

# RYDE SECONDARY COLLEGE

## REF ARCHITECTURE - DESIGN REPORT

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# **1. INTRODUCTION**

## **1.1. Purpose of the Report**

This report forms part of an environmental assessment under Part 5 of the Environmental Planning and Assessment Act, 1979 for proposed upgrades to Ryde Secondary College. The proposed works are deemed permitted without consent by Section 3.37 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 which provides that:

- (1) Development for any of the following purposes may be carried out by or on behalf of a public authority without development consent on land within the boundaries of an existing school –*
  - (a) Construction, operation or maintenance, more than 5 metres from any property boundary with land in a residential zone and more than 1 metre from any property boundary with land in any other zone, of –*
    - (ii) a portable classroom (including a modular or prefabricated classroom that is not more than 2 storeys high*
  - (b) Minor alterations and additions...*
  - (c) demolition of structures or buildings*

## **1.2. Ryde Secondary College**

Ryde Secondary College is located at 5 Malvina Street, Ryde (Lot 284 and 285 in DP752035) within the City of Ryde Local Government Area. Ryde Secondary College has approximately 1,362 students currently enrolled. An aerial photograph of the site is provided in Figure 1 below.

Existing development includes single and double storey classrooms buildings, a multipurpose hall, covered outdoor learning areas, sports courts, demountable classrooms, landscaping, pathways and hardstand areas, vehicle circulation and carparking.

The site has frontage to Malvina Street (north-western boundary) and Forrest Road (north-eastern boundary) with low density residential development along the opposite road frontages. The site adjoins low density residential on the south-western boundary, Buffalo Creek along the southern boundary and Barton Reserve along the south-eastern boundary.



### 1.3. Proposed Upgrades

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The scope of works subject to this environmental assessment are known as Stage 1 works in the master-planned redevelopment of Ryde Secondary College. Stage 1 works include:

- Demolition in the vicinity of the proposed pavilion;
  - Two (2) storey pavilion building comprising:
    - Thirteen (13) GLS;
    - Learning commons;
    - Fitness lab;
    - Seminar spaces;
    - Staff room;
    - Store; and
    - Change rooms;
    - Student amenities
- Lift, stair and ramp access;
- Associated adjustments to the existing sports court; and
- Removable of demountable classrooms.

## 2. CONTEXT

### 2.1. Local Context

The site is located in Ryde at the corner of Malvina Street and Forrest Road.



The school site is located within a suburban area characterised by detached single dwellings. The site backs onto Barton Reserve and Buffalo Creek which continues on to the Lane Cove River through the nearby Field of Mars Reserve.

2.2. Site



The location of the proposed building is at the northern corner of the site along Forrest Road and near the secondary entry located on Forrest Road. The new building will face onto the existing playing courts, and form a buffer to the residences opposite.

The existing school is characterised by a series of east/west oriented buildings arranged around a series of courtyards. The open space at the northern corner is the school's primary open play space.

The site is sloping, with the high point at the northern corner, and falls from north to south towards Buffalo Creek.

The site is subject to bushfire controls due to its proximity to Barton Reserve. The Bushfire Attack Levels (BAL) have been shown on the site analysis plan. The proposed works fall outside of the BAL 12.5 line.

### 3. DESIGN APPROACH

This Design Report should be read in conjunction with architectural design drawings REF01 - REF16 attached separately.

#### 3.1. MMC

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The proposed buildings will use the School Infrastructure NSW Modern Methods of Construction (MMC) approach to design and construction of new school buildings. This approach includes a standardised structural and planning grid across all schools (primary and secondary) in order to provide flexibility and adaptability well into the future.

The building is broken down into a Kit of Parts, (eg wall panels, floor and roof cassettes) that are built off site and assembled simply and efficiently on the project site. In addition to this, the building will be designed for possible future disassembly and reassembly in a new location if the need arises.

#### 3.2. Site Planning

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The proposed works are in the northern corner of the site, and have been positioned to maximise the remaining open play space for the students while maintaining clearance to the structural root zones of the trees located along Forrest Road.

The location of the works provides a buffer to the street and residents along Forrest Road. There will be no overshadowing impact on any residents or public open spaces due to the proposed siting of the development.



## 4. SEPP DESIGN PRINCIPLES

### State Environmental Planning Policy (Transport and Infrastructure) 2021

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#### Schedule 8 Design quality principles in schools

##### Principle 1 – context, built form and landscape

*Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage. The design and spatial organisation of buildings and the spaces between them should be informed by site conditions such as topography, orientation and climate.*

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

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

#### **Response:**

The proposal at Ryde Secondary College has been developed in response to the specific site conditions of the school. The proposed works are in the northern corner of the site, and have been positioned to maximise the remaining open play space for the students while maintaining clearance to the structural root zones of the trees located along Forrest Road.

The proposed building has been positioned to maximise open, landscaped play space for the students, and to maintain existing trees along Forrest Road.

A series of tiered sandstone steps forms the landscape interface between the proposed building and the open play space to the south.

##### Principle 2 – sustainable, efficient and durable

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

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

#### **Response:**

The design proposal is using the School Infrastructure Modern Methods of Construction approach to design and building. Sustainability is inherent in this approach. Prefabrication of a kit of part of components leads to a reduction in construction waste, efficient structures, and less site disturbance.

The primary structure of the school is to be made from glulam timber beams sourced from sustainable forestry sources. Timber will be used through the floor and wall structure, and on finished linings to the interiors of the new building.



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In addition to this, the new building at RSC is being designed for disassembly, meaning that it may be pulled apart and reassembled in a new location in the future. Increasing the lifespan of the materials, and reducing future waste.

The new buildings are not able to accommodate additional solar as the existing school is already at its power generation capacity.

Rainwater will be collected in rainwater tanks and on site detention tanks to save water for reuse and to limit the impact of stormwater on the local water network.

Materials have been selected that are durable and resilient. The material selections are outlined in the architectural drawing package that forms part of the REF.

### **Principle 3—accessible and inclusive**

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

*Note—*

*Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space.*

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

#### **Response:**

The proposed works include new walkways and ramps to the ground floor of the new building to provide an inclusive and accessible pathway to the school. A lift provides access to upper levels. Signage and wayfinding will comply with all standards and codes and will be welcoming and accessible to people with differing needs and capabilities.

Community uses are outside of the scope of this proposal, however, the location of the proposal near the secondary entry would facilitate use by community groups in the future if the school chose to pursue this.

### **Principle 4—health and safety**

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

#### **Response:**

The existing school includes a secure perimeter boundary fence and secure entry points from the street. There are no changes proposed to the existing school boundary condition proposed as part of this project.

The proposed building will have an open and welcoming facade opening onto the open play area. The tiered seating will provide spaces for student to sit, gather, and watch games on the adjacent courts. Windows facing towards the street will provide an outlook into the tree canopy and provide passive surveillance towards the school boundary.

### **Principle 5—amenity**

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

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

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

#### **Response:**

The proposed school building includes classrooms and spaces that align to the SINSW standardised hub layouts and planning grid. This allows for large glazed openings providing light and ventilation to the learning spaces within.

The alignment of the building provides a buffer to the adjacent road, and allows for the learning spaces to open out onto the adjacent open play areas.

The proposed MMC structural system will provide for ceiling heights in excess of the 2.7m minimum, and will include timber soffits, and exposed timber columns and beams. The use of exposed timber within learning spaces is a new opportunity within school projects and provides an environment with warmth and texture.

### **Principle 6—whole of life, flexible and adaptive**

*School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning. Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.*

#### **Response:**

The proposed school has been considered in the context of the future life of the school. The new building will provide new learning spaces that will reduce the need for temporary demountable structures on the site.

The proposed building uses the SINSW standardised structural and planning grid that is consistent across all new primary and secondary schools. This enables flexibility and adaptability within the building for future changes of use.

### **Principle 7— aesthetics**

*School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood.*

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

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### Response:

The proposed buildings have been designed with a palette of materials that are durable, low maintenance, but simple and refined. The selected materials provide a refined backdrop when viewed from the public domain through the foliage of the existing trees. Coloured panels within the facade provide an accent to the glazed areas.

On the school side, the precast concrete structure for the walkways and steel balustrades provide a clearly articulated structural language that reflects the innovative assembly/disassembly project approach.



View from Forrest Road



View from playing courts back to building