銅鑼灣

Causeway Bay

Annex D
Replacement Pages of Air Ventilation Assessment

6 Minor Amendment on Proposed Scheme

As the design continue to develop, the lift lobby on 2/F of T3 is enlarged to allow more room for pedestrian flow. This result in an amendment to the elevated design on 2/F of T3 including an extension of lift lobby towards the elevated void with approx. 5m (W) x 5m (H) x 15m (L). The amended elevated void varies from approx. 21m widest to 16m narrowest with a height maintained with approx. 10m. An additional void with approx. 5m (W) x 5m (H) is located above the amended lift lobby. An illustration diagram is shown in Figure 62.

The overall ventilation performance along the Site Boundary and Assessment Area due to the amendment would be minimal with confined difference near the amended lift lobby due to the following reasons:

Podium level incoming wind would reach T3 from the eastern side along Caroline Hill Road and from the south-western side under both annual and summer conditions.

For incoming wind from eastern side, the amended lift lobby is a minor extension from core structure and away from the north-eastern site boundary, which minimize the blockage. The elevated design with at least. 16m (W) x 10m (H) are free of obstruction for eastern wind. With additional 5m(W) x 5m (H) void atop the lift lobby, the effectiveness of the void would be insignificantly affected. Wind from eastern side would still be able to flow through underneath the tower. Some localized impact may be observed at the landscape deck under T3 within the Site, the influence on Caroline Hill Road would be minimal.

For incoming wind from south-western direction, the elongated shape of core structure would dominate the wind environment and cast a localized wind shadow at the elevated area under T3. The amended lift lobby would fall within shadow zone and the influence from the amendment on ventilation performance would be insignificant.

In summary, the amendment would impose insignificant ventilation impact to wind performance along the site boundary and assessment area, the simulation discussed in previous sections remained valid after the amendment.

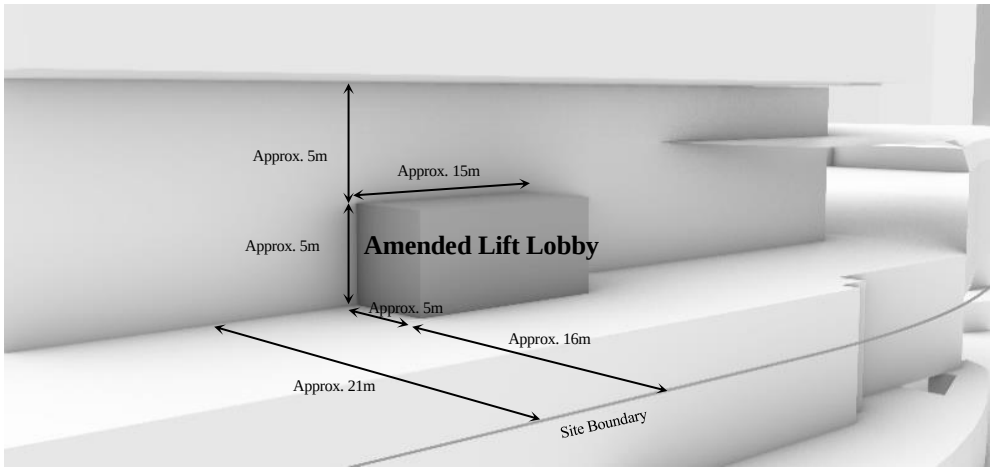

Figure 62 Amended Elevated Void on 2/F of T3

7 Conclusion

An Air Ventilation Assessment (AVA) – Initial Study was conducted to assess the ventilation performance of Baseline Scheme and Proposed Scheme in accordance to *the AVA Technical Circular*.

Two schemes were assessed using Computational Fluid Dynamics (CFD) techniques. A series CFD simulation using Realizable k-ε turbulence model were performed under annual and summer wind conditions with reference to *the AVA Technical Circular*. For annual wind condition, NNE, NE, ENE, E, ESE, S, SSW and SW were selected which gives total wind frequency of 78.n5% over a year while E, ESE, SE, SSE, S, SSW, SW and WSW were selected for summer condition, which gives total wind frequency of 80.6%.

The Velocity Ratio (VR) as proposed by *the AVA Technical Circular* was employed to assess the ventilation performance under different schemes and its impact to the surroundings.

With reference to *the AVA Technical Circular*, 42 perimeter test points and 198 overall test points and 28 special test points were allocated to assess the ventilation performance in the Application Site and Assessment Area.

Although a minor amendment will be made to the Proposed Scheme, the simulation results of this report would remain valid as discussed in Section 6. The simulation results show the Proposed Scheme would achieve similar ventilation performance as Baseline along the Application Site boundary and in the Surrounding Area under both annual and summer conditions. Also, the surrounding wind environment are dominated by densely built-up area of Causeway Bay and hilly terrain at the southern side.

Major wind enhancement features are maintained with similar performance as Baseline Scheme including:

- #1. T1 – 15m (W) x 8.5m (H) elevated design of T1 on G/F, and
- #3. T3 – Approximately min. 16m (W) x 10m (H) elevated design of T3 on podium level, and
- #4: T1 – Building setback of approximate 5m on average from the south-western boundary, and
- #5: T2 – Building setback of 4m at grade from north-eastern boundary, and
- #6: T3 – Building setback of 7.5m above 2F from the south-western boundary abutting the district court site.
- #7: T1 – Min. 6m internal street of T1 on G/F.

Although the enclosed T2-T3 footbridge reduced the permeability across the Application Site, following major wind enhancement feature improved wind permeability across T2 podium to mitigate the ventilation impact:

- #2. 36m building setback from north-eastern site boundary above 2/F

LEGEND

- APPLICATION SITE
- PINK HATCHED BLUE (NO STRUCTURE ERECTED ABOVE OR WITHIN 4M BELOW GROUND LEVEL)
- PUBLIC OPEN SPACE
- COMMERCIAL/E&M
- G.I.C. FACILITIES
- G.I.C. FACILITIES (PERFORMING ARTS & CULTURAL FACILITIES)
- FUTURE FOOTBRIDGE
- LIGHT BUSES LAYBYS
- CARPARK (PVP)
- CARPARK (PRIVATE)
- CARPARK (G.I.C. FACILITIES)
- ACCESS ROAD
- LOADING & UNLOADING CARPARK (PVP)
- UNEXCAVATED
- 24-HR PEDESTRIAN WALKWAY
- PEDESTRIAN LINK
- E&M
- COMMUNAL PODIUM GARDEN

FUTURE FOOTBRIDGE (TO BE CONSTRUCTED BY OTHERS AND SUBJECT TO DETAIL DESIGN)

CONNECTION POINT FOR FUTURE FOOTBRIDGE

DISABLED ACCESS TO B3/F, B1/F & G/F

CANOPY EXTENT

COVERED LANDSCAPE BRIDGE/ COVERED PUBLIC OPEN SPACE

DISABLED ACCESS TO B3/F, LG/F, G/F & 1/F

BUILDING LINE ABOVE

RETAINING STRUCTURE AS TREE PROTECTION MEASURE FOR THE TREE EMSD WCH/1

SITE OF FUTURE DISTRICT COURT

LEIGHTON ROAD

CAROLINE HILL ROAD

CAROLINE HILL ROAD

OVT

OVT

COMMERCIAL/ E&M

+18.70

+18.35

+17.64

+18.20

+17.00

21.50

24-HR COVERED PEDESTRIAN WALKWAY

6M

2M

14.5M

25M

11.5M

7.5M

A A1 B C D E F G H J K L M N P R T U V W X Y Z AA AB AC AD AE AF AG AH AJ AK U1 V1 W1 X1 X2 Y1 Z1

0 10 20 30 40 50m

N

Rev.	Description	Drawn	Checked	Approved	Date
–	1st SUBMISSION				3-2022
A	1st AMENDMENT				9-2023
B	2nd AMENDMENT				1-2024

Rev.	Description	Drawn	Checked	Approved	Date

Check all measurements on site. Do not scale off drawings.

This drawing is to be read in conjunction with the specification and any discrepancies are to be immediately reported to the Architect.

B.D. Ref.

F.S.D. Ref.

D.L.O. Ref.

Drawn Date 1-2024

Checked Date 1-2024

Approved Date 1-2024

Cad File No.

RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title
PROPOSED COMMERCIAL DEVELOPMENT ON IL NO.8945 AT CAROLINE HILL ROAD, CAUSEWAY BAY, HONG KONG

Drawing Title
SECOND FLOOR PLAN

Project No. 21105HK

Scale 1:750 (A3) Issue Date Jan 2024

Drawing No. MLP-008

Drawing Purpose