

19<sup>th</sup> July 2006

**HOUSING, PLANNING AND LANDS BUREAU  
TECHNICAL CIRCULAR NO. 1/06  
ENVIRONMENT, TRANSPORT AND WORKS BUREAU  
TECHNICAL CIRCULAR NO. 1/06**

**Air Ventilation Assessments**

**Purpose**

This Technical Circular sets out the guidance for applying air ventilation assessments (AVA) to major government projects.

**Effective Date**

2. This Circular takes immediate effect.

**Effect on Existing Circular**

3. There is no effect on existing circulars.

**Background**

4. In the Team Clean report published in August 2003, Government undertook to examine the practicality of stipulating air ventilation assessment (AVA) as one of the considerations for all major development or redevelopment proposals and in future plan making. In the “First Sustainable Development Strategy for Hong Kong” promulgated by the Office of the Chief Secretary for Administration in May 2005, a strategic objective to promote sustainable urban planning and design practices has been set out amongst other objectives with special regard to issues such as buildings affecting view corridors or restricting air flow.

5. A framework for applying AVA is developed on the basis of the “Feasibility Study on Establishment of Air Ventilation Assessment” completed this year and endorsed by the Committee on Planning and Land Development on 7 June 2005. The Committee agreed that Government will take the lead to apply AVA to all major government projects which may have major impacts on the macro wind environment, including public housing projects, planning studies for new development areas and comprehensive redevelopment areas, preparation of new town plans and major revision to town plans. Quasi-government organizations and the private sector are also encouraged to apply AVA to their projects on voluntary and need basis.

## **Policy**

6. Proponent departments / bureaux or authorities responsible for major government projects which may bring about potential impact on air ventilation in the macro wind environment are strongly advised to include AVA in the planning and design of projects. The main purpose of AVA is to promote the awareness of project proponents to ensure that air ventilation impacts are duly considered as one of the main criteria in the planning and design process. The framework developed at this stage does not provide an absolute benchmark standard against which the air ventilation impacts can be confirmed to be acceptable or unacceptable. The framework would however, enable comparison of design options in external air ventilation terms and identification of potential problem areas for design improvements. A further study to develop benchmark standards for AVA in Hong Kong will be commissioned in 2006. Upon completion of the study and gaining sufficient experience, the AVA system may be refined.

## **Application of AVA**

### ***Projects Requiring AVA***

7. For the purpose of this Technical Circular, government projects refer generally to projects under the policy initiatives, support or programmes of government departments / bureaux / authorities e.g. public housing, government office buildings, footbridges etc.; regardless of their ownership. Proponent departments / bureaux or authorities should assess the need to apply

AVA to the following categories of major government projects during the planning stage as early as possible:

- (a) Planning studies for new development areas;
- (b) Comprehensive land use restructuring schemes, including schemes that involve agglomeration of sites together with closure and building over of existing streets;
- (c) Area-wide plot ratio and height control reviews;
- (d) Developments on sites of over 2 hectares and with an overall plot ratio of 5 or above;
- (e) Development proposals with total Gross Floor Area exceeding 100,000square metres;
- (f) Developments with podium coverage extending over one hectare;
- (g) Developments above public transport terminus;
- (h) Buildings with height exceeding 15 metres within a public open space or breezeway designated on layout plans / outline development plans / outline zoning plans or proposed by planning studies ;
- (i) Developments on waterfront sites with lot frontage exceeding 100 metres in length; or
- (j) Extensive elevated structures of at least 3.5 metres wide, which abut or partially cover a pedestrian corridor along the entire length of a street block that has / allows development at plot ratio 5 or above on both sides; or which covers 30% of a public open space.

8. The above list is not exhaustive and proponent departments / bureaux or authorities may exercise their discretion to include specific projects within their jurisdiction as appropriate.

9. In assessing the need for AVAs for individual projects, the proponent departments / bureaux or authorities should also take into account the following factors :

- (a) Whether there are existing / planned outdoor sensitive receivers located in the vicinity of the project site falling within the assessment area. The sensitive receivers should include pedestrians or open space users;
- (b) Whether there are known or reasonable assumptions of the development parameters available at the time to conduct the AVA;

- (c) Whether alternative designs are feasible or alternative locations are available for the project if the AVA to be conducted would reveal major problem areas;
- (d) Whether there are other overriding factors which would prevail over air ventilation considerations in the determination of the project design;
- (e) Whether the desirable project design for better air ventilation may compromise other important objectives for the benefits of the public;
- (f) Whether the public has raised concern on air ventilation in the neighbourhood area of the project; and /or
- (g) Whether the project is already in advanced stage to incorporate the AVA.

10. An officer of D2 rank or above of the proponent departments /bureaux or authorities should be responsible for deciding whether AVA is necessary for the project. If it is decided that the AVA shall be waived, strong justifications should be provided and it is necessary to obtain agreement of the respective policy bureau. If the AVA is considered necessary but pre-mature, a recommended timing or stage of the project for carrying out the AVA should be indicated.

11. For projects waived from the AVA requirement, the proponent departments / bureaux or authorities should, as good practice, still incorporate appropriate qualitative design guidelines to minimize impacts on air ventilation. These qualitative design guidelines are available in the “Urban Design Guidelines”, Chapter 11 of the Hong Kong Planning Standards and Guidelines, downloadable from Planning Department’s (PlanD) homepage <http://www.pland.gov.hk>.

### ***AVA Methodology***

12. Proponent departments / bureaux or authorities should ensure that the AVAs are properly done by referring to the methodology as in the Technical Guide (*Annex A*).

## **AVA Register**

13. For ease of reference and to facilitate any necessary review of the AVA process, PlanD will maintain an AVA register open for public inspection (format of the AVA register for major government projects is attached in *Annex B*). The register should document the following information with inputs from relevant proponent departments / bureaux or authorities:

- (a) projects for which AVA may be needed according to the categories mentioned in para. 7, together with an outline of the project details;
- (b) projects which have undergone an AVA;
- (c) projects waived from AVA with full justifications, and any qualitative design guidelines which have been incorporated to improve the project designs; and
- (d) copies of the AVA report (three hard copies and an electronic copy in Acrobat format).

14. Returns for updating of the AVA register would be requested by PlanD at quarterly intervals.

15. For on-going government projects, the proponent departments / bureaux or authorities should whenever possible still consider if there is scope to apply AVA to the projects. Similarly, results of these reviews should also be included in the AVA register.

16. For AVAs commissioned by the private sector or quasi-government organizations and which have been submitted to government as part of the development submissions, the concerned departments / bureaux should also include the AVAs in the register (format of the AVA register for private/quasi-government projects is attached in *Annex C*) and the submitted AVA report(s) should also be forwarded to PlanD. Consents from the private or quasi-government project proponents should be sought to release information contained in the AVA proforma and /or the AVA reports for public inspection. Three hard copies and an electronic copy in Acrobat format for each AVA report shall be attached upon return of the completed register.

17. For projects which cannot be disclosed due to confidentiality or consents from private / quasi-government project proponents have not been given, the information would be kept solely for government's internal reference.

18. While PlanD will maintain the AVA register, the concerned proponent departments / bureaux or authorities would be responsible for conducting, overseeing and self-appraisal of all AVAs. The AVA register would be uploaded to Planning Department's Homepage and shall be available for public inspection at the Planning Information Counter on 17<sup>th</sup> floor, North Point Government Offices, 333 Java Road, Hong Kong and on 14<sup>th</sup> floor, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin.

**Annexes**

- Annex A*** Technical Guide for AVA for Developments in Hong Kong  
***Annex B*** AVA Register for Government Projects  
***Annex C*** AVA Register for Private/Quasi-Government Projects



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Planning and Lands



(Dr. Sarah Liao)

Secretary for the Environment,  
Transport and Works

## Technical Guide for Air Ventilation Assessment for Developments in Hong Kong

1. This Technical Guide assists project proponent to undertake Air Ventilation Assessment (AVA) to assess the impacts of the proposal on the pedestrian wind environment. The assessment should follow this Technical Guide as far as possible and a report should be submitted to the proponent departments / bureaux or authorities on the assessment findings.
2. Every site is different. The assessor is strongly advised to approach the assessment intellectually and discretionally taking into account different site conditions. Working with experienced practising wind engineers throughout the assessment process is strongly recommended.

### Indicator

3. Wind Velocity Ratio (VR) should be used as an indicator of wind performance for the AVA. It indicates how much of the wind availability of a location could be experienced and enjoyed by pedestrians on ground taking into account the surrounding buildings and topography and the proposed development. Given the general weak wind conditions in Hong Kong, the higher the wind velocity ratio, the less likely would be the impact of the proposed development on the wind availability.
4. Wind VR is defined as  $V_p/V_\infty$  ( $V$  pedestrian/ $V$  infinity).  $V_\infty$  captures the wind velocity at the top of the wind boundary layer (typically assumed to be around 400 m to 600 m above city centre, or at a height wind is unaffected by the urban roughness below).  $V_\infty$  is taken as the wind availability of the site.  $V_p$  captures the wind velocity at the pedestrian level (2 m above ground) after taking into account the effects of buildings and urban features.

### Expert Evaluation / Initial Study / Detailed Study

5. It is always useful and cost effective for the assessor to conduct an early round of **Expert Evaluation**. This provides a qualitative assessment to the design and/or design options and facilitates the identification of

problems and issues. The Expert Evaluation is particularly useful for large sites and/or sites with specific and unique wind features, issues, concerns and problems. The following tasks may be achieved with Expert Evaluation:

- (a) Identifies good design features.
- (b) Identifies obvious problem areas and propose some mitigation measures.
- (c) Defines “focuses” and methodologies of the Initial and/or Detailed studies.
- (d) Determines if further study should be staged into Initial Study and Detailed Study, or Detailed Study alone.

6. In exercising expert knowledge and experience, the assessor should refer to the “Urban Design Guidelines”, Chapter 11 of the Hong Kong Planning Standards and Guidelines downloadable from the Planning Department’s (PlanD) website at <http://www.pland.gov.hk>.

7. The Expert Evaluation could lead to an Initial Study or directly to a Detailed Study depending on the nature of the development. The **Initial Study** will refine and substantiate the Expert Evaluation. The following tasks may be achieved with the Initial Study:

- (a) Initially assesses the characteristics of the wind availability ( $V_{\infty}$ ) of the site.
- (b) Gives a general pattern and a rough quantitative estimate of wind performance at the pedestrian level reported using Wind VR.
- (c) Further refines the understanding (good design features and problem areas) of the Expert Evaluation.
- (d) Further defines the “focuses”, methodologies and scope of work of the Detailed Study.

8. It is sometimes necessary to reiterate the Initial Study so as to refine the design and/or design options.

9. With or without the Initial Study, the **Detailed Study** concludes the AVA. With the Detailed Study, the assessor could accurately and “quantitatively” compare designs so that a better one could be selected. Detailed Study is essential for more complex sites and developments, and where key air ventilation concerns have been reviewed and identified in the Expert Evaluation / Initial Study. The following tasks may be achieved with the Detailed Study:

- (a) To assess the characteristics of the wind availability ( $V_{\infty}$ ) of the site in detail.
- (b) To report all VR of test points. To report Site VR (SVR) and Local VR (LVR) when appropriate (as outlined in paras 27 to 30). To report, if any, wind gust problems.
- (c) To provide a summary of how the identified problems, if any, have been resolved.

### **Site Wind Availability Data**

10. It is necessary to account for the characteristics of the natural wind availability of the site. As far as possible, the design should utilize and optimize the natural wind.

11. For the Expert Evaluation, it is advisable to make reference to the Hong Kong Observatory Waglan Island wind data, as well as reasonable wind data of nearby weather stations. Expertly interpreted, it is possible to qualitatively estimate the prevailing wind directions and magnitudes of the site necessary for the evaluation.

12. For the Initial Study, it is necessary to be more precise. Either “simulated” site wind data, or “experimental” site wind data, as described in paras. 13 and 15 below, respectively, could be used.

13. Using appropriate mathematical models (e.g. MM5 and CALMET), it is possible to simulate and estimate the site wind availability data ( $V_{\infty}$ ). For the Expert Evaluation and Initial Study, project proponent may refer to the preliminary set of simulated “Site Wind Availability Data” ( $V_{\infty}$ ) available at PlanD’s website.

14. For the Detailed Study, it is necessary to be even more precise. “Experimental” site wind data, as described in para 15 below, should be used.

15. Using large scale topographical model (typically 1:2000 to 1:4000) tested in a boundary layer wind tunnel, more precise wind availability and characteristics information in terms of wind rose, wind profile(s) and wind turbulence intensity profile(s) of the site could be obtained. Hong Kong Observatory Waglan Island wind data should be referenced to for the experimental study.

### **Tools**

16. Wind tunnel is recommended for both the Initial and the Detailed Studies, and most particularly for the Detailed Study. The conduct of the wind tunnel test should comply, as far as practicable, with established international best practices, such as, but not be limited to:

- (a) Manuals and Reports on Engineering Practice No. 67 : Wind Tunnel Studies of Buildings and Structures, Virginia 1999 issued by American Society of Civil Engineers.
- (b) Wind Engineering Studies of Buildings, Quality Assurance Manual on Environment Wind Studies AWES-QAM-1-2001 issued by Australasian Wind Engineering Society.

17. Computational Fluid Dynamics (CFD) may be used with caution, it is more likely admissible for the Initial Studies. There is no internationally recognized guideline or standard for using CFD in outdoor urban scale studies. The onus is on the assessor to demonstrate that the tool used is “fit for the purpose”.

18. Should the assessor wish to use other forms of tool for the assessment not described above, the onus is on the proponent to demonstrate that the tool to be employed is “fit for the purpose”. The scientific suitability, as well as the practical merits of the tool to be used must be demonstrated.

## **Simplification of Wind Data for the Initial Study**

19. In general, the characteristics of the site wind availability data should be reported in 16 directions. This is necessary to work out the Wind Velocity Ratio.

20. For the Initial Study, if using CFD, it may be appropriate and cost effective, to reduce the number of directions in the study. This is reasonable especially for sites with only a few incoming prevailing wind directions. The assessor must demonstrate that the probability of wind coming from the reduced set of directions should exceed 75% of the time in a typical reference year. Wind profile(s) for the site could also be appropriated from the  $V_{\infty}$  data developed from simulation models (e.g. MM5 and CALMET) and with reference to the Power Law or Log Law using coefficients appropriate to the site conditions.

21. For the Detailed Study, no simplification is allowed. Wind from all 16 directions and their probability of occurrences must be accounted for, and wind profiles(s) obtained from wind tunnel experiments should be used to conduct the study, and when calculating the Wind Velocity Ratio.

## **Project, Assessment and Surrounding Areas**

22. The testing model for the Initial and the Detailed Studies should cover the Project, the Assessment and the Surrounding Areas.

23. The Project Area is defined by the project site boundaries and includes all open areas within the project that pedestrians are likely to access.

24. A key aim of AVA is to assess a design's impact and effects on its surroundings. The Assessment Area of the project should include the project's surrounding up to a perpendicular distance H from the project boundary, H being the height of the tallest building on site. Occasionally, it may be necessary to include an assessment area larger than that defined above so that special surrounding features and open spaces are not omitted.

25. For the model, it is necessary to include areas surrounding the site. The Surrounding Area is important as it gives a reasonable and representative context to the Assessment Area. It "conditions" the approaching wind profiles appropriately. If the Surrounding Area is not

correctly included and modeled, the wind performance of the Assessment Area will likely to be wrongly estimated. The Surrounding Area of up to a perpendicular distance of 2H from the project boundary must be included. Sometimes it may be necessary to enlarge the Surrounding Area if there are prominent features (e.g. tall buildings or large and bulky obstructions) immediately outside the 2H zone. Other than the method recommended, wind engineers can advise alternative extent of the surroundings to be included on a case-by-case basis, especially when there are nearby prominent topographical features.

### **Test Points**

26. Test points are the locations where Wind VRs are reported. Based on the VR of the test points, the resultant wind environment of the project can be assessed. As each site is unique, it is impossible to be specific about the number and distribution of the required test points; but they must be carefully and strategically located. Three types of test points may be specified for assessment: Perimeter, Overall and Special.

27. Perimeter test points are positioned on the project site boundary. They are useful to assess the “immediate” effect of the project to the Assessment Area. Test points at around 10 m to 50 m center to center (or more if larger test site is evaluated) may be located around the perimeters of the project site boundary. Test points are normally not necessary at perimeter(s) where there is no major air ventilation issues e.g. waterfront area with ample sea breeze, inaccessible land such as green belt. Tests points must be located at the junctions of all roads leading to the project site, at main entrances to the project, and at corners of the project site. This group of perimeter test points will provide data for the **Site Air Ventilation Assessment**. Typically about 30 to 50 perimeter test points well spaced out and located will suffice.

28. Overall test points are evenly distributed and positioned in the open spaces, on the streets and places of the project and Assessment Areas where pedestrians frequently access. This group of overall test points, together with the perimeter test points, will provide data for the **Local Air Ventilation Assessment**. For practical reasons, around 50 to 80 test points may be adequate for typical development sites.

29. Special test points may be positioned in areas that special localized

problems are likely to appear (e.g. wind gust problem for exposed sites). These special test points should not be included in the Site and Local Air Ventilation Assessments, as they may distort the average VRs. They independently may provide additional information to assessors.

## **Reporting**

30. For the purpose of the AVA, Wind Velocity Ratios of all test points should be individually reported. They help to identify problem areas. Two ratios may also be reported, they give a simple quantity to summarise the overall impact on the wind environment for easy comparison:

- (a) For the **Site Air Ventilation Assessment**, the Site spatial average Velocity Ratio (SVR) of all perimeter test points (para 27 refers) may be reported. This gives a hint of how the development proposal impacts the wind environment of its immediate vicinity.
- (b) For the **Local Air Ventilation Assessment**, the Local spatial average velocity ratio (LVR) of all perimeter and overall test points (paras 27 and 28, respectively refer) may be reported. This gives a hint of how the development proposal impacts the wind environment of the local area.

The local air ventilation considerations should always take precedence over the site specific air ventilation considerations. For exposed sites, concerns of wind gust should be reported.

31. The AVA report should contain the following key sections. The technical merit, as well as the results of the AVA of the project must be demonstrated:

- (a) An introductory section of the details of **the project**.
- (b) A section on results of the **Expert Evaluation**. Concerns and potential problems should be identified. Focuses and methodologies of further studies should be defined.
- (c) A section on the characteristics of the **Site Wind Availability** to be used for Initial Studies and Detail Studies. Methodologies used to obtain the information must be explained in detail.

- (d) A section on the **Methodology of the Initial Study**. The tool used for the studies must be explained in detail. It is important for the assessor to demonstrate and to justify that the tool and work process used is technically “fit for the purpose”.
- (e) A section on results and **key findings of the Initial Study**.
- (f) A section on **Methodology of the Detailed Study**. The tool used for the studies must be explained in detail. It is important for the assessor to demonstrate and to justify that the tool and work process used is technically “fit for the purpose”.
- (g) A section on results and **key findings of the Detailed Study**.
- (h) A section on Evaluation and **Assessment**. Summarise findings, highlight problems and outline mitigation measures, if any.

32. Based on the reported VR, the assessor would compare the merits and demerits of different design options. The following considerations on the reporting of SVR and LVR may be useful to note:

- (a) In the general weak wind conditions in Hong Kong, for the AVA, the higher the values of the spatial average VR, the better the design. Comparing performances of design options using the spatial average VR (both SVR and LVR) is recommended (para 30 refers).
- (b) The **Site Air Ventilation Assessment** (SVR) gives an idea of how the lower portion of the buildings on the project site may affect the immediate surroundings. When problems are detected, it is likely that design changes may be needed for the lower portion of the development (e.g. the coverage of the podium) (para 30(a) refers).
- (c) The **Local Air Ventilation Assessment** (LVR) gives an idea of how the upper portion of the buildings on the project site may affect the surroundings. When problems are detected, it is likely that design changes may be needed for the upper portion of the development (e.g. re-orientation of blocks and adjustment to the extent of the towers) (para 30(b) refers).
- (d) For very large sites, or for sites with elongated or odd geometry, it may be necessary to work out the SVR and LVR to suit the size or

geometry. For example, say for an elongated site, it might be useful to sub-divide the site into smaller sub-sections to work out the spatial averages. It is possible that the development may have a high VR at one end and a low VR at the other end.

- (e) It is necessary to examine VR of the individual test points of SVR and/or LVR to ensure that none is way below the spatial average. When this happens, it indicates possible stagnant zones to be avoided.
- (f) On the other hand, no individual VR should be obviously above the spatial average SVR and/or LVR. When this happens, it indicates wind amplification, and the possibility of wind gust and pedestrian safety concerns. Further assessments and mitigation measures may be required.
- (g) Where large differentials in individual VRs are reported, the spatial average SVR and/or LVR should be interpreted more carefully to avoid overlooking problem areas due to averaging of the individual VRs.
- (h) In addition to SVR and LVR, and beyond the key focus of AVA in this Technical Guide, VR of special test points, if positioned, may be analysed. The results from these additional test points will identify potential wind problems in areas of special concerns.

AVA Register for Government Projects

\_\_\_ Quarter \_\_\_ (year)

Return from \_\_\_\_\_(Department / Bureau or Authority)

A. New Projects

Name of Project	Project Ref.	Will AVA be conducted?		
		Yes, now	Yes, later	Waived

B. Update on Projects requiring AVA to be conducted

Name of Project	Project Ref.	Status of AVA

C. Update on Projects requiring AVA at a later stage

Name of Project	Project Ref.	Status of Project

**Project Description**  
*(one form to be filled for each project)*

**Department / bureau / authority** \_\_\_\_\_

<b>1. Project Name</b>	
<b>2. Project Reference</b>	
<b>3. Outline of Project Details</b> <i>(attach location plan)</i>	

4. **Select the following category(ries) which would be applicable to the major government project :**

- Planning studies for new development areas.
  - Comprehensive land use restructuring schemes, including schemes that involve agglomeration of sites together with closure and building over of existing streets.
  - Area-wide plot ratio and height control reviews.
  - Developments on sites over 2 hectares and with an overall plot ratio of 5 or above.
  - Development proposals with total Gross Floor Area exceeding 100,000 square metres.
  - Developments with podium coverage extending over one hectare.
  - Developments above public transport terminus.
  - Buildings with height exceeding 15 metres within a public open space or breezeway designated on layout plans / outline development plans / outline zoning plans or proposed by planning studies.
  - Developments on waterfront sites with lot frontage exceeding 100 metres in length.
  - Extensive elevated structures of at least 3.5 metres wide, which abut or partially cover a pedestrian corridor along the entire length of a street block that has / allows development at plot ratio 5 or above on both sides; or which covers 30% of a public open space.
  - Others, please specify
-

<b>5. Relevant factors which have been taken into account in assessing the need for AVA</b>			
<i>Factors</i>	<i>Y</i>	<i>N</i>	<i>Brief remarks</i>
Are there existing / planned outdoor sensitive receivers located in the vicinity of the project site falling within the assessment area?			
Are there known or reasonable assumptions of the development parameters available at the time to conduct the AVA?			
Are alternative designs or alternative locations feasible if the AVA to be conducted reveals major problem areas?			
Are there other overriding factors that would prevail over air ventilation considerations in the determination of the project design?			
Will the desirable project design for better air ventilation compromise other important objectives for the benefits of the public?			
Has the public raised concern on air ventilation in the neighbourhood area of the project?			

Is the project already in advanced stage to incorporate AVA?			
Any other factors not listed above? (please specify) _____			
<b>6. Is AVA required?</b>			
<input type="checkbox"/> AVA is required for the project <input type="checkbox"/> AVA should be conducted later <input type="checkbox"/> AVA to be waived	<p><i>Go to Section 7</i></p> <p><i>Go to Section 8</i></p> <p><i>Go to Section 9</i></p>		
<b>7. AVA is required for the project</b> <i>(The AVA report, 3 hard copies and an electronic copy in Acrobat format, is be submitted for record after completion)</i>			
<p>(a) AVA Consultants (if any)</p> <p>(b) Time (start / finish)</p> <p>(c) Assessment tool used (CFD or/and wind tunnel)</p> <p>(d) Any design changes made to the project resulting from the AVA?</p> <p>(e) Any major problems encountered in the AVA process?</p> <p>(f) Any suggested improvement to the AVA process?</p>			
<b>8. AVA should be conducted later</b>			
(a) What is the current stage of the project?			

<p>(b) When should AVA be conducted?</p> <p>(c) Which Policy Bureau agrees to conduct AVA later?</p>	<p><input type="checkbox"/> ETWB</p> <p><input type="checkbox"/> HPLB</p> <p><input type="checkbox"/> Others _____</p>
<p><b>9. AVA to be waived</b></p>	
<p>(a) Give justifications for waiving the requirement</p> <p>(b) Have qualitative design guidelines / measures been adopted and design changes been made to improve air ventilation of the project?</p> <p>(c) Which Policy Bureau agrees to waive AVA?</p>	<p><input type="checkbox"/> ETWB</p> <p><input type="checkbox"/> HPLB</p> <p><input type="checkbox"/> Others _____</p>
<p><b>10. Contact</b></p>	
<p>(a) Name</p> <p>(b) Designation</p> <p>(c) Tel.</p> <p>(d) E-mail</p>	

**AVA Register for  
Private/Quasi-Government Projects**

\_\_\_ **Quarter** \_\_\_ (year)

**Return from** \_\_\_\_\_ (Department / Bureau)

<b>Project Title</b>	<b>Project Ref.</b>

## Project Description

*(one form for each private / quasi-government project)*

Submitted via \_\_\_\_\_ Department / Bureau

1. <b>Project Title</b>	
2. <b>Project Reference</b>	
3. <b>Project Proponent</b>	
4. <b>Outline of Project Details</b> <i>(attach location plan)</i>	

**5. Select the following category(ries) which would be applicable to the project :**

- Comprehensive land use restructuring schemes, including schemes that involve agglomeration of sites together with closure and building over of existing streets.
  - Area-wide plot ratio and height control reviews.
  - Developments on sites over 2 hectares and with an overall plot ratio of 5 or above.
  - Development proposals with total Gross Floor Area exceeding 100,000 square metres.
  - Developments with podium coverage extending over one hectare.
  - Developments above public transport terminus.
  - Buildings with height exceeding 15 metres within a public space or breezeway designated on layout plans / outline zoning plans or proposed by planning studies.
  - Undeveloped waterfront sites with lot frontage exceeding 100 metres in length.
  - Extensive elevated structures of at least 3.5 metres wide, which abut or partially cover a pedestrian corridor along the entire length of a street block that has / allows development at plot ratio 5 or above on both sides; or which covers 30% of a public open space.
  - Others, please specify
-

<b>6. Details of the AVA conducted for the project</b> <i>(The AVA report, 3 hard copies and an electronic copy in Acrobat format, is to be attached for record)</i>	
(a) AVA Consultants (if any)  (b) Time (start / finish)  (c) Assessment tool used (CFD or wind tunnel)  (d) What were the major changes to the design of the project resulting from the AVA?	
<b>7. Disclosure of information to the public</b>	
Does the project proponent consent to release the AVA report for public inspection?	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
Does the project proponent consent to release information in this AVA proforma for public inspection?	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
<b>8. Contact</b>	
(a) Name (b) Designation (c) Tel. (d) E-mail	