



**22 CLEELAND ROAD  
SOUTH OAKLEIGH VIC 3167  
AUSTRALIA**

(ACN 004 230 013)

Ref: 72-18-DE-REV-00

23<sup>rd</sup> April 2018

City of Yarra  
PO Box 168  
Richmond VIC 3121

Attn: John Theodosakis  
Senior Statutory Planner

Dear John,

**GTV 9 Site  
171 Stawell Street, Richmond  
Review of CPP Qualitative Wind Assessment  
CPP Project: 12017**

The review of the CPP Qualitative Wind Assessment is based on our experience of wind flow around buildings and structures. This experience has been developed from a company experience of more than 40 years of desktop, wind tunnel, and full scale studies of environmental wind conditions in urban and sub-urban areas. No wind tunnel studies have been undertaken to support the review. MEL Consultants comments are as follows:

- The CPP Qualitative Wind Assessment has been prepared based on the experience of the consultancy and no wind tunnel testing by CPP has been carried out to support the report. MEL Consultants have no issue with this approach for a desktop study as this is a common approach to provide architects, developers, and responsible authorities' advice on the wind effects of the design.
- MEL Consultants have no issue with the Analysis Approach, Site Exposure, and Regional Wind Climate that have been used as the basis for the assessment. CPP have clearly identified the process for the desktop assessment and this is

consistent with the approach that MEL Consultants would take to prepare a desktop wind impact assessment. A clear description of the proposed development has been provided in Figure 2 of the report.

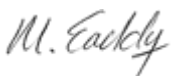
- The assessment has used is the wind comfort criteria by Lawson (1990) in the absence of criteria in the Yarra Planning Scheme (2017). These criteria are defined by mean and gust equivalent mean (GEM) wind speeds. MEL Consultants have no issue with these criteria being used for the Qualitative Wind Assessment.
- MEL Consultants would agree with the assessment of the wind impacts of the proposed development for winds from the north, except that the site is currently vacant (Figure 1 of the CPP report) and the proposed built form massing would be expected to increase wind conditions compared to the existing wind conditions.
- MEL Consultants would agree with the assessment of the wind impacts of the proposed development for winds from the south, except again that the site is currently vacant and the proposed built form massing would be expected to increase wind conditions compared to the existing wind conditions.
- MEL Consultants agree with CPP that the taller B and E buildings would have the potential for downwash from the western facades and create relatively strong ground level wind conditions, particularly around the building corners. There would be an expectation that the wind conditions at the building corners would exceed the criterion for walking comfort, which is higher than the assessment by CPP. The proximity of Buildings B and E would be expected funnel the downwash wind flow along Khartoum Street. MEL Consultants would disagree with the comment by CPP that the development may marginally add to this mechanism. Given the site is currently vacant, it would be expected there would be no significant funnelling of wind flow along Khartoum Street for the existing wind conditions. Further, MEL Consultants would disagree with the CPP assessment that the wind conditions along Khartoum Street would be similar to the existing conditions. Instead based on the above discussion they

would be increased for the west sector wind directions compared to the existing conditions. Given the relative height difference of the proposed development to the upstream buildings, resulting in exposure to direct wind flow, it would be recommended that wind tunnel model measurements of the environmental wind conditions be undertaken. If necessary, the wind tunnel study can quantify the effectiveness of the wind mitigation strategies suggested by CPP.

- The CPP report provides a discussion of the wind conditions in the private realm, such as terraces and balconies, which is useful to inform the developer. MEL Consultants agree with the discussion.

In conclusion, the CPP Qualitative Wind Assessment has been prepared based on the consultant's experience of wind flow around buildings and structures. We have no issues with the Analysis Approach, Site Exposure, Regional Wind Climate, and description of the development used in the preparation of the assessment. This is consistent with the approach MEL Consultants would take to prepare a similar desktop environmental wind assessment. We agree with many aspects of the CPP assessment, particularly the wind effects for the north and south wind directions. However, the exposure to the west sector wind direction would be expected to create downwash from Buildings B and E that would increase wind conditions at ground level around these buildings and funnel along Khartoum Street. It has been recommended that the proposed development be wind tunnel tested to quantify the environmental wind conditions and, if necessary, develop wind mitigation strategies. MEL Consultants also disagrees with the assessment that the wind conditions would be similar to the existing wind conditions for the reason that the existing site is currently vacant. MEL Consultants would also recommend, if required, that any wind mitigation strategies are presented with and without the reliance existing or future street trees.

Yours sincerely,



M. Eaddy  
MEL Consultants Pty Ltd