Dr. Phillips Center for the Performing Arts, Orlando, FL

Wind Engineering Study

Image Credit: Craig Mullins/Goodbrush.com

Client	*Structural Engineer*	*Architect*
TLC Engineering for Architecture	TLC Engineering for Architecture	Barton Meyers
Height	*Year Tested*	*Model Scale*
94 ft	2010	1:400

The Project

The Dr. Phillips Center for the Performing Arts is a substantial building with a gross floor area of 360,000sf. The venue will feature a 2,700-seat amplified hall, a 1,700-seat acoustic hall for ballet, operas and orchestral performances, and a 300-seat venue for smaller functions.

The building has a height of 94 ft. with a significant cantilever roof feature. The center, and part of the roof, is constructed in phases. The amplified hall and the 300-seat venue are planned for phase I and Phase II includes the acoustic hall. Groundbreaking took place in June 2011.

The Wind Tunnel Studies

The wind engineering studies for the Dr. Phillips Center For Performing Arts included a study of the wind-induced structural loads and responses and local cladding pressure loads.

The study of overall structural loads and load effects on the cantilevered roof were determined using integrated point pressure data with consideration of the structural dynamics and with the Load-Response-Correlation Method to determine distributed design loads.

A study of wind-induced cladding pressures was carried out for 350 measurement locations on the building and 250 locations on the roof.

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