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City of Yarra
333 Bridge Road
Richmond, Australia

7/05/2020

Ref: 30N-20-0092-GCO-6777848-0

Attention: Michelle King

Dear Michelle,

462-482 Swan Street, Richmond - Peer Review

This peer review of the MEL Consultants Environmental Wind Speed Measurements report (Report No 36-20-WT-ENV-03) is based on Vipac's experience as a wind-engineering consultancy.

Vipac have reviewed the wind tunnel test report and updated plans provided (see the list of files in the attachment). Our comments are as follows:

- The MEL Consultants Environmental Wind Speed Measurements report has been prepared based on a 1:400 scaled model wind tunnel test. The report includes the following main Sections: Introduction, Environmental Wind Criteria, Model and Experimental Techniques, Discussion of Results and Conclusions. Detailed test data were presented in the Figure section.
- We have no issue with the criteria for wind environmental conditions developed in 1978 by W. H. Melbourne, which was adapted in this report.
- In the Model and Experimental Techniques section, a minimum 500 m radius proximity model was used and is substantially sufficient. The Category 3 exposure was used in the assessment, which was also appropriate. Hot wire anemometers were used to measure the local wind speeds at various locations for the ground level and some selected open terraces.
- In the Discussion of Results section, the report clearly addressed the wind speed measurement results street by street around the development and selected open terraces.
- The test results indicated that most test locations fulfil the recommended wind criteria for the proposed configuration. The test identified problematic test locations of 4, 5, 6, 8, 9, 10, 11, 17, 24 and 26, where the walking criterion was exceeded. However, these locations will fulfil the recommended walking criterion or similar to existing conditions with the wind amelioration strategies developed during the test as cited as follows:

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- Modification of the built form of the northwest and southwest corners of the proposed 480 Swan Street development;
- Canopy along Burnley Street near northwest corner at Level 1.
- The report stated that the above wind control measures are included in Figures 6a to 6f and have also been incorporated into the Architectus drawings dated 16 April, 2020 (Rev C).
- The test also showed that some critical locations at the selected terraces (Locations L6 at Level 2 and M3 at Level 3) exceeded the walking criterion for some prevailing direction winds. The report suggested that 1.5 m high balustrade could improve the wind conditions to within the walking criterion.
- The design was updated in April 2020 (see attached files received on 30/04/2020). Vipac have reviewed the updated drawings and can confirm that the recommended wind control measures for the ground level wind conditions have been incorporated in the design.
- Vipac note that there is an alfresco dining area proposed at the south side of the development close to southwest corner (see Figure 1 in the attachment). MEL Consultants test report has not assessed any outdoor seating areas. Test showed that the wind conditions at the close by location (Location 5) were within walking criterion for the updated design but well over the sitting comfort criterion. Vipac recommends that **MEL Consultants should provide additional assessment for this area.**

In conclusion, the MEL Consultants Environmental Wind Assessment used the proper model, experimental and analysis methodology to assess the wind effects on the pedestrian level spaces around the proposed development, as well as various open terraces in detail. The locations of high wind conditions have been identified and were rectified with wind control strategies. The conclusions are substantially valid.

Vipac note that there is an outdoor seated area proposed at the south side close to southwest corner (see Figure 1 in the attachment) which was not assessed. Vipac recommends that **MEL Consultants should provide additional assessment for this area.**

Yours sincerely,

Vipac Engineers & Scientists Ltd



Zhuyun Xu
Senior Wind Engineer



Sophie Lamande
Wind Group Leader

7/05/2020

Attachments:

File list received

Name	date received
Plan Part 1	30/04/2020
Plan Part 2	30/04/2020
Plan Part 3	30/04/2020
Plan Part 4	30/04/2020
Plan Part 5	30/04/2020
Wind Impact Assessment	30/04/2020

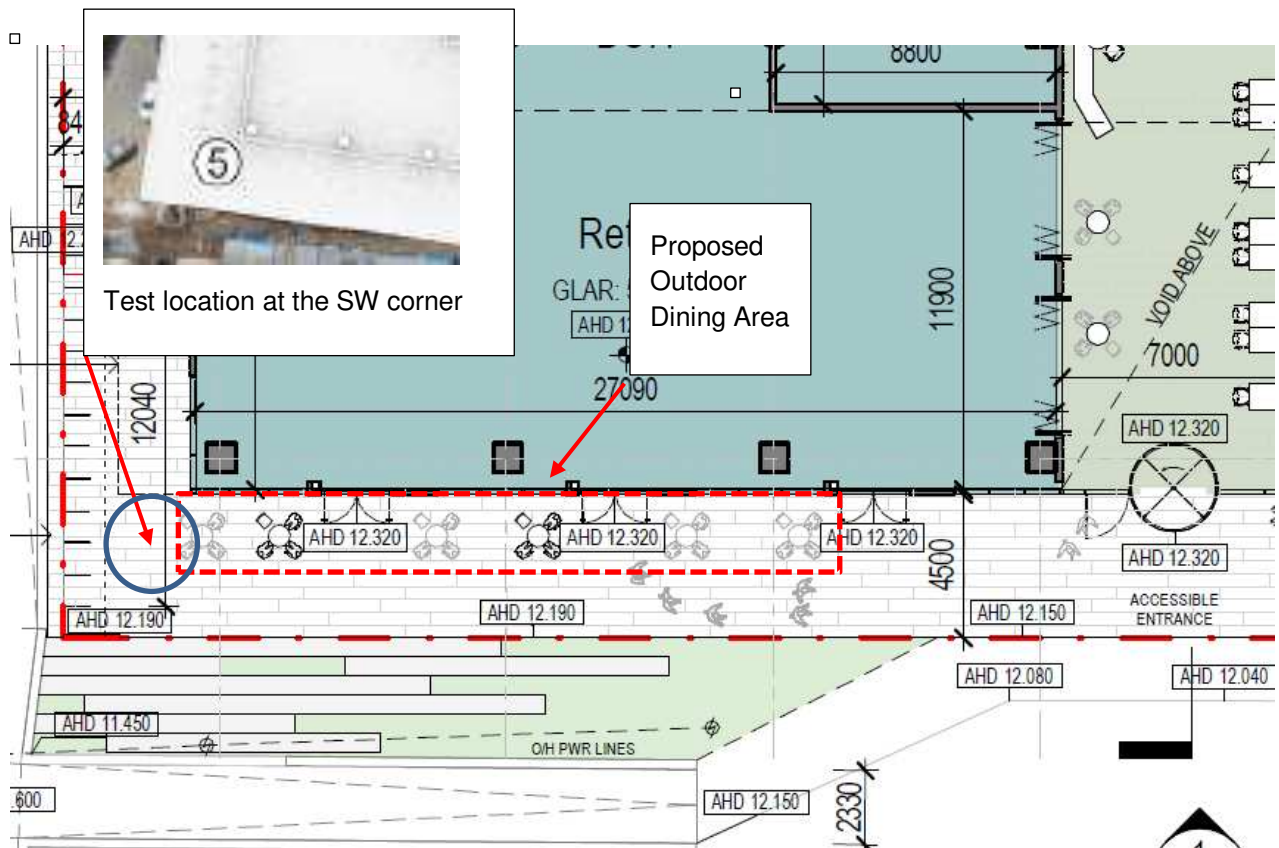


Figure 1 South west corner of the ground floor plan (dated 16/04/2020)