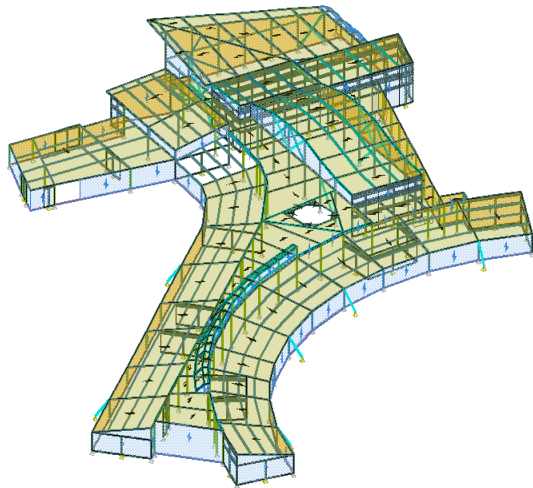




Evolve benefit from Fastrak Building Designer



- ▶ Whittings Hill School, London Borough of Barnet

Evolve

www.evolveuk.biz

Evolve has brought together an extremely talented and dedicated team of high calibre engineers sharing the same desire to attain the highest standards possible in the delivery of innovative and cost-effective solutions. Evolve undertakes a diverse range of appointments from structural surveys to full design on major developments. The Practice continues to win high quality projects in a wide range of building types.

Evolve provides various timber framed solutions for major UK retailers and has recently used CSC's Fastrak Building Designer to model a timber [glulam] framed building for Whittings Hill School. Evolve worked in partnership with Bowmer & Kirkland Timber Structures [www.bkts.co.uk] as their fabrication engineer for the client. The building is principally a timber [glulam beams and columns] frame with some steel beams and columns. The structure is geometrically complex with several changes in roof level and pitch [hipped roof to swimming pool and curved roof to school hall].

"Fastrak Building Designer enabled us to produce a 3D model of the complex structure, which could be used for detailed analysis and design. We chose Fastrak for this project because:-

- ▶ The model provided a visual aid for discussion by the Design Team.
- ▶ 2D plans could be produced simply and issued to the Design Team to highlight proposed items of design development.
- ▶ Fastrak designed all the steel elements modelled to BS 5950 and produced a design calculation, for issue to Building Control.
- ▶ The vertical function of the stability system required us to model timber stud shear walls; these could be input simply by modelling them as an equivalent thickness of solid glulam.
- ▶ Fastrak enabled us to calculate a full wind analysis; the wind loads were applied to the model to ascertain the member forces in the stability system. Fastrak then designed the steel bracing members to BS 5950 with accompanying calculation.
- ▶ Loading/force output for the shear walls was used so that the timber shear wall manufacturer could design the shear walls based on our assumptions.
- ▶ The wind modeller output was issued to the structural roof decking manufacturer so that the required decking fixings could be designed to provide diaphragm action.
- ▶ After applying all of the loadings we were able to produce a full load takedown so that base plates, holding down bolts and substructure could be designed by others."

Dan Hagan – Structural Engineer