Circular Letter No.: 2024.197

Issue Date: 22 March 2024

Application: BEAM Plus NB Version 2.0

Effective Date: 2 July 2024

SS 4 Neighbourhood Daylight Access

1. The Technical Circular Letter hereby announces an update to the credit content for **SS 4 Neighbourhood Daylight Access** under BEAM Plus NB v2.0.

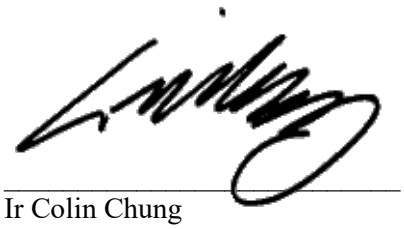
2. The aim of the update is to clarify the simulation setting for overall external reflectance of buildings.

3. The requirements given in Section 3.1 of the BEAM Plus NB v2.0 Manual (2023 Edition) are hereby updated with the enclosures in Annex A of this Technical Circular Letter respectively.

    - Pages Annex A-1 to A-4 shall replace all contents in Section 3.1 on SS 4 specified in Pages 150 to 153 of the Manual.

4. Approved PA projects: For projects that have already completed PA and have certain assessment approach approved, the Applicant may opt to adopt the same assessment criteria for FA or voluntarily comply with this Technical Circular Letter. For the avoidance of doubt, the Applicant shall provide PA evidence (e.g., extract of the PA report, documents submitted for assessment in PA, etc.) in subsequent assessments to support the intention of using the same assessment methodology as in PA.

5. For the ease of reading, the credit content in Pages Annex A-1 to A-4 of this Technical Circular Letter has incorporated the published FAQ #213 for SS 4. The Applicant shall observe the respective FAQ for the issue date.



Ir Colin Chung
Chairperson of Standards Sub-committee

Annex A:
Updated Credit Content for Section 3.1 under BEAM Plus NB v2.0

3 Sustainable Site **3.1 Neighbourhood Integration**

SS 4 Neighbourhood Daylight Access

Extent of Application All buildings

Objective Encourage building development which is sensitive to the needs of neighbours in respect of preserving daylight and views.

Credits Attainable 1

Credit Requirement 1 credit for the designs which the access to daylight of neighbouring sensitive buildings is maintained to the prescribed levels.

Assessment

1. Demonstrate **either** by:
   - 1.1. Computational lighting simulation/ physical modelling, the Vertical Daylight Factors (VDFs) [1] on the façades of the lowest floors of the sensitive buildings most affected by the proposed development are either unchanged or are no less than 12%; **OR**
   - 1.2. Unobstructed Vision Area (UVA) Method [1], the UVAs of the windows on the lowest floors of the sensitive buildings most affected by the proposed development are unchanged.
2. For development located in an area where daylight is thought to be of no value to neighbouring properties, submit a scaled map covering the assessment area (see Section 4.1 Sensitive Buildings) to substantiate.
3. Submit a daylight access study report demonstrating compliance with the assessment criteria. The report should include:
   - 3.1. Types and locations of the sensitive buildings identified within the Site and in the vicinity on an A3-sized scale drawing;

   For VDF simulation method:
   - 3.2. Name of the simulation software used;
   - 3.3. Modelling assumptions;
   - 3.4. Screen captures of project building, surrounding building and terrain of the 3D model;
   - 3.5. Screen captures of the Sensitive Receivers' locations;
   - 3.6. Summary of sensitive receivers and VDF results;
   - 3.7. Simulation output results (raw data output files/ render images);
   - 3.8. If the simulation software is not on the list in Annex 4 of PNAP APP-130, a software validation report from the software developer should be provided to ensure the accuracy of the simulation by the software.

   For physical modeling method:
   - 3.9. General information such as site orientation, site latitude, scale of physical model, etc.;

1 Buildings Department - PNAP APP-130 Lighting and Ventilation Requirements – Performance-based Approach. [ONLINE]. Available at: https://www.bd.gov.hk/doc/en/resources/codes-and-references/practice-notes-and-circular-letters/pnap/APP/APP130.pdf. [Accessed April 2021].

3.10. Sensor and camera location;

3.11. Material and edge joining;

3.12. Colour and Wall Reflection Coefficient;

3.13. Modelisation of the external surfaces;

3.14. Modelisation of external obstructions;

For UVA method:

3.15. Scaled drawings showing the UVA at Sensitive Receivers before and after the proposed development;

4. The report should be endorsed by a locally qualified professional who has at least 3 years of relevant experience in natural daylight study. The Locally Qualified Professional shall attain at least one of the following local professional qualifications:

- Member of The Hong Kong Institute of Architects (MHKIA);
- Member of The Hong Kong Institution of Engineers (MHKIE);
- Member of Hong Kong Institute of Qualified Environmental Professionals Limited (MHKIQEP);
- Registered Energy Assessors (REA), under the Buildings Energy Efficiency Ordinance (Cap. 610); and
- Registered Professional Engineer (R.P.E.), under the Engineers Registration Ordinance (Cap. 409).

Except for MHKIA, the accepted disciplines of the above local professional qualifications include Building Services, Mechanical, Electrical, Energy and Environmental.

CV of the Locally Qualified Professional shall be provided to demonstrate that the Locally Qualified Professional holds the required local professional qualification(s) and with the relevant experience.

4.1. Sensitive Buildings

4.1.1. Assessment area shall be 1H (H being the building height (m) of the tallest building on the project site) or 100m away from the project site, whichever is larger;

4.1.2. All sensitive buildings (including existing buildings, buildings under construction and planned buildings) within the assessment area (excluding those within the site) shall be assessed to determine the value of daylight;

4.1.3. Sensitive buildings include:

a) Residential buildings;

b) Premises that requires daylight to enhance the lighting environment for the occupants to perform tasks, such as offices and schools;

c) Premises that require daylight for energy saving and an improved environment for the transient stage of occupation, such as the circulation area of shopping centres and indoor games halls; and

d) Premises that require daylight primarily for view, such as hotels and hospitals.

- Examples of premises that should be included: Commercial, education, shopping centre, hall, church, temple, hotel, hostel, hospitals and shops

- Temporary structures are not required to be modelled

4.2. Sensitive Receivers

4.2.1. Sensitive receivers should be placed at the glazing of the lowest floors of sensitive buildings within the assessment area.

5. The below requirements should be fulfilled in the daylight simulation:

5.1. Sky model should use CIE overcast sky (10,000 lux)

5.2. Overall external reflectance of an average of 0.2 for building (include the project development) and 0.2 for ground.

5.3. Surrounding buildings (including existing buildings, buildings under construction and planned buildings) and terrain shall be included in the model based on the GIS information from Lands Department, prevailing statutory plans from Town Planning Board Statutory Planning Portal, building records from Buildings Department's BRAVO system and/or other relevant sources available on or before 3 months prior to the date of the first revision study report.

5.4. The surrounding buildings and large structures should be included in the simulation model. The surrounding area should be at least 2H (H being the building height (m) of the tallest building on the project site) or 200m away from the project site boundary, whichever is larger. The building geometry can be simplified as blocks.

5.5. The terrain area shall be in a size of at least, 10H (H being the building height (m) of the tallest building on the project site) or 1000m × 1000m, whichever is larger, with the project placed in the centre. Where smaller terrain area is desired, the applicant should propose a terrain area with justification and the terrain area should be surrounded by a wall with a height of the average height of the surrounding buildings.

Submittals

Supporting Documents *Please provide softcopies with filename prefix as indicated on the leftmost column below.*		**PA**	**CA**	**FA/ RFA**
SS_04_00	BEAM Plus NB submission template for SS 4	✓	✓	✓
SS_04_01	CV of the professional as described in credit requirement	✓	✓	✓
SS_04_02	Site plan indicating the location of the sensitive receiver	✓	✓	✓
SS_04_03	Daylight access study report	✓	✓	✓
SS_04_04	Validation Report of the simulation software* (Simulation Path only)	✓	✓	✓
* It is required only if the simulation software is not on the list in Annex 4 of PNAP APP-130.				

Remarks

(a) Additional Information

None

(b) Related Credit

HWB 11 Daylight

This credit considers the daylight performance in indoor normally occupied spaces by considering the sufficiency of daylight illuminance and the potential risk of excessive sunlight penetration.