

OUR TAMPINES HUB



Our Tampines Hub is the first-ever integrated community and lifestyle hub in Singapore. Led by the People's Association, the project brings together many different agencies and stakeholders to offer a comprehensive suite of services and facilities that include ancillary services, a sports stadium, medical and childcare facilities. It is a veritable Hub for the residents of the Tampines district.

Constructed with energy efficiency and sustainability in mind, Our Tampines Hub is built with a vision to foster a caring, learning, active and green building development. The 7-storey establishment occupies the land area of the former Tampines Stadium and Sports Hall, occupying a gross area of 121,600 square metres. However, concrete waste from the demolished buildings were reused in the construction of Our Tampines Hub, reducing the development's carbon footprint.

The building has facade types including a curtain wall system, pre-cast concrete walls, vertical fins and

metal composite panels as cladding on the MPSH. The design team selected energy efficient / high performance glazing which achieved 38.43 W/m² for the overall envelope thermal transfer value (ETTV). This ETTV figure meets the Green Mark Platinum standard (i.e. below 40 W/m²). The façade systems are designed to be durable and permeable, effectively optimising natural ventilation and daylight in campus areas. The architectural elements were designed in synergy with the existing compound and built with the flexibility for future expansion.

Staying true to its design intent, the building forms and materiality will provide a recognised architectural expression, demonstrating a commitment to environmentally sustainable design, sound buildability principles combined with select material innovation. The new campus incorporated low energy and smart systems for environmental control into its architecture. A well-integrated building management system, the team employed extensive conservation strategies to manage energy and water consumptions.

The building has implemented several approaches to improve energy efficiency, with the chiller plant system achieving an overall efficiency of 0.588 kW/ton. Carbon dioxide (CO₂) sensors are also installed in associated rooms to maintain adequate air quality



throughout occupied hours, they regulate outdoor air flow rate to maintain the concentration of carbon dioxide. In the common areas, large diameter fans help to move large volumes of air to improve ventilation and thermal comfort.

The building circulation areas also have motion sensors installed in the staircases and toilets. Additionally, photocell sensors are installed in these associated areas as well: when lighting level is adequate within a space the system will switch the electric lights off and utilise natural daylight. These sensors will help save significant amount of lighting energy annually. High frequency ballasts are also used throughout the development. Energy efficient lifts and escalators are installed to optimise energy savings, with AC variable voltage and variable frequency (VVVF) motor drive and sleep mode features.

In terms of water conservation, Our Tampines Hub makes use of water efficient fittings with an Excellent Rating under the WELS labelling system. Sub-meters are also installed throughout the development to monitor usage and leaks for the domestic water, irrigation system, cooling tower and swimming pool via the BMS. In addition, the provision of a rainwater harvesting and auto-irrigation system equipped with rain sensors and drip irrigation for the greenery and landscape architecture. Further, drought resistant plants help to further reduce water demand and use.

Indeed, a striking visual of the development is the extensive provision of landscape and vertical green walls layered all over the façade. Aside from the visual appeal and comfort that is provided, the greenery also serves to reduce the urban heat island effect.

Going beyond the façade, Our Tampines Hub implements and maintains a number of sustainability initiatives from the construction stage. The development saw extensive use of building products and materials certified by the Singapore Green Building Product labelling scheme, as well as the use of green concrete, RCA and WCS to maintain low concrete usage index. All of the parties involved in the development are also firms certified by the Singapore Green Building Services certified scheme.

Building tenants are encouraged to partake in their own recycling and sustainability initiatives through the Tenant Guide Book, assisted by the provision of recycling bins found in common areas. The development is also adopting green leases to increase tenant awareness and buy-in to utilise the building facilities optimally and to their true energy saving potential. An Energy Information System is also installed as an education tool to educate the public on the building's energy usage in real-time in terms of units of power and also financial spending. Occupant response patterns derived from this system can go towards helping the building perform better further into its lifespan. 🟢

Developer: People's Association

Project Manager: ARCADIS Project Management Pte Ltd

Architect: DP Architects Pte Ltd

M&E Engineer: AECOM Singapore Pte Ltd

Structural Engineer: T.Y. Lin International Pte Ltd

Quantity Surveyor: Davis Langdon KPK (Singapore) Pte Ltd

Main Contractor: Hexacon Construction Pte Ltd

Landscape Consultant: DP Architects Pte Ltd

ESD Consultant: Meinhardt (Singapore) Pte Ltd