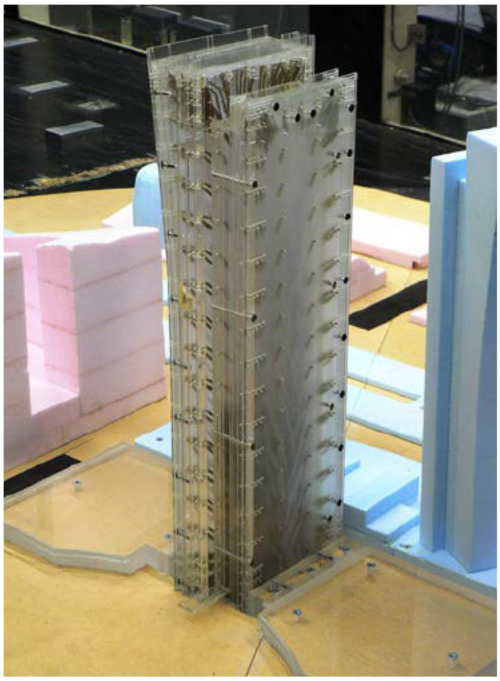
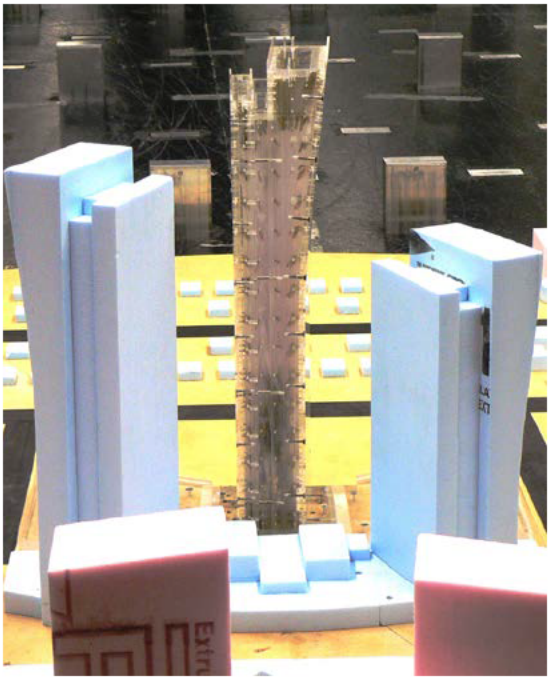
Emerald Towers, Astana City, Kazakhstan

Wind Engineering Study

Illustration of Tower





Photos of Pressure Model in Tunnel

Model Construction Theakston Environmental	*Engineers* Jablonsky, Ast & Partners	*Architect* Zeidler Partnership
Height 54 storeys, 210m Approximately 29m by 56m	*Year Tested* 2006	*Model Scale* 1:400

The Project

The Emerald Towers in Astana City, Kazakhstan is located in a low-rise district and will be the most visible structure around and has a tall tower with curved wall and unusual roof features.

The Wind Tunnel Studies

The primary objective of this investigation is to provide cladding and structural loads.

The structural loads were determined using the integrations for pressures technique. The pressure model was instrumented with 631 pressure tap locations.

The proximity model extended 500 meters from the site. The pressure and proximity models were constructed by Theakston Environmental.

Two configurations of the local surroundings were tested; Phase 1 consisting of just the proposed tower and completed development which included two smaller towers with similar geometry and additional developments proposed for around the site. The wind tunnel results were used to compare to local codes in use in the region.

The Boundary Layer Wind Tunnel Laboratory

Western

The Boundary Layer Wind Tunnel Laboratory
The University of Western Ontario
Faculty of Engineering, London, Ontario
Canada, N6A 5B9 Tel: (519) 661-3338 Fax: (519) 661-3339
Internet: www.blwtl.uwo.ca E-mail: info@blwtl.uwo.ca

FSTB/ 229 /September 2006 / RTE
Last Printed: March,19, 2009