

Sydney Church of England Grammar School



Shore Physical Education Centre
Architectural Design Statement

30 May 2016

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1 INTRODUCTION

This design statement describes the architectural design intent of the new Shore Physical Education Centre (SPEC) proposed for Sydney Church of England Grammar School in North Sydney.

SPEC aims to deliver an integrated, sustainable, multi-purpose academic and sports facility that assists the school in achieving its strategic objective of being the leading comprehensive school in Australia.

The project will provide modern sports and academic facilities to cater for the changing needs of the school community, using innovative and adaptable spaces while preserving and enhancing the best aspects of the school's existing urban, built, heritage and social environment.

The Design Intent is to achieve buildings that:

- enrich and invigorate their existing context
- are innovative and structurally honest
- are highly responsive to their context and environment to inform both the performance of the architecture and its expression
- and can be enjoyed and experienced in multiple ways

2 EXISTING

2.1 LOCATION

The SPEC site is located in the south east corner of the School campus, adjacent to the corner of William Street and Hunter Crescent in North Sydney.



Aerial view of campus from south

2.2 SITE AND CONTEXT

The form, arrangement and articulation of the proposal have been influenced by a close study of the context in which the building sits. This context includes surrounding buildings and spaces both within and outside the school campus.

The site is adjacent to the existing BH Travers Stage 1 development that houses library and teaching spaces and was completed 16 years ago and also two boarding houses. A range of building types surround this part of the campus including apartments, the adjacent St Peters Presbyterian Church and a variety of commercial and retail spaces along Blues Point Road.

Face brick and sandstone are common materials in the area and it is seen as appropriate that the design responds to this palette.

The site of the proposed development currently includes the following:

- open air swimming pool
- gym
- open air basketball court
- landscaped space
- three separate 2-3 storey apartment buildings that are owned by the School

The existing gym presents as completely closed off from William Street and makes little contribution to the streetscape. Existing connections from the existing facilities up to the rest of the campus are constrained.



Hunter Crescent



William Street Gym frontage



Looking south over existing Gym



Existing open air pool

3 PROPOSAL

3.1 URBAN DESIGN

One of the key successes of the existing urban fabric of Shore is the built language of academic, social and residential areas based around planted courtyards. Harking back to English academic origins of Oxford and Cambridge Universities, the collegiate courtyard is accepted as best practice in promoting positive and inviting learning, teaching, training and playing spaces within an academic community.

The proposal continues the urban fabric of collegiate courtyards with a series of planted terraces, cascading from the Chapel and the library, along clear paths of circulation, to the lowest point of the development at Hunter Crescent. These additional open spaces will create multiple flexible and adaptable spaces suitable for play, informal and formal learning.

The north south courtyard spine facilitates a secondary address point to the new facilities. This address is next to the existing drop off zone and carpark.



The SPEC project resolves the southern part of the School campus. The new urban fabric will serve to enhance the urban connectivity, existing landform and permeability by rationalising existing steep level changes, extending areas of significant landscape and providing clear access to new and existing buildings.

The creation of a planted roof above part of the pool improves east-west connections between the Chapel and adjacent boarding houses and the existing courtyard on the western side of BH Travers Stage 1 building.

The new internal spaces are physically connected by the links to the central courtyard spine and are visually connected via transparent and operable glass walls and a transparent ETFE roof above the pool.

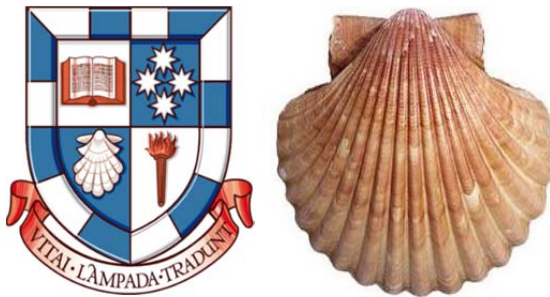
3.2 FACILITIES ACCOMMODATED

The proposed configuration extends the School's expressed courtyard urban fabric in creating two rectilinear masses connected by an open and permeable common spine with flexible and adaptable spaces for students and staff.

Facilities housed within these forms include the following:

- Three Indoor Basketball Courts and associated spectator seating
- Gymnasium, Weights area, Rowing/ERG room and Cardio area
- Pool Hall with 50m pool and recovery pools
- Change rooms, admin and other support areas
- PDHPE and Christian Studies Classrooms with associated resource rooms and breakout areas
- Carparking and loading spaces
- Plantrooms

3.4 EXTERNAL FORM



The School Coat of Arms includes a shell that represents the connection with St James Church of England School, from whose funds Shore was founded. The ceiling forms in the Pool Hall and Basketball Courts is articulated by a waved shell form that reflects this connection while also facilitating appropriate lighting of these spaces.

Simple and elegant arches span between portal frames to enable an efficient, cost effective and easily constructed structure. The main spans over the Pool and Basketball Courts both have portions with light weight roofing and a smaller proportion with landscaped courtyards and classrooms supported above.

The shell form creates a module that relates to the three basketball courts and is expressed as a series of projecting bays along William Street that break down the length of this facade

The building massing is configured to step down the hill in response to natural landform and ensure compatibility with the scale of surrounding buildings. The main roof for the Courts Hall is stepped back from the William Street and Hunter Crescent frontages, with lower components running along these boundaries to reduce the perception of height.

Modulation of these facades also assists in breaking down the scale of the facilities.



Existing view looking north at corner of William Street and Hunter Crescent



Design proposal from same angle



Existing view looking south down William Street at corner of Blue Street



Design proposal from same angle

3.5 FAÇADE EXPRESSION

While maintaining appropriate privacy for internal functions, the facade and roof articulation, combined with a rich palette of materials and different textures, helps to activate the streetscape and enliven the frontages of both William Street and Hunter Crescent

The use of brick, stone and steel sheet roofing compliments the predominantly masonry built fabric of the school. Sandstone anchors the building on the street facades and this is activated by a section of integrated public art on Hunter Crescent to enhance the public domain.

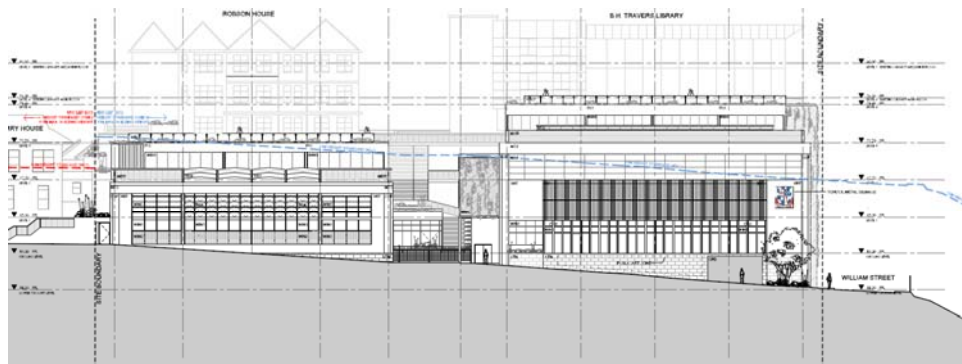
Wall and roof plantings are proposed in a number of areas as a modern reference to the ivy covered walls of the adjacent Chapel and other significant school buildings.

Facades to the Basketball Courts are designed to address the critical issue of subtle daylighting where major sources of glare are highly undesirable. In addition to discrete lighting reflected onto the ceiling via skylights, a series of low level windows are incorporated into the bronze anodized screen modules integrated into the series of projecting bays on the William Street façade.

Glazing to the pool facades includes operable sections to again permit natural ventilation for large parts of the year. The low level glazing fronting Hunter Crescent is proposed with a ceramic frit to ensure a reasonable degree of privacy for those using the pool.

Columns are expressed on the east and west facades and natural ventilation is achieved via louvres on the pool facades and also below the roof at high level on these facades.

To the Weights Room and the Multi-Purpose Gymnasium Area, facades are modulated to achieve a balance between views, privacy, activation and daylight with glazing screened by precast concrete vertical blades.



01 HUNTER CRESCENT ELEVATION
3061 1:200 @ A1



02 WILLIAM STREET ELEVATION
3061 1:200 @ A1

Internally, masonry and glass are applied at the low level to achieve durability and transparency. At the higher level of the Pool Hall and Indoor Court spaces, high performance timber is introduced to achieve warmth and acoustic performance. Again this serves as a subtle reference to the masonry and glass walls and timber ceiling of the Chapel.

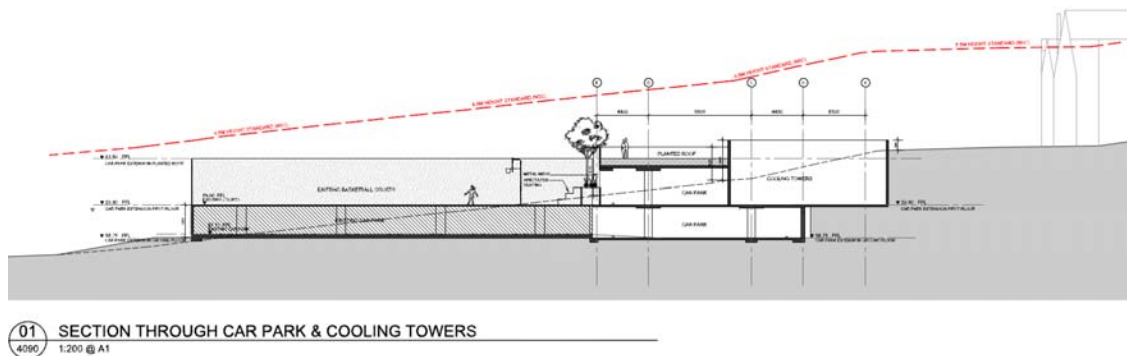
Transparency is maximised along the circulation spine to ensure daylight access, passive surveillance, activation of shared spaces, and the celebration of sport and learning activities.

3.6 STAFF CARPARKING

Additions to the existing Bishopsgate Carpark structure will permit centralisation of staff car parking. This concrete framed structure includes a landscaped roof that maintains the green landscaped recreational space in front of the boarding houses.

The east and west facades are proposed to incorporate face brick laid in a textured pattern. Natural ventilation to the carpark is maintained with mesh screening along the south façade.

A projection of the roof of the structure provides weather protection for students waiting at the adjacent vehicular drop off/pick up zone.



3.7 BUILDING SERVICES AND LOADING

The central heating & cooling plant and pool filtration systems are located on the Lower Ground level underneath the central pedestrian circulation spine.

These plant areas are accessed via the car parking and loading area which connects to Hunter Crescent. The loading dock is intended to primarily facilitate delivery of pool filtration supplies and the parking is provided for some tradespeople providing services to the facility. The loading area is not related to general waste removal which remains centralised on the campus.

Building services are architecturally integrated into the external built form to reduce their impact on the public domain. Fresh air supply to the mechanical system is achieved via grilles within the central spine that are incorporated into seating and stair structures.

Internal supply air ducting is expressed within the Pool and Courts Halls, running parallel to and supported off the primary structure. Return air within the Pool Hall is extracted via the pool guttering so that ducting is fully concealed.

Cooling towers at Bishopsgate Carpark are fully screened in elevation with open venting above.

Sustainability initiatives include mixed mode air-conditioning and natural ventilation for the Court Hall, Pool Hall and Classrooms, and a Co-Gen system that transfers waste heat to the pool.

4 EXTERNAL FINISHES

The following materials are proposed on external facades as noted on the relevant drawings:



BKF
MULTIPLE LOCATIONS
CREAM BRICK



COF
MULTIPLE LOCATIONS
CONCRETE
OFF-FORM



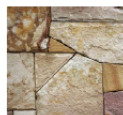
MC1
SPORTS HALL
COMPOSITE ALUMINIUM CLADDING
SILVER METALLIC



MC2
SPORTS HALL
COMPOSITE ALUMINIUM CLADDING
GREY METALLIC



MDR
AQUATICS & SPORTS HALL ROOFS
METAL DECK ROOFING
STANDING SEAM (TO MATCH MC1)



STN
MULTIPLE LOCATIONS
NATURAL SANDSTONE CLADDING



P01
MULTIPLE LOCATIONS
SEMI-GLOSS ACRYLIC
EXTERNAL PAINT



COB
SPORTS HALL
CONCRETE WITH OXIDE
PRECAST BLADE



MB
SPORTS HALL
EXTRUDED ALUMINIUM BLADE
BRONZE ANODISED



ML
MULTIPLE LOCATIONS
FIXED ALUMINIUM LOUVRES
POWDERCOAT



MMS
MULTIPLE LOCATIONS
METAL WOVEN SCREEN WITH
PLANTING



CPD
LG - SPORT HALL
METAL ROLLER DOOR
WARM GREY



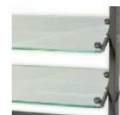
WIN1
MULTIPLE LOCATIONS
FIXED CLEAR LAMINATED GLASS



WIN2
MULTIPLE LOCATIONS
FIXED PERFORMANCE GLASS



WIN3
MULTIPLE LOCATIONS
FIXED LAMINATED
FRITTED GLASS



WGL
MULTIPLE LOCATIONS
ADJUSTABLE GLASS LOUVRES



RES
AQUATICS HALL ROOF
ETFE ROOFING SYSTEM



BAL1
MULTIPLE LOCATIONS
TOUGHENED GLASS
BALUSTRADES WITH SS
STANCHIONS & HANDRAILS

5 CONCLUSION

The proposal delivers important new facilities for the school with high levels of functionality to meet contemporary standards. The new north south pedestrian spine strongly links this part of the site into the overall campus and reinforces the connection to the Bishops Gate carpark vehicular drop off area.

SPEC represents and expresses some of the schools core aspirations:

- humility – expressed in an elegant but understated architectural expression
- perseverance – expressed in the strength of strong simple structure and masonry walls
- courage – expressed in the drama of stacked functions cut into the steep site
- and love of others – expressed in the outdoor courtyards and seating areas that encourage students to dwell and interact

In addition to improved internal amenity and functionality the new design will provide significant public benefit including:

- Improved definition and articulation of both external street frontages
- High levels of environmental sustainability
- Complimentary relationship to nearby heritage and other built forms