Summary of Decisions of the Structural Engineering Committee
SEC Meeting 3/2016 held on 26.2.2016

Case HD-02/2016

Issue: Methodology Report for Wind Tunnel Test

Recommendation: To accept the following proposed testing arrangement and parameters for wind tunnel test of the proposed footbridge of unconventional form at the proposed development:

(1) Topographic Model

Model scale: 1: 3,000

(2) Local Wind Effect Model

(i) Model scale: 1: 400

(ii) Extent of model: all known existing and proposed surrounding buildings and structures within a radius of 480m from the subject site will be modeled.

(3) Proximity Model (Aero-elastic Model Test)

(i) Model scale: 1: 75

Extent of model: all known existing and proposed surrounding buildings and structures within a radius of approximately 180m from the subject site will be modeled.

(4) Wind Climate Study Results

A 50-year return period wind speed according to the Wind Code will be used to determine the structural wind loads for the Footbridge design. Should higher wind loads be observed for off angles then additional load cases representing these wind directions will be included.

(5) Removal of adjacent buildings that could provide significant shelter

Two configurations for the local wind study: (1) with all adjacent buildings, and (2) with no adjacent buildings would be tested.

(6) Design Wind Loads Adopted in Superstructure Design

The following in the superstructure design were proposed:

(i) The finally adopted equivalent static wind loads will not be less than 100% of the wind loads found from the Wind Code.

(ii) If the equivalent static wind loads determined in the wind

tunnel test are found greater than the wind loads derived from the Wind Code, the equivalent static wind loads determined in the wind tunnel test will be adopted for design.

(iii) The pedestrian comfort and serviceability will be examined by the sectional model test to aerodynamic stability of the bridge.

Decision: Having noted the background information and arguments together with RSE's supervision arrangement, members endorsed the recommendation.