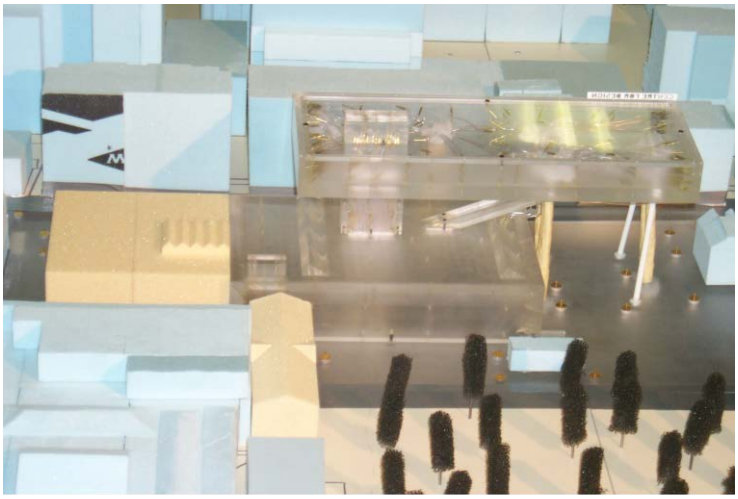
The Ontario College of Art & Design, Toronto, ON, Canada

Wind Engineering Study

Illustration



Pressure Model

Owner Ontario College of Art & Design	*Engineer* Carruthers & Wallace Limited	*Architect* Alsop Architects and Robbie/Young + Wright
Height 35.1m above ground	*Year Tested* 2002	*Model Scale* 1:200

The Project

Located in Toronto, Ontario, this project at OCAD will create a new landmark structure, the Sharp Centre for Design.

The project consists of a rectangular box “table top”, set on 8-storey columns. The box hovers over the existing 100 McCaul Street building and creates an overhang over new green space. The new extension has a vertical elevator core extending above the “table top”, and a separate sloped walking stair connecting the existing building below. The “table top” roof is at 35.1m above ground.

The Wind Tunnel Studies

Wind tunnel studies were carried out using a pressure model technique.

Information on cladding pressures was determined at 369 locations.

Analyses were also carried out for the lift on the “table top”, the vertical load on the part of the existing building roof modelled; as well as the loads on the sloped small stair case box.

Structural loads and responses on the “table top” structure were determined from analyzing the detailed simultaneous pressure measurements and building dynamic properties.

Pedestrian level wind speeds were determined at 31 locations around the project.

The Boundary Layer Wind Tunnel Laboratory

Western

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FSTB/ 210 /February 2003 / LK
Last Printed: September 20, 2008