, WELL, LEED and Nabers, and used these to create our own bespoke ESD framework which is relevant to our climate, project types and markets.

The AJ+C ESD framework consists of 9 categories which each act as a lens through which we can seek sustainable design outcomes on a project-by-project basis. Our 9 categories are:





NATURE

WASTE

Maximise water capture and minimise water consumption

Protect and enhance natural habitats through

their integration with the built environment

Maximise recycling and minimise waste

Optimise climate responsive design and

Create internal and external spaces for human comfort



COMMUNITY Design places that are safe and foster social life, cultural identity and equality



WELLNESS ······ Encourage active lives, good health and wellbeina

MOBILITY Promote low carbon modes of mobility



MATERIALS Promote the use of ethical products & minimise environmental impacts

SUSTAINABLE DESIGN AT KAMBALA

For the KSWSLP, we have worked with LCI Consultants to establish a bespoke ESD framework which addresses the categories listed to the left.

In particular, we have focused on the categories which are most highly relevant to the project and where we can strive for great outcomes that benefit the school. Our focus categories are listed to the left and highlighted in orange.

The project has been designed to adopt national best practice sustainable building principles to improve environmental performance and to reduce operational energy consumption. This involves both passive and active measures.

The design adopts passive cooling and heating design strategies to reduce the energy demand, reducing the demand on mechanical HVAC systems.

Kambala have high educational standards and high expectations for the physical amenity to be provided by the proposed development. The intent is for the physical space to facilitate continued high standards of teaching and learning

Wellness is a critical component of the brief. This is physically manifested in the provision of a dedicated wellness centre for the school, to accommodate Kambala's SHINE wellbeing program

citizenship"



The Kambala SHINE program is built on 4 dimensions: social / emotional, future preparedness, physical / mental fitness and "heart, service and global



10.0 DESIGN RESPONSE

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11.0 STAGING & FUTURE DEVELOPMENT

Visualisation of suggestive Sports Hall interior, view from north east corner, looking towards Senior Learning Precinct, 2020

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11.1 STAGE 1

SCOPE SUMMARY

Master-planning, elevate sporting fields, interim C.O.L.As in lieu of senior learning and sports science, new sports hall (and associated change rooms, foyer and plant room) and grandstand to new fields.

- + Lookout at Level 3 Lift Landing
- + Level 2 Glass wall to hall
- + Portion of Level 2 slab above foyer and change rooms
- + Temporary hoarding wall to portion of Level 2 slab
- Sports hall Full fitout (wall and ceiling linings, sports flooring, sports equipment, etc)
- + Temporary hoarding wall
- + COLA West (Cold shell only)
- + Metal shed to be demolished
- + External lift & stairs connecting all 3 levels
- New basic façade to exposed wall of music building and new connection to courtyard
- + New stairs to access existing tennis courts
- + Grandstand and shading structure
- + Vehicle ramp to sports field
- + Multi-sports field and perimeter fencing
- + Ceiling and services to sports hall
- + Plant room and store (including temporary wall to COLA)
- + Lift and stairs from Level 2 to sports field
- + COLA East (Cold shell only)
- + Storm water pipe and easement realignment
- + PV array on existing roof

LOOKOUT AT LEVEL 3 LIFT LANDING

LEVEL 2 - GLASS WALL TO HALL

PORTION OF LEVEL 2 SLAB ABOVE FOYER AND CHANGEROOMS.

TEMPORARY HOARDING WALL TO PORTION OF LEVEL 2 SLAB-

SPORTS HALL - FULL FITOUT (WALL AND CEILING LININGS, SPORTS FLOORING, SPORTS EQUIPMENT, ETC)-

TEMPORARY HOARDING WALL-

COLA - WEST (COLD SHELL ONLY)-

METAL SHED TO BE DEMOLISHED

EXTERNAL LIFT & STAIRS CONNECTING ALL 3 LEVELS

NEW BASIC FACADE TO EXPOSED WALL OF MUSIC BUILDING AND NEW CONNECTION TO COURTYARD

NEW STAIRS TO ACCESS EXISTING TENNIS COURTS-





11.2 STAGE 2A

SCOPE SUMMARY

Construction of two storey senior learning and "Lite SHINE" block

- + Demolition of temporary hoarding walls at Level 2
- + Glass façade to perimeter
- + Construction of new slab at Level 2 and full fitout of L2 senior learning precinct. Includes Level 2 bridge over courtyard
- + Lift
- + Demolition of temporary hoarding walls at level 1
- + Glass façade to perimeter and full fitout of GLAs and "Lite Shine Centre" on Level 1
- + South-East corner of music building to be demolished and façades made good



11.0 STAGING & FUTURE DEVELOPMENT



11.3 STAGE 2B

SCOPE SUMMARY

Sports science block and outdoor PDHPE to the east

- + Remove temporary wall to plant/store room
- + Glass façade to perimeter
- + Full fitout of east end including dance rooms, weights room, PDHPE office and store
- + Full fitout of C.O.L.A.



11.4 STAGE 2C

SCOPE SUMMARY

Partial demolition of Hawthorne, new replacement of façade and work to 'make good', landscaping to forecourt and all along main spine

- + Partial demolition of Hawthorne, new façade, new landscape to Hawthorne footprint
- + Original pitch and extent of Hawthorne roof to be reinstated
- + Landscape to forecourt and all along main spine



11.0 STAGING & FUTURE DEVELOPMENT

11.3 STAGE 2D

SCOPE SUMMARY

Landscaping adjacent to music building

+ New landscaping between music and Tivoli



11.4 STAGE 3

SCOPE SUMMARY

Demolition of Art building & new courtyard

- + Portion of arts building to be demolished
- + Portion of Tivoli building to be demolished
- + New works to all building façades once attached to the demolished buildings
- + Portion of arts building containing stairs to be retained
- + New landscaped area



11.0 STAGING & FUTURE DEVELOPMENT

11.3 STAGE 4

SCOPE SUMMARY

Additions above existing music building including SHINE and KITE centre (and associated structural alterations to existing building), and upgrade of adjacent landscaping

- + Path at Level 3 to Bayview Hill Rd
- + New multi-sport courts, perimeter fence and lighting
- Path at Level 2 to Bayview Hill Rd.
- Building additions including Full SHINE and KITE Centre
- Demolition of lookout at Level 3 and make good landing
- Replace "Lite SHINE" at Level 1 with new GLAs
- Demolition of existing tennis courts and lighting +
- + New stormwater retention tank
- + Bridge from sports field to Minter Level 3



11.4 LITE SHINE TO GLA'S

Prior to the completion of Stage 4, a small SHINE Centre, referred to as LITE SHINE will be accommodated in the lower level of the Senior Learning Precinct.

LITE SHINE will consist of:

- **RECEPTION / BREAKOUT AREA**
- MULTI-PURPOSE SPACE
- + 6 X OFFICES

Once Stage 4 has been completed including the full SHINE Centre above the music building, the lite SHINE will be converted into 3 additional north facing classrooms.



LEVEL 1 - Stages 1 to 3 lite SHINE

LEVEL 1 - Stage 4 General Learning Area's

RL 36.85

11.0 STAGING & FUTURE DEVELOPMENT





12.0 RESPONSE TO EdSEPP

Visualisation of the Senior Learning precinct, image taken from corner of Tivoli, looking down the campus spine towards New South Head Road. 2020

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12.0 RESPONSE TO DESIGN QUALITY PRINCIPLES OF THE EDUCATION SEPP

- + This Architectural Design Report clarifies the design intent of the SEPP EDUCATION ESTABLISHMENTS proposal + demonstrates how design quality has been achieved in accordance with the Design Guide for Schools + the Design Quality Principles outlined in the Education SEPP.
- The proposed Sporting Precinct Redevelopment has been developed from a rigorous design process. Design teams have worked closely with stakeholder groups throughout, with Kambala being committed to a quality outcome.
- Design excellence has been established through the detailed analysis of the site + the application of the Design Guidelines + Development Parameters set out by the GANSW, as well as the Local + State Authorities.

The interpretation + incorporation of the design quality principles established in Schedule 4 of the Education SEPP is described on the following pages with more detail provided generally throughout this report.

BETTER PLACED

The design proposal has been developed with consideration of the NSW priorities and design objectives. All have been reviewed + considered throughout the design process, evident in the report. Feedback from GANSW has been incorporated into the design, please refer to the Executive Summary of this report + the EIS for detail.

DESIGN GUIDE FOR SCHOOLS

+ The design guide for schools establishes principles + objectives for design but also guidance on process + approach. This guide has set a benchmark which has been referenced throughout the entire process, establishing minimums + exemplars for response. Wherever possible guidances have been met exceeded.

DESIGN GUIDE FOR HERITAGE

+ The proposals recognise + support the heritage significance of the place and its context whilst facilitating contemporary operations + planning for the future. The concerns of the design guide for heritage were addressed throughout the design process by working with specialist heritage consultants to ensure an appropriate design proposal. For detailed information refer to CMP / Heritage Report.

ENVIRONMENTAL DESIGN IN SCHOOLS

+ The guide has been considered in the design process of the proposed development. Strategies for environmental design were developed in consultation with the client, stakeholder groups + the specialist EDS consultant. Both passive + active strategies have been employed in the design. These are described throughout the report, refer also ESD consultant report for details.

Cover Image, Better Placed Design Guide For Schools, Issue no. 2, 2018





GOVERNMENT ARCHITECT NEW SOUTH WALES



lssue no. 01 — 2018

BETTER PLACED



Making schools feel and work better

Education School Infrastructure GOVERNMENT Architect New South Wales

GOVERNMENT ARCHITECT NEW SOUTH WALES

ACED

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Heritage Council of NSW

Left to right

Cover Image, Better Placed Environmental Design in Schools, Issue no. 1, 2018

Cover Image, Better Placed, 2017

Cover Image, Better Placed Design Guide for Heritage, Issue no. 2, 2019

12.0 RESPONSE TO EDSEPP



12.1 CONTEXT, BUILT FORM & LANDSCAPE

PRINCIPLES

CONCEPTUAL DESIGN RESPONSE

- Respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage.
- Informed by site conditions such as topography, orientation and climate.
- Intergrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites.

Kambala is located on the west-facing bank of Rose Bay, on topography that varies from rolling hills to steep coastal cliffs. A ridge of Hawkesbury sandstone forms a headland sheltering the harbour from the open ocean. Freshwater springs percolating through the bedrock would have supported the original native grasses and Banksias, characteristic of Sydney's Eastern Suburbs. Since European settlement, the area's natural contouring has been heavily modified to accommodate new dwellings, roads, schools and other infrastructure.

The school campus occupies traditional lands of the Birrabirrigal peoples of the coastal language groups. For thousands of years, Aboriginal groups occupied the Sydney area, generally, along the foreshores where they fished, and in the hinterland, where they hunted and harnessed resources.

Following the arrival of Europeans to the Sydney basin, an outbreak of smallpox killed many Aboriginal people, causing many others to move from their traditional group boundaries. New European land grants and land use practices such as clearing and fencing irrevocably damaged the Aboriginal people's access to resources and their traditional way of life. An Aboriginal Cultural Heritage Assessment (ACHA) report has been undertaken by EcoLogical Australia as part of this application, which confirms that unfortunately no Aboriginal objects or archaeological deposits remain in the area.

In 1831 Sir Henry Browne Hayes granted 60 acres of land to Samuel Blackwell who named it Tivoli Estate. Centrally located within today's Kambala campus is Tivoli House — a gentleman's cottage originally built in 1834. Its present configuration as a grand two-storey Arts and Crafts Style residence is largely the result of an 1885 extension by notable architect of the day, John Horbury Hunt. Kambala relocated to this site in 1913 and originally operated out of Tivoli House. The school developed the remainder of the site as enrollments grew over the years. A Conservation Management Plan (CMP) has been prepared by Urbis as part of this application and has guided the design of the new precinct.

With this history in mind, the architecture and landscape solutions proposed by the Kambala Sport, Wellbeing and Senior Learning Precinct (KSWSLP) express a narrative of 'evolution through innovation'. The project is seen as the first stage of a broader campus master plan, conceived as 'the greening of the campus'.

Its design continues the established pattern of utilizing the site slope to accommodate functional and practical built form, but also to capitalize on the significant views west towards Sydney Harbour and the city skyline. Critically, the design also dissolves accumulated layers of intrusive built fabric to improve of the setting of Tivoli House and the school's urban presence.

Great care will be taken to keep new built works respectfully distant from Tivoli House. Materiality will be light and detailing fine, as befits any interventions neighbouring a significant historic building.

The linchpin of the KSWSLP – to elevate the sports field and build beneath it – unlocks the campus potential and removes pressure to shoehorn additional functions into a physically constrained site. This allows for landscape improvements and the rearranging of functions within existing buildings.

It is further envisaged that Kambala's Year 7-9 boarding students may eventually relocate from Tivoli House, enabling removal of intrusive infill elements (ie: front balcony and external fire stairs) and restoring this fine building to prominence as the academic and administrative heart of the campus.

The KSWSLP design proposal was initially a reaction to an alternative proposal to construct a new top floor upon the existing Hawthorne building, which AJ+C believed would have cast more shadows over other buildings and courtyards and, critically, block harbour views from neighbouring homes.

It is therefore a core principal of the KSWSLP proposal to NOT ADD any height to existing buildings (other than the music building – the roof of which is presently level with the sports field). Instead, the proposal works with the existing site slope to largely conceal the building below the level of New South Head Road. An extensive view analysis has been undertaken to validate the success of this approach.

Kambala has a long frontage to New South head Road, a busy vehicle corridor. The campus level is generally well below the level of the footpath, offering a visual connection from the public domain to Rose Bay and the city beyond. While this edge condition will be preserved, there is little opportunity to improve conditions beyond the site, due to its level difference. At the eastern campus gates, where the new sports field will be higher than New South Head Road, its built form will provide an open and vibrant edge to a new entry plaza. This is a great improvement on the existing arrival experience, currently a narrow bitumen lane flanked by hedges and air-conditioning units. The new plaza proposes a simple, clear landscape space to complement Kambala's landmark gates, and significantly improve pedestrian access and wayfinding into and through the campus.

The landscape scheme respects the curtilage of Tivoli House and requires no removal of heritage built form or vegetation. It significantly increases green space throughout the campus with a range of mature trees for shade canopies and seasonal changes, as well as improved paving and planting to reduce the heat island effect and glare. Much of the proposed landscaping takes the form of discreet courtyard spaces that extend the learning environments from indoors to out, increasing amenity and flexibility of use.

The design team would like to reach out to the La Perouse Local Aboriginal Land Council, whose jurisdiction encompasses Kambala and the surrounding community. We intend to engage this consultation to explore the potentials for Aboriginal heritage interpretation for the proposed development, ideally via a building-integrated public artwork such as a grand-scale feature ceiling.





12.2 SUSTAINABLE, EFFICIENT AND DURABLE

PRINCIPLES

- + Combine positive environmental, social and economic outcomes.
- Designed to minimise the consumption of energy, water and natural resources, reduce waste and encourage recycling.
- Designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.

CONCEPTUAL DESIGN RESPONSE

The site is on a steep southwest-facing slope of Rose Bay, bounded by New South Head Road to the north. This makes it challenging to adopt the ideal design response of the local temperate maritime climate, which would be to open up the building to the north with shaded glazing, and limit openings to the west and east, reducing summer heat loads.

The design responds to this significant challenge in three key ways. Firstly, the central courtyard affords teaching and learning areas an aspect towards northern sun. Secondly, facades will have a high proportion of well-shaded high-performance glazing to maximise natural light. Thirdly, floor levels are calibrated to deliver cross-ventilation and natural light along the challenging north-east façade, where the building is mostly subterranean.

Facades will use durable materials including sandstone, marine ply (soffit lining) and high-performance glass, while the roof cantilevering on all sides will afford considerable weather protection and therefore longer material life.

The palette of landscape materials is similarly robust: a mix of natural stone paving in various sizes and finishes, concrete, sandstone, steel edging and seasoned hardwood. The landscape design includes large areas of soft landscaping, deep soil zones and permeable paving, to maximise reabsorption of water into the ground plane.

Most interior spaces will be naturally ventilated, except amenities and change rooms where it is considered the façade to be more important for other building uses. The sports hall is designed to operate with a mixed-mode ventilation strategy whereby it will be naturally ventilated for sports when outdoor conditions are favourable. A mechanically assisted ventilation system will be used at other times and for school assemblies.

The project team is investigating initiatives to reduce the project's embodied energy and emissions, including optimisation of steel and concrete members, a 30-40% replacement of Portland cement with supplementary cementitious materials (SCMs), adopting geopolymer concrete where structurally viable, specifying recycled steel re-bar and structural steel, adopting post-tensioning where appropriate to reduce concrete volume, and designing for end-of-life disassembly and re-use.

Additionally, it is proposed that a minimum diversion rate of 80% of waste to landfill be imposed on the Building Contractor, to minimise construction and demolition waste. It is further proposed that the procurement of materials achieves a percentage target of the total materials with third party sustainable certifications. For example, materials with high recycled content, Environmental Product Declarations, or Forest Stewardship Certificates. Opportunities to use photovoltaic panels on the roof of the existing Alexander building are also being investigated.

These technical considerations will be further developed during the detailed design phase, so the project aims for Paris 2030 carbon targets, which are well above current regulatory requirements.

To encourage sustainable modes of transport to and from the school, Kambala will implement a Green Travel Plan. Measures include new bicycle parking and end-of-trip facilities, new school bus services and improved pedestrian amenity, particularly at the New South Head Road forecourt.

12.3 ACCESSIBLE AND INCLUSIVE

PRINCIPLES

- + Provide good wayfinding, be welcoming, accessible and inclusive.
- Actively seek opportunities for the facilities to be shared with the community and cater for activities outside of school hours.

CONCEPTUAL DESIGN RESPONSE

The design of the KSWSLP ensures that the school buildings and grounds are accessible, welcoming and inclusive to students, staff and visitors, with a range of needs. Accessible facilities and continuous paths of travel to and within all new building work will be in accordance with Access to Premises Standards, BCA and Australian Standards for Access and Mobility. The design further considers how the new work can improve accessibility to existing areas of the campus that are not being refurbished at this stage.

The design team has collaborated with Kambala stakeholders in developing the project brief and vision, which make manifest the Kambala Strategic Plan 2019-2023. Project requirements have been further refined through a series of workshops with stakeholders including the school executive, school council, heads of department, staff representatives and student groups.

Principles of crime prevention through environmental design will be applied to ensure that security measures are integrated with the development, and with the School's existing protocols. The physical location of the proposed building improves sight lines and security on travel paths through the campus.

Existing boundary fences and gates will not be amended or impacted. For the most part, the site is fortunate to have an embankment and balustrade that afford physical separation from the New South Head Road footpath without the need for high fences. Existing stands of trees forming a visual buffer will be largely maintained.

The main entrance to the campus on New South Head Road will be significantly improved for accessibility and safety. The narrow, poorly signed asphalt pathway to reception will be replaced with a wide plaza, providing access to the sports facility and Minter Building. Through improved landscape and sight lines it will also offer a clear path of travel to the heart of the campus, Tivoli House.

The 'decanting' process unlocked by the project will allow the Seniors reception to move to the current Green Room in the Minter building, directly off the new forecourt, giving visitors an immediate point of entry and welcome. Landscape design will delineate paving materials, fixed furniture and planting so as to clearly distinguish paths of travel from gathering spaces to assist way-finding . Site-specific signage and lighting will also be developed during the detailed design stage to deliver a high degree of campus legibility and identity.

The 'greening of the campus' will deliver a series of diverse landscaped spaces catering to the School's broad community of users and age groups, from ELC to Year 12. Outdoors areas include the new all-weather sports field and courts, an entry plaza, a COLA, a new central campus avenue and a northern courtyard with densely planted terraces and outdoor learning spaces. The project also improves the curtilage to Tivoli House with new seating terraces and planting, expansive southern courtyards and café hub, a common lawn and mature trees. This holistic re imagining of outdoor space is transformational, not only for its physical effect on the campus, but in opening up new educational possibilities.

12.4 HEALTH AND SAFETY

PRINCIPLES

CONCEPTUAL DESIGN RESPONSE

- + Optimise health, safety and security within its boundaries and the surrounding public domain.
- Balances this with the need to create a welcoming and accessible environment

A positive characteristic of the existing campus is that it is generally car-free. All cars arriving at Kambala enter the multi-storey carpark beneath Hampshire House, so the school's only internal roadway is reserved for emergency and service vehicles.

While the KSWSLP proposal provides no further vehicle movements inside the campus, it redefines this existing roadway from a vehicle-centric lane into a series of broad, sunny courtyards, enhancing pedestrian amenity and safety.

This important shift, together with the proposed new building, delivers a number of 'firsts' for Kambala's historic campus. The new building's generous roof overhang establishes a new east-west main axis through the campus, and for the first time, creates a weather-protected through-site link that terminates in a new covered outdoor learning area (COLA), another first for Kambala. Also for the first time, the New South Head Road gates will be visible from the Tivoli House music forecourt – dramatically opening up sight lines through the campus.

One of AJ+C's first observations of the site was that regardless of how many sports courts were added or how they are arranged, there was always a triangle left in the middle. In the new precinct, the triangle becomes the central courtyard, and key to the strategy of elevating the sports field and courts and placing classrooms underneath. The central courtyard is north-facing and provides opportunity for the new facades to have good access to daylight, especially in winter.

The design enhances connections to local cycleways and footpaths. New bike hoops will be integrated into the courtyard immediately east of the COLA, at the main School entry. The number and location of toilet and change facilities (including end-of-trip facilities) has been considered to allow safe and convenient use by students, staff and visitors. Change facilities are centralised for both the sports hall and sports field, promoting good supervision, especially during change-times for PDHPE classes.

This is a transformational project that enhances sight-lines and circulation through the campus. The design avoids untenable outdoor areas and creates a high-quality outdoor spaces with inbuilt passive surveillance, surrounded or overlooked by active-use areas. The new building is highly transparent and its design has been informed by concepts of lighting, access control and space definition. A CPTED Assessment Report has been prepared by Ethos Urban and is submitted in support of the proposed development application.

12.5 AMENITY

PRINCIPLES

CONCEPTUAL DESIGN RESPONSE

- + Provide pleasant and engaging spaces, accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood.
- Incorporate appropriate noise mitigation measures to ensure high level of amenity of occupants (if located near busy road or railway).
- Include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and services areas.

The act of replacing Kambala's principal green space with a building, albeit a building capped by sports fields, requires due consideration of the amenity to be provided. AJ+C, together with landscape architects Oculus, have been diligent in balancing the natural environment with the provision of additional learning areas and high-quality sports facilities. Core to the landscape plan for the 'greening of the campus' is the enhancement of both the number and quality of indoor and outdoor learning areas, and improved visual connection to the harbour.

The partially excavated nature of the site and the sandstone embankment to New South Head Road brought site constraints and challenges to the task of delivering a building with generous access to natural light, ventilation and visual outlook.

In response, the design gathers indoor learning areas at the northern end of the main building, so they enjoy access to noon and early afternoon sun, and a visual connection to the new central courtyard. The sports hall facades are modulated to deliver cross ventilation (with mechanically assisted ventilation for full assembly mode). Wireless technology will be incorporated to allow flexible teaching and learning across indoor and outdoor learning environments.

The landscape proposal includes a network of open spaces around the building to redress the current deficit of quality outdoor areas. Variety in their scale, materials and planting ratios will deliver a diversity of outdoor spaces catering to the broad community of user groups across the campus. Each space responds specifically to solar orientation, topography and the adjacent faculty usage. Collectively they dramatically improve amenity, well into the future.

These outdoor spaces are also opportunities to forge relationships with uses inside the adjacent building. For instance, the new northern central courtyard, with densely planted terraces and garden walls, is designed for individuals, small groups and class size gatherings. However, with the terraces considered as a collective, they become amphitheater seating for whole-of-year meetings, or a stage for musical events.

Where existing trees along a stretch of the New South Head Road boundary are proposed for removal, replacement trees and additional planting of shrubs and ground cover are proposed, in harmony with the extensively planted terraces on the boundary of the new northern courtyard.

Learning spaces are sensitive to noise intrusion and considerable work and testing has been done on this. While the constraints of the campus result in the new building being located adjacent to a traffic corridor (New South Head Road), for the most part, the road is above roof level, so the proposed two-layer concrete roof will be a highly effective acoustic barrier. Ambient noise on site has been measured and the use of operable windows has been found to be acoustically acceptable. The learning areas also enjoy operable windows on other facades, ensuring that cross-ventilation and natural light are maximised.

In addition to the twin-layer concrete roof, the building will incorporate wall insulation in its construction to boost the acoustic performance and suitability as a place of learning.

12.6 WHOLE OF LIFE, FLEXIBLE AND ADAPTIVE

PRINCIPLES

CONCEPTUAL DESIGN RESPONSE

- consider future needs + tale a whole-of-life-cycle approach underpinned by site wide strategic + spatial planning.
- deliver high environmental performance, ease of adaptation + maximise multi-use facilities.

The proposed KSWSLP is designed to adapt to changes in teaching and learning pedagogy, advances in technology and societal change. The concept of a 'base building plus fitout', like a commercial office project, has been applied to the design. The structural grid is rationalised to a flexible large-span grid of circular concrete columns, allowing a multitude of interior configurations. The outermost columns of the grid are external to the façade, further improving this flexibility.

Base building elements such as stairs and wet areas are designed and located to function with a variety of future modes in mind. The detailed design of services and acoustics will continue to inform the design development of the interior spaces.

The proposed KSWSLP is stage one of a larger vision outlined in a master plan by AJ+C. This project unlocks other significant works in the master plan, including the relocation of various functions around the campus that are not possible with the current space and site constraints.

The project team is taking a whole-of-life cycle approach when considering cost, material selections, and servicing. The strategy for specifying materials and systems with optimum life cycle performance will be established during the detailed design stage. In principle, the team will source durable materials with low embodied carbon, minimum maintenance requirements and long lifespan, from local manufacturers.

The project site has had extensive appraisal including geotechnical investigations, hazardous materials and contamination investigations, noise monitoring, traffic studies, biodiversity studies and sub-surface drainage modeling. Recommendations from these studies will continue to inform the detailed design.

Briefing for the project was done in parallel with an independent campus-wide education study which included a gap analysis, benchmarking, development of teaching models, and functional area briefs. The findings of this study inform the initial fit-out of the project. A key aspect of this was to provide general learning areas of different sizes to cater to Year 11 and Year 12 class sizes, ranging from 1 to 22 students. The fitout also incorporates a flexible 'learning commons' to provide further flexibility for teaching. The learning commons provides for a range of activities such as group learning, presentations, specialised focus sessions, project space, display areas, student breakout, teacher meetings and quiet, individual areas.

12.7 AESTHETICS

PRINCIPLES

CONCEPTUAL DESIGN RESPONSE

- Aesthetically pleasing, achieving a built form that has good proportions and a balanced composition of elements.
- Respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood.
- Respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.

Observation, lateral thinking and analysis underpin the design process of the KSWSLP project. Its initial concept came from a rigorous study of the site to understand constraints and opportunities, followed by a layered search for creative solutions. Its seemingly simple proposition – to raise the sports fields, expand them length ways, and bury the classrooms beneath – not only unlocks the enormous potential of this campus for future growth, but critically generates substantial extra green space, which no conventional plan for the site could possibly match.

The indoor and outdoor environments vary according to the site geometry, especially level differences, and adjacencies with existing site structures. The new building design modulates in response to these adjacencies, harmonising to their form and scale. A holistic approach to the architecture, landscape design and material palette will deliver aesthetically pleasing and inspiring spaces for students and staff, visitors, and residential neighbours.

In its current state the campus lacks a cohesive architectural and landscape language. It reads as an assemblage of building styles representing 100 years of construction and expansion. The most distinguished building on campus is Tivoli House, c1834, a richly detailed two-storey residence in the Arts & Crafts style. Therefore, the aesthetic of the proposed KSWSLP will defer to Tivoli House, and subtly reference its aesthetics of colour, line and decorative motifs.

In this way the new architectural language offers a 'light touch', so that from most vantage points, once completed, the tectonic changes of the project will be barely perceptible. A field (below street level) has been replaced with a field (still below street level). It is only from within the school grounds that the new facades are revealed. Here they are simple and streamlined, adopting a regular grid, expressing their structural intent. The facades typically have a high windowto-wall ratio for indoor-outdoor connection, with high transmittance glass that delivers a timeless clear appearance, while optimising daylight. The building's longest façade, flanking the sports field, directly facing the Hawthorne and Minter buildings, is modulated to balance its mass and scale in response to the setting. To the east it is recessed, creating a generous COLA, while the remaining façade is split into two sections of different architectural expressions that relate to interior uses. One appears as a two-storey concrete-framed structure, the other is the steel-framed sports hall. The cantilevered sports field above is the unifying element offering shade and weather protection to all three sections of the façade below.

Developed holistically with the architecture, the landscape spaces will read as thoughtful, integrated components within a cohesive built environment. The major public facing area, the entrance plaza to New South Head Road, will serve as an attractive and welcoming new entry for the School, and improved street presence for the neighbourhood.


Visualisation of proposal, view from 889 New South Head Road. 2020

APPENDICES