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09 October 09

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University of Technology, Sydney – Multi-Purpose Sports Hall – Design Statement 24.09.09

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The development proposal is to construct a Multi-Purpose Sports Hall on this tight urban site occupied by the University of Technology, Sydney's Broadway Campus. The hall is predominantly for the use of the Faculties of Education and Business as a teaching facility; however the facility will be made available to other uses, such as examinations or extracurricular student uses. The hall would accommodate up to 400 spectators and participants, across a spectrum of sports and recreational activities. The facility provides an important part of the campus amalgamations that the university is undertaking through the realisation of its master plan. The hall also alleviates a need for additional examination space. The proposed Multi-Purpose Sports Hall occupies a space beneath the University's Alumni Green, the only open space on this urban campus, and is surrounded on all sides by existing buildings and car park ramps. The proposal will have a minor impact on the Alumni Green; a small necessary egress structure will be associated with the north eastern corner. The project will also introduce a light and ventilation shaft along the eastern edge, between Alumni Green and building CB04. The base of this shaft will be planted with similar understorey planting to Alumni Green above, providing a level of outlook from this subterranean space.

The Primary entrance to the Multi Purpose Sports Hall will be through level one of building CB04, providing level access from both Harris Street and Thomas Street, and lifts to Level 2 of building CB04, which is level with Alumni Green. Although no parking is provided, the project is well served by public transport and there are a number of parking stations close by.

As the proposed Multi-Purpose Sports Hall is essentially underground, it has a distinct lack of visual impact from surrounding streets and buildings.

The hall itself is divided along a column-line and glass line into four areas, circulation is provided via a stair and lift in the north east area connecting all levels of the facility. A two storey amenities and teaching studio block is arranged along the north of the facility, a shaft for light and ventilation is located to the east of the facility defining the edges of the main multi-purpose space.

The interior of the Multi-Purpose Sports Hall is carved out of bedrock. This natural material is used as part of the building fabric bringing a unique character to the major space and also brings sustainable benefits through the reduction of materials required to complete the project. This approach can also be considered a reference to the heritage of the site, exposing the stratum of rock on which the university has been founded. A modern aesthetic contrast with this through the use of insitu concrete 'wishbone' columns (also reducing the amount of concrete being used) form an elegant visual separation between functions, and the highly modelled ceiling which, by taking advantage of natural structural forces intended to

support significant planting above, also diffuses up-lighting. Plywood and painted fibrous-cement acoustic panelling used as a humanising feature on all perimeter walls above the rock face datum, and glazing and polycarbonate used to provide a level of outlook and light from the various spaces and to the light and ventilation shaft.

Technically the hall will be equipped with the provision for a high level of functional amenity. It will have a substantial level of acoustic attenuation for good speech intelligibility appropriate for a teaching facility of this nature. A public address system will be provided for music and announcements. Removable bench seating will be provided for the minimum number of spectators and people on the side lines. Lighting will be provided by up-lights limited to the perimeter of the hall, eliminating glare and making maintenance access to these services relatively simple.

As a subterranean building, the Multi-Purpose Sports Hall proposes to create a level public space above, to be landscaped in the future in keeping with the intentions of the current campus master plan. This new level surface will also improve connections between buildings CB01 and CB04 and improve accessibility for this part of the campus.

A naturally ventilated shaft between Building CB04 and the proposed facility and adjacent to the main circulating stair provides additional visual relief from the main playing space and may provide additional natural pre-filtering to air intake on the southern side of this space. In addition, the top section of the glazed wall separating the light and ventilation shaft from the main hall will be operable to offer both air relief and smoke exhaust and as noted previously, the shaft will be glazed onto the hall, bringing a level of daylight into the space. Solar studies have been completed to ensure that this does not pose a glare problem.

The proposal is substantially subterranean and well placed to take advantage of environmental benefits associated with this. The mechanical system is designed to maximise exposure of intake air to the bedrock. Thermal calculations have also considered the amount of exposed rock face into the Hall as well as the insulating capacity of soil and plantings on the roof. Although space is being made in the Plant Room for a chiller should one be required, the initial strategy is to mechanically ventilate the space only. Should this be deemed by users to be unacceptable, the project can either connect into the campus wide system of chilled water or install a stand alone chiller.

The Multi-Purpose Sports Hall provides for Basketball, Netball, Volleyball, Futsal (indoor soccer), Indoor Cricket, three Badminton Courts and various other sports such as Gymnastics and Martial Arts. The facility provides separate spaces for a Dance Studio and Gymnasium with exercise equipment. Supporting these uses are amenities including 104 lockers, 27 showers, 16 pans, space for 12 urinals, 16 basins, including two separate unisex disabled facilities and one unisex staff facility. A tutorial room for 30 students, office for two people, reception counter as well as storage for 50 bicycles in addition to 84sqm of equipment storage

distributed throughout the facility.

The facility will become an integral part at the heart of the University of Technology, Sydney's Broadway Campus.

The design also considers the difficulty of building within a working university campus. Construction access is particularly difficult on this site and it is necessary to have a clear construction methodology that addresses key issues such as; continuing operation of the wider campus, noise, dust and safety. The design has been informed by a construction strategy that will ensure the success of the project:

- 1) Maximise excavation works in semester breaks
- 2) Enclose structure for noise and dust management
- 3) Handover new roof area for use as construction fit out continues beneath
- 4) Maximise offsite fabrication
- 5) Using a 'kit of parts' building elements can be put into place, simplifying and accelerating the construction process.

Many of these issues are addressed elsewhere within the planning report.