



ASSOCIATION OF CONSULTING
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2016 AWARDS FOR ENGINEERING EXCELLENCE

Lieutenant Governor's Award for Engineering Excellence Grandview Heights Aquatic Centre



Consultant

Fast + Epp

Prime Consultant

HCMA Architecture + Design

Owner/Client

City of Surrey

Category

Buildings

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The Client's objective for the project was to develop an aquatic centre for the growing community of Grandview Heights in Surrey, BC that would include a 50 metre competition pool, leisure pool, and a fitness centre. The City of Surrey has gained a reputation for expecting functionally efficient and architecturally striking buildings when selecting consulting teams for their projects. Having already been involved in a number of landmark projects in Surrey, Fast + Epp was included as structural consultant to support the design team for this facility.

The team responded with what became one of the most ambitious and daring designs our firm has been involved in during its 30 year history. Collaborating with the architects, the design of the superstructure evolved into a gently undulating and metaphorically appropriate wave form that was constructed using a highly unusual structural system – a novel hanging timber catenary roof suspended between concrete buttresses and free-spanning 55 metres. Rather than employ conventional steel roof trusses with sizes in the order of 3,000 millimetres high, 250 millimetre high glue-laminated timber 'cables' were introduced reducing the effective structural depth by 90%. This reduces building volumes and energy costs, sequesters carbon, and provides the community with an architecturally delightful and warm recreational environment.

While the use of suspended catenary steel cable systems particularly on bridges is not uncommon, the use of timber as long spanning tension cables is rare and resulted in what is probably the most slender long span timber roof ever constructed.