

EDUCATION SEPP – SCHEDULE 4

SCHOOL - DESIGN PRINCIPLES

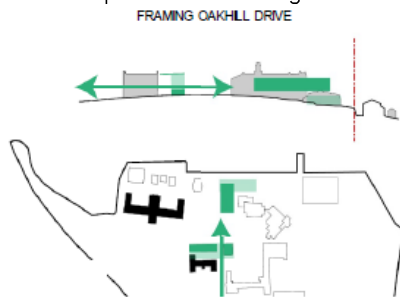
BVN RESPONSE 24.09.20



Principle 1—context, built form and landscape

Oakhill College is uniquely located on a distinct hill in the Castle Hill which gives the college a topographic presence in the local area. The campus is entered on Old Northern Road which connects to a strong existing pedestrian spine - Oakhill Drive. There are 5 main Responses to context and landscape in which the built form of the Innovation Hub was derived.

1. The Innovation Hub is located at the end of Oakhill drive to strength and promote this spine and becomes part of the college's overall vision in their masterplan.



2. The Innovation Hub's location also celebrates the school natural landscape by creating a series of centralised courtyards.



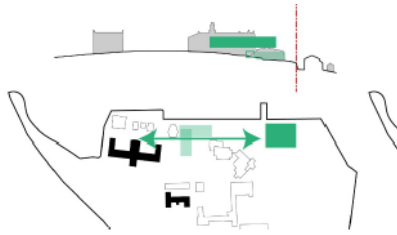
3. The proximity of the neighbouring residential houses as well the steep nature of the existing site informs the direction for the lower ground level to be partially embedded in the ground to reduce the perceived height of the building.



4. Existing significant trees were to be retained, the natural landscape of the site was unique and distinguishes the school from others. Large pine tree dictates the boundary of where the building form begins.



5. The existing cemetery east of the building location holds a historic and cultural significance to the college, therefore the building form accommodates a secondary axis, perpendicular to Oakhill Drive allowing a ceremonial walk to be created.

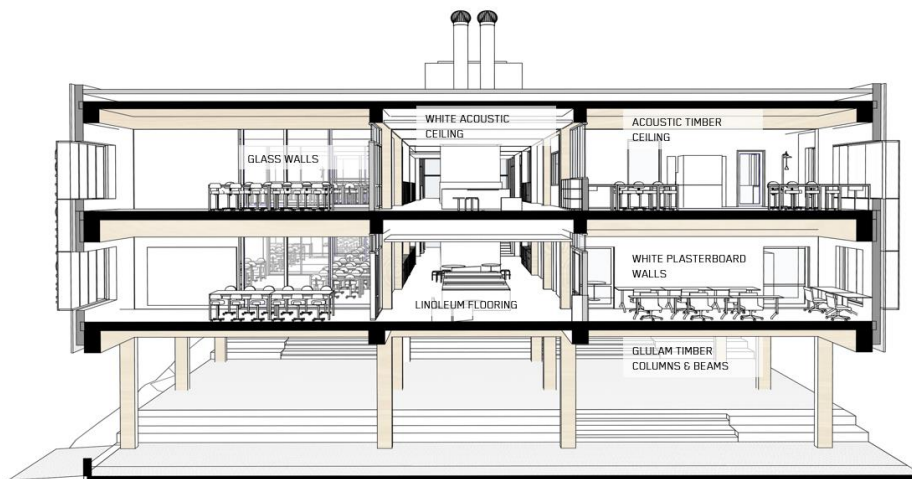


Principle 2—sustainable, efficient and durable

Structure

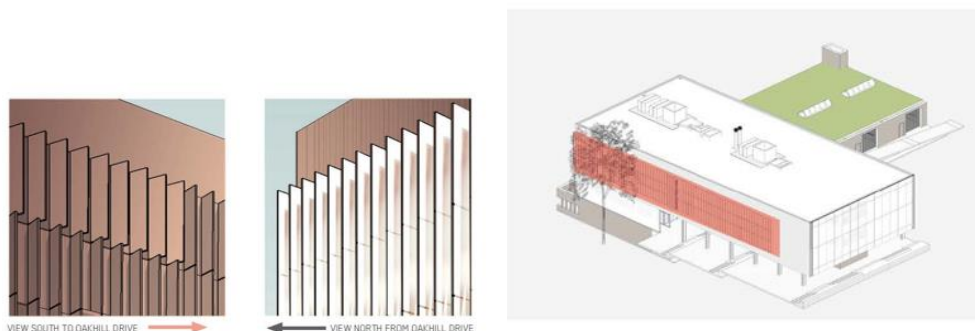
A key element to the innovation hub is the use of mass timber construction. The use of a CLT and Glulam structure allows the building to have excellent energy efficiencies via no thermal bridging, airtightness, and increased thermal insulation due to the natural properties of timber.

The use of CLT construction, being made compared traditional construction methods allows for the reduction in CO2 emission and the embodied energies used in creating construction materials. The building becomes a teaching tool to the students who occupy it and representation of Innovation to the school.



Façade

The design of the façade incorporates the use of sun shading devices on the eastern, northern and western elevations. This design response is to reduce the solar heat gains through glazed elements of the building, reducing the mechanical loads required to maintain a comfort within the building.



Principle 3—accessible and inclusive

Due to the large and steep nature of the school campus, the design strategy to address accessibility and wayfinding is addressed through the masterplan and landscape design for the college. The strengthening of the Oakhill Drive and provision for accessible ramps along the pedestrian spine provides clear wayfinding towards the Innovation Hub. The southern facing glazed curtain wall, addresses the proposed courtyards and informal gathering space adjacent, revealing to the public the functions within the building. The visible learning aims to engage students and teachers from outside the building and promote interaction and collaboration with from other faculties.



Principle 4—health and safety

The use of timber within teaching and learning spaces aims to promote wellness where schools are increasingly look towards the built environment to affect a sense wellbeing. The use of timber structure and CLT finishes contributes to the positive effects of Biophilia. Natural light is maximised with the use of skylights to the lower ground level and the southern facing glazed façade in the upper levels.

Safety and security within the building is addressed with the use of glazed partition within the classroom spaces and allows high visibility throughout the floor plate.

Principle 5—amenity

The innovation hub generally consists of the mixture of science and TAS spaces which aim to promote cross disciplinary learning. However, opportunities throughout the design process created informal learning spaces, exhibition spaces and gathering areas which could be used for the wider school community. The raised level 1 and 2 floor level results in a covered outdoor learning space on the ground. It is envisaged this space could be flexible in use and allows for the school to gather a entire house group for assemblies. Ground level lobby and lower ground spaces provide large open areas aimed for exhibition of school projects and visual presentations.

Lower ground houses the majority of the TAS related spaces due to ease of access and loading of heavy materials. The workshop spaces open to the courtyard which connects to the lower ground level vehicle access.

Principle 6—whole of life, flexible and adaptive

The consistent structural approach to the Innovation hub accommodates current and future needs through modular grids. With the use of Glulam columns and beams, all internal partition walls in the Innovation Hub becomes non-loadbearing, allowing for reconfiguration of spaces with minimal demolition works required. This minimises the disruption to the school so as the building can adapt along with the future needs of the school.

The open under croft space on ground level is also provision for possible enclosed spaces or temporary spaces if the school population were to increase in the future.



Principle 7—aesthetics

The Innovation hub looks to reflect the context and surrounds of the existing school fabric. With the lower ground partially embedded, it allowed for a smaller building height to maintain privacy to the neighbouring houses as well as reducing the overall building mass. The lower ground level acts as a solid brick plinth that references the red brick of the adjacent De La Salle Building. Level 1 and 2 sit above a glass box lobby and in clad in metal, articulated with shading fins. The orthogonal form sits along two major axis of the school lending way to the use of an exposed timber structure that showcases the buildings as a symbol of innovation to the school community.

