Attachment 1
Replacement
Sections 2, 5, 6 and
7 of the AQIA
Report

2 THE PROPOSED DEVELOPMENT AND THE ENVIRONMENT

2.1 The Site

2.1.1 The Application Site (the "Site") is located in an industrial area in Kwai Chung, bordered by Wing Chong Street to the west, Wing Kin Road to the east, Global Trade Centre to the north, and Hou Feng Industrial Building to the south (see **Figure 2-1**). The Site and its surroundings fall within the industrial zone, as per the Approved Kwai Chung Outline Zoning Plan (OZP) No. S/KC/32 (see **Figure 2-2**).

2.1.2 The Site covers approximately 964 m² (about 929 m² excluding the additional area) and is currently occupied by a 2-storey industrial building. Planning applications have been submitted and approved with conditions in 2020 (Application No.: A/KC/457) and 2023 (Application No.: A/KC/496) for Offensive Trades use (Lard Boiling Factory) and Industrial use (Warehouse), respectively. The existing building has been left mainly vacant since its previous industrial use suspended in 2018.

2.2 The Proposed Development

General

2.2.1 The Applicant proposes to redevelop the Application Site into a 17-storey data centre with a height of 109.55 mPD and a plot ratio of 11.4. The tentative layout of the proposed development is shown in **Appendix 2-1**, with a planned completion date of 2029.

Backup Generators

2.2.2 The proposed development is intended solely for data centre use and will operate exclusively on electricity supplied by CLP. Backup generators will be provided to address potential electricity outages or emergencies. No diesel or other fossil fuels will be utilized during the normal operation of the proposed development.

2.2.3 Under the current design, a total of 16 backup generators powered by diesel fuel will be installed by the tenant, consisting of 8 units with a capacity of 1,500 kW and 8 units with a capacity of 2,000 kW, resulting in a total capacity of 28,000 kW. The backup generators will operate solely during electricity outages or emergencies.

2.2.4 Routine testing of the backup generators will be conducted for 30 minutes each month, resulting in an annual operation time of 6 hours. Each backup generator will be tested sequentially to minimize emission rates.

2.2.5 All backup generators will be housed in fully enclosed spaces, with chimneys serving as their only exhausts. Due to the backup generators being operated solely during electricity outages or emergencies and monthly testing as mentioned in **Section 2.2.4**, the chimneys associated with these backup generators are not considered as industrial chimneys, which are similar in nature to those emergency generator(s) installed in buildings. It should be noted that the design of the chimneys is not available at this stage and is subject to detailed design. The exhaust outlets/chimneys for the backup generators shall be located away from nearby ASRs.

2.2.6 According to the Electricity Works in Schedule 1 of the Air Pollution Control Ordinance, the installation of backup generators with a total capacity exceeding 5 MW requires a Specified Process (SP) license. The tenant should be reminded to prepare an air pollution control plan (APCP) for SP license application. The locations of the chimney exhausts, as well as the

necessary mitigations, must be approved by the relevant authority (e.g., EPD) before the operation of the backup generators.

2.2.7 During routine testing, given the short operational duration of the backup generators and the necessary mitigation measures, such as activated carbon filters, selective catalytic reduction, diesel oxidation catalysts, and electrostatic precipitator systems, to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.

Air Sensitive Receivers (ASRs)

2.2.8 Although the data center is generally expected to be unmanned, a minimal number of staff will remain in the proposed development during its operation. For example, staff will occupy the management offices, which are not yet marked in the tentative layout plan. Additionally, staff will occasionally need to be present in the data halls for maintenance. Therefore, the management offices and data halls in the proposed development are considered as Air Sensitive Receivers (ASRs) during the operational phase.

2.2.9 On the other hand, the remaining areas within the proposed development, such as plant rooms, staircase, and similar spaces, are unoccupied areas in which exposure is transient in nature. These areas are not considered as ASRs during the operational phase.

2.2.10 To ensure no adverse air quality in any ASRs in the proposed development (including management offices and data halls) during operation, these areas will be designed as confined spaces and will rely exclusively on fresh air intakes at suitable locations for ventilation. The potentially polluted air outside is not expected to enter any ASRs.

2.3 Existing Environment in the Vicinity

Existing Developments

Industrial Chimneys

2.3.1 The existing developments in the vicinity are primarily industrial. On-site survey was conducted on 28th August 2025, to identify the industrial chimneys in the area. Multiple industrial chimneys have been identified within 200 meters of the site boundary. The chimneys with potential impacts are listed in **Table 2-1**, illustrated in **Figure 2-3**, and detailed in **Appendix 2-2**.

2.3.2 It is noted that a chimney-like structure was present on the roof of the Mei Kei Industrial Building according to a 3D map from Google. However, based on the site visit on 28th August 2025, there is currently no chimney on the roof of the Mei Kei Industrial Building.

2.3.3 Additionally, chimneys have been identified at the Citic Telecom Tower. According to the building footprint derived from the Digital Topographic Map iB1000 and site observations, all three identified chimneys are more than 200 meters away from the Site.

Table 2-1 Identified Industrial Chimneys in the Vicinity

ID	Building	Height	Horizontal Distance from Application Site Boundary
CH01a & CH01b	Wing Loi Industrial Building	85 mPD	64 m
CH01c & CH01d		81 mPD	85 m
CH02	Kwai Chung Crematorium	52 mPD	196 m
CH03a & CH03b	Wing Kin Industrial Building	99 mPD	23 m
CH03c		103 mPD	40 m
CH04a, CH04b & CH04c	Citic Telecom Tower	141 mPD	205 m

Note:
[i] Chimneys' height and location were estimated from the building footprint derived from the Digital Topographic Map iB1000, measurements from Open3Dhk, and site observations.

Air Sensitive Receivers (ASRs)

2.3.4 The nearest non-industrial development with air-sensitive uses is the office of the Wing Hau Street Driving Test Centre, located approximately 110 m northwest of the Site.

2.3.5 Most developments with air-sensitive uses are situated in the northeast of the Site, including PCCW, CNEC Lee I Yao Memorial Secondary School, and Kwai Shing West Estate Block 8, located approximately 180 m, 195 m, and 290 m from the Site, respectively. However, as offices are typically present within industrial buildings, all nearby industrial buildings are also considered as Air Sensitive Receivers (ASRs).

2.3.6 The existing developments in the vicinity generally conform to the Outline Zoning Plan (OZP), indicating that no changes in land use are anticipated in the near future.

Road Traffic

2.3.7 The Site is bordered by Wing Kin Road and Wing Chong Street, which are minor roads (local distributors). According to the Annual Traffic Census 2023 (ATC 2023) by the Transport Department, the nearest major road is Tsuen Wan Road (Station 5604), an expressway located approximately 90 m to the northeast of the Site, with an Average Annual Daily Traffic (AADT) of 122,780.

2.4 Key Sources of Potential Air Quality Impact

2.4.1 According to the Hong Kong Planning Standards and Guidelines (HKPSG), areas designated for active or passive recreational uses should be located 5 to 20 m away from road traffic. As the buffer distance requirements for roads by HKPSG have been fulfilled, no adverse air quality impacts from road traffic are expected.

2.4.2 Conversely, areas for active or passive recreational uses should be situated 10 to 200 m away from industrial chimneys. Given that multiple industrial chimneys are located within 200 m from the site boundary, the primary concern for the air quality of the proposed development arises from these nearby industrial chimneys.

5 CONSTRUCTION PHASE AIR QUALITY IMPACT ASSESSMENT

5.1 Dust Source of the Project

5.1.1 Major dust-emitting construction activities will include the demolition of existing structures, excavation for basement construction, foundation works, and other construction activities (e.g., superstructure construction). A summary of the construction works is provided in **Table 5-1**.

5.1.2 Due to the small site area (964.2 m²), the scale of construction activities for the Project will be limited. The Site currently houses a 2-storey industrial building, and the demolition works are considered minor, as only a single low-rise development is involved. It is important to note that excavation for the basement is required for the entire Site, with an excavation depth of ~10 meters. This is expected to generate ~9,642 m³ of inert C&D material (calculated as 964.2 m² x 10 m). The maximum number of Powered Mechanical Equipment (PME) expected to be deployed at the worksite is 8, excluding small plants such as water pumps and fans.

Table 5-1 Summary of the Construction Works

Site Area (m^2)	Structures to be demolished	Excavating for Basement	Construction of Superstructure	Number of Concurrent PME [1]
964.2	A 2-storey industrial building	Expected to generate ~9,642m^3 of inert C&D material	Yes (17-storey)	8

Note:
[1] Excluding small plants such as water pump and fan. Estimated numbers based on projects in similar scales.

5.2 Concurrent Projects

5.2.1 No planned and/or committed developments in the vicinity of the Site has been identified.

5.3 Air Sensitive Receivers in the Vicinity

5.3.1 The representative ASRs for the construction phase of the proposed development are illustrated in **Figure 5-1** and listed in **Table 5-2**. Although commercial, residential, and educational developments are located away from the Site, offices are typically present within industrial buildings. Therefore, the nearby industrial buildings are also considered ASRs.

Table 5-2 Representative Air Sensitive Receivers (Construction Phase)

ID	Building/Location	Type	Building Height (mPD) [1]	Horizontal Distance from Application Site Boundary (m) [2]
ASR01	Wing Hau Street Driving Test Centre	Office	25	110
ASR02	PCCW	Utility and Offices	79	180
ASR03	CNEC Lee I Yao Memorial Secondary School	Education	52	195
ASR04	Kwai Shing West Estate Block 8	Residential	127	290
ASR05	Hopewell Logistics Centre	Industrial	52	9

ID	Building/Location	Type	Building Height (mPD) [1]	Horizontal Distance from Application Site Boundary (m) [2]
ASR06	Aji Ichiban Centre	Industrial	57	9
ASR07	Global Trade Centre	Industrial	93	< 5
ASR08	8-12 Wing Kin Road	Industrial	20	16
ASR09	Wing Kin Industrial Building	Industrial	95	16
ASR10	Hou Feng Industrial Building	Industrial	87	< 5

Note:
[1] Extracted from Open3Dhk, rounded to integer.
[2] Estimated from the building footprint derived from the Digital Topographic Map iB1000.

5.4 Identification of the Major Pollutant Sources and of Potential Impacts

Emission from PME & Non-road Mobile Machinery

5.4.1 As stated in **Section 4.3.1**, the operation of Powered Mechanical Equipment (PME) during construction work would emit gaseous air pollutants, such as nitrogen dioxide (NO_2), due to fuel combustion. Several types of Powered Mechanical Equipment, such as excavators, can be utilized for the construction works at the Site. However, the number of PME expected to be used on-site will be limited to a maximum of 8. As a result, no significant impact is anticipated from the operation of PME.

5.4.2 According to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted Non-Road Mobile Machinery (NRMM) with proper labelling are allowed to be utilized in the construction site. Supportive information and documents, such as third-party emission certificates, model and serial numbers of machines and engines, will be provided to the EPD to demonstrate that the concerned NRMM complies with the prescribed emission standards. As a result, no significant impact is anticipated from the operation of NRMM.

Construction Dust

5.4.3 Fugitive dust will be generated during the construction phase, with the primary air pollutants of concern being Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) resulting from the Project's construction activities. Sources of dust during construction phase include demolition, foundation and superstructure construction activities, as well as handling and transportation of temporary stockpiles, dusty material, excavated material and concrete production. Additionally, particulates emitted from plant equipment could pose a concern if not properly mitigated. The exposed earth after the completion of work may also serve as a potential dust source.

5.4.4 The major sources of dust during the construction phase of this Project will be the demolition of existing structures and the excavation for the basement. Despite the small scale of the works, mitigation measures will be necessary to minimize the potential impacts arising from these activities.

5.4.5 The movement of dump trucks is also considered a significant potential dust source if not properly mitigated. A rough estimate indicates that approximately 5 trips per day will be required during the demolition period, increasing to about 10 trips per day during the excavation period.

5.5 Mitigation Measures

5.5.1 Dust control measures under the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) and good site practice shall be implemented to mitigate dust impact arising from construction works by preventing dust generation and/or by screening, suppressing and removing dust generated:

- Enclose the whole wall of the building to a height of at least 1m higher than the highest level of the structure to be demolished with impervious dust screens or sheeting on façade abutting or fronting upon a street
- Existing structures are proposed to be demolished by non-percussive equipment such as hydraulic crusher to reduce dust emission; no blasting will be involved.
- Water or a dust suppression chemical shall be sprayed immediately prior to, during and immediately after demolition/excavation works
- Cover stockpile or dusty materials with tarpaulin to prevent wind erosion
- Any dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads or streets
- Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction site
- Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle
- Store cement bags in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags
- Maintain a reasonable height when dropping excavated materials to limit dust generation
- Limit vehicle speed within Site to 10 km/h and confine vehicle movement in haul road
- Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating or soil compacting
- Cover materials on trucks before leaving the Site to prevent dropping or being blown away by wind
- Regular maintenance of plant equipment to prevent black smoke emission
- Throttle down or switch off unused machines or machine in intermittent use
- Plan the Site layout so that machineries, dust causing activities and stockpilings are away from receptors as far as possible.
- Site hoarding higher than 2.4m should be implemented where there are receptors at close proximity to the construction site and dusty activities.
- Haul road shall be away from the project boundary as much as possible

5.5.2 No adverse dust impact on the surrounding air sensitive receivers (ASRs) is expected with proper implementation of mitigation measures.

5.5.3 As the project is still in planning stage, the necessary of EM&A program shall be determined in detailed design stage.

6 OPERATION PHASE AIR QUALITY IMPACT ASSESSMENT

6.1 Operation of the Proposed Development

Potential Source of Air Quality Impact within the Proposed Development

6.1.1 The proposed development is intended solely for data centre use and will operate exclusively on electricity supplied by CLP.

6.1.2 As stated in **Sections 2.2**, 16 backup generators powered by diesel fuel, with a total capacity of 28,000 kW, will be installed for emergency use only. During the monthly routine testing, the backup generators will be operated one at a time, with the total testing duration restricted to 30 minutes for each backup generator.

6.1.3 Since the backup generators and exhaust chimneys require a Specified Process license, it is expected that the potential impact will be mitigated to an acceptable level prior to the approval of the APCP and issuance of the license.

6.1.4 Therefore, the proposed development is not expected to induce adverse air quality impact during operation phase.

Air Sensitive Receivers (ASRs)

6.1.5 Based on the current tentative layout, only the management offices and data halls in the proposed development are considered ASRs, as stated in **Sections 2.2**. To ensure no adverse air quality in any ASRs in the proposed development (including management offices and data halls) during operation, these areas will be designed as confined spaces and will rely exclusively on fresh air intakes at suitable locations for ventilation. The potentially polluted air outside is not expected to enter any ASRs. Therefore, it is necessary to identify suitable locations for the fresh air intakes.

6.2 Buffer Distance Recommended by HKPSG

6.2.1 The suggested buffer distances from the Hong Kong Planning Standards and Guidelines (HKPSG) outlined in **Table 3-1** shall be adhered to in order to avoid potential air quality impacts.

6.2.2 The adjoining Wing Kin Road and Wing Chong Street are classified as Local Distributors according to Transport Department (See **Appendix 6-1**), requiring a buffer distance of more than 5 m, as shown in **Figure 6-1**. Since the buffer zones for roads are independent of elevation, the fresh air intake for the data hall should be located outside these buffer regions, irrespective of elevation.

6.2.3 For the industrial chimneys in the vicinity, a buffer distance of 10 to 200 meters is required, depending on the elevation difference between the emission point and the receptor. A list of the chimneys in the vicinity is provided in **Table 6-1**.

Table 6-1 List of Chimneys within 200m from Application Site Boundary

Chimney ID	Description	Height of chimney (mPD)	Horizontal Distance from application site boundary (m)	Horizontal Distance from building footprint (m)
CH01a **CH01b**	Wing Loi Industrial Building	85	64	67
CH01c **CH01d**		81	85	87
CH02	Kwai Chung Crematorium	52	196	198
CH03a **CH03b**	Wing Kin Industrial Building	99	23	31
CH03c		103	40	49

Note: Chimneys' height and location were estimated from the building footprint derived from the Digital Topographic Map iB1000, measurements from Open3Dhk, and site observations. Please refer to **Appendix 2-2** for details.

Table 6-2 Required Buffer Distance for Various Elevations

Assessed Elevation	Chimney ID	Industrial Chimney Exit above the Highest Assessed Elevation (m)	Required buffer distance (m)	The Proposed Development Completely Outside of Buffer Region (Y/N)	Corresponding Drawing
At or Below 32 mPD	CH01a, CH01b	53	10	Y	Figure 6-2a
	CH01c, CH01d	49	10	Y	
	CH02	20	100	Y	
	CH03a, CH03b	67	10	Y	
	CH03c	71	10	Y	
Between 32 mPD and 51 mPD	CH01a, CH01b	34	50	Y	Figure 6-2b
	CH01c, CH01d	30	50	Y	
	CH02	1	200	N	
	CH03a, CH03b	48	10	Y	
	CH03c	52	10	Y	
Between 51 mPD and 55 mPD	CH01a, CH01b	30	50	Y	Figure 6-2c
	CH01c, CH01d	26	100	N	
	CH02	-3	200	N	
	CH03a, CH03b	44	10	Y	
	CH03c	48	10	Y	
Between 55 mPD and 59 mPD	CH01a, CH01b	26	100	N	Figure 6-2d
	CH01c, CH01d	22	100	N	
	CH02	-7	200	N	
	CH03a, CH03b	40	10	Y	
	CH03c	44	10	Y	
Between 59 mPD and 109.55 mPD	CH01a, CH01b	-24.55	200	N	Figure 6-2e
	CH01c, CH01d	-28.55	200	N	
	CH02	-57.55	200	N	
	CH03a, CH03b	-10.55	200	N	
	CH03c	-6.55	200	N	

6.2.4 The required buffer regions for the identified chimneys at different elevations are illustrated in **Figures 6-2a to 6-2e**. All industrial chimneys within 200 m from the application site boundary have been identified.

- Below 32 mPD (**Figure 6-2a**)
  - The Site is not within the buffer region of any chimney; thus, the only constraint for fresh air intakes is from the nearby roads.
- Between 32 mPD and 51 mPD (**Figure 6-2b**)
  - A small portion of the Site at the southwest corner falls within the buffer region of the chimney at Kwai Chung Crematorium (CH02).
- Between 51 mPD and 55 mPD (**Figure 6-2c**)
  - The southern portion of the Site is within the buffer region of the chimney at Wing Loi Industrial Building (CH01c).
- Between 55 mPD and 59 mPD (**Figure 6-2d**)
  - Most of the Site is within the buffer region of the chimney at Wing Loi Industrial Building (CH01b).
- Between 59 mPD and 109.55 mPD (**Figure 6-2e**)
  - The Site is entirely within the buffer regions of the nearby chimneys.

6.3 Suitable Locations for Fresh Air Intakes for Areas with Sensitive Uses

6.3.1 The floor and ceiling levels of the Proposed Development under the current design are summarised in **Table 6-3**.

Table 6-3 Floor and Ceiling Levels of the Proposed Development

Floor	Height (m)	Floor Level (mPD)	Ceiling Level (mPD)	Corresponding Drawing
G/F	11	9	20	Fig 6-3a
1/F	6	20	26	Fig 6-3b
2/F	6	26	32	Fig 6-3c
3/F	6	32	38	Fig 6-3d
4/F	5.5	38	43.5	Fig 6-3e
5/F	5.5	43.5	49	Fig 6-3e
6/F	5.5	49	54.5	Fig 6-3f
7/F	5.5	54.5	60	Fig 6-3g
8/F and above	5.5	-	-	-

Note:
[1] The design of the proposed development is subject to change.

6.3.2 The proposed façades for fresh air intakes are illustrated in **Figures 6-3a to 6-3g**. All industrial chimneys within 200 meters of the application site boundary have been identified. It should be noted that any ASRs of the proposed development (including the management offices and data halls) will be designed as confined spaces and will rely exclusively on fresh air intakes at suitable location for ventilation, as mentioned in **Section 2.2.10**. The potentially polluted air outside is not expected to enter the management offices and data halls.

- G/F to 2/F (9 to 32 mPD) (**Figures 6-3a to 6-3c**)
  - The entire eastern façade is suitable for fresh air intake.
  - The western façade is within the buffer region of Wing Chong Street.
- 3/F to 6/F (32 to 54.5 mPD) (**Figures 6-3d to 6-3f**)
  - The entire eastern façade is suitable for fresh air intake.
  - A small portion of the western façade is outside the buffer region of Wing Chong Street and suitable for fresh air intake.
- 7/F (54.5 to 60 mPD) (**Figure 6-3g**)
  - At or above 59 mPD, the entire Site is within the buffer regions of the chimneys at Wing Loi Industrial Building (CH01b) and Wing Kin Industrial Building (CH03a).
  - Below 59mPD, only the northern half of the eastern façade is suitable for fresh air intake.
  - No suitable locations for fresh air intake at or above 59mPD.
- 8/F & above (> 60 mPD)
  - No suitable locations for fresh air intake.

6.3.3 Generally, the entire eastern façade from G/F to 7/F (up to 59 mPD) and a small portion of the western façade from 3/F to 6/F (32 to 54.5 mPD) are suitable for fresh air intake. However, no fresh air intake shall be provided at 8/F or above.

6.3.4 With the fresh air intakes for areas with air-sensitive uses positioned at the proposed locations, no adverse air quality impacts during the operation of the Project are anticipated.

6.4 Provision of Emergency Generators

6.4.1 A total of 16 backup generators powered by diesel fuel, with a combined capacity of 28,000 kW, will be installed for emergency use only by the tenant. During the monthly routine testing, the backup generators will be operated one at a time, with the total testing duration restricted to 30 minutes for each backup generator.

6.4.2 Since the operation of the backup generators requires a SP license, the APCP for SP license application must be approved by the relevant authority (e.g., EPD). Given the short operational duration of the backup generators and the necessary mitigation measures, such as activated carbon filters, selective catalytic reduction, diesel oxidation catalysts, and electrostatic precipitator systems, to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.

6.5 Provision of Basement Carparks

6.5.1 It should be noted that there are basement carparks in the Proposed Development. However, the details of the carparks including the locations of the exhaust outlet are not available.

6.5.2 The project team is reminded to fulfill the requirements, including design, maintenance and operation of the ventilation systems, as stipulated in ProPECC PN 2/96 - Control of Air Pollution in Car Parks. In addition, the exhaust outlet for the basement carpark shall be located as far away as possible from nearby ASRs and/or fresh air intake to avoid causing any potential air pollutant nuisance.

7 CONCLUSION

7.1.1 The air quality impact from the construction of the proposed development on the surrounding area, as well as the impact from the surrounding area on the proposed development, has been assessed. With the implementation of dust suppression measures as outlined in the Air Pollution Control (Construction Dust) Regulation and adherence to good site practices, no adverse air quality impacts associated with the construction works are expected.

7.1.2 Backup generators, powered by diesel fuel and with a combined capacity of 28,000 kW, will be installed by the tenant for emergency use only. Routine monthly testing will be conducted, during which the generators will be operated one at a time, with the total testing duration restricted to 30 minutes for each backup generator. Since the operation of the backup generators requires a Specified Process (SP) license, the air pollution control plan (APCP) for the SP license application must be approved by the EPD. Given the short operational duration of the backup generators and the necessary mitigation measures, such as activated carbon filters, selective catalytic reduction, diesel oxidation catalysts, and electrostatic precipitator systems, to be confirmed in the APCP, adverse air quality impacts arising from the routine testing are not anticipated.

7.1.3 A qualitative assessment indicates that vehicular and industrial emissions are not expected to constrain the proposed development, provided that the locations of the fresh air intakes for ASRs and exhaust outlets for the basement carpark are carefully designed.