

This document is received on - 3 FEB 2023
The Town Planning Board will formally acknowledge
the date of receipt of the application only upon receipt
of all the required information and documents.

Form No. S16-I
表格第 S16-I 號

**APPLICATION FOR PERMISSION
UNDER SECTION 16 OF
THE TOWN PLANNING ORDINANCE
(CAP.131)**

根據《城市規劃條例》(第131章)
第16條遞交的許可申請

Applicable to proposals not involving or not only involving:
適用於建議不涉及或不祇涉及:

- (i) **Construction of "New Territories Exempted House(s)";**
興建「新界豁免管制屋宇」;
- (ii) **Temporary use/development of land and/or building not exceeding 3 years in rural areas; and**
位於鄉郊地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展;及
- (iii) **Renewal of permission for temporary use or development in rural areas**
位於鄉郊地區的臨時用途或發展的許可續期

Applicant who would like to publish the notice of application in local newspapers to meet one of the Town Planning Board's requirements of taking reasonable steps to obtain consent of or give notification to the current land owner, please refer to the following link regarding publishing the notice in the designated newspapers:
https://www.info.gov.hk/tpb/en/plan_application/apply.html

申請人如欲在本地報章刊登申請通知,以採取城市規劃委員會就取得現行土地擁有人的同意或通知現行土地擁有人所指定的其中一項合理步驟,請瀏覽以下網址有關在指定的報章刊登通知:
https://www.info.gov.hk/tpb/tc/plan_application/apply.html

General Note and Annotation for the Form
填寫表格的一般指引及註解

"Current land owner" means any person whose name is registered in the Land Registry as that of an owner of the land to which the application relates, as at 6 weeks before the application is made
「現行土地擁有人」指在提出申請前六星期,其姓名或名稱已在土地註冊處註冊為該申請所關乎的土地的擁有人的人

& Please attach documentary proof 請夾附證明文件

^ Please insert number where appropriate 請在適當地方註明編號

Please fill "NA" for inapplicable item 請在不適用的項目填寫「不適用」

Please use separate sheets if the space provided is insufficient 如所提供的空間不足,請另頁說明

Please insert a 「✓」 at the appropriate box 請在適當的方格內上加上「✓」號

2300269 1/2 by hand

Form No. S16-I 表格第 S16-I 號

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/YL-PS/677
	Date Received 收到日期	- 3 FEB 2023

- The completed form and supporting documents (if any) should be sent to the Secretary, Town Planning Board (the Board), 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
申請人須把填妥的申請表格及其他支持申請的文件 (倘有), 送交香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會(下稱「委員會」)秘書收。
- Please read the "Guidance Notes" carefully before you fill in this form. The document can be downloaded from the Board's website at <http://www.info.gov.hk/tpb/>. It can also be obtained from the Secretariat of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong (Tel: 2231 4810 or 2231 4835), and the Planning Enquiry Counters of the Planning Department (Hotline: 2231 5000) (17/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong and 14/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories).
請先細閱《申請須知》的資料單張, 然後填寫此表格。該份文件可從委員會的網頁下載 (網址: <http://www.info.gov.hk/tpb/>)。亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 - 電話: 2231 4810 或 2231 4835) 及規劃署的規劃資料查詢處 (熱線: 2231 5000) (香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輦路 1 號沙田政府合署 14 樓) 索取。
- This form can be downloaded from the Board's website, and obtained from the Secretariat of the Board and the Planning Enquiry Counters of the Planning Department. The form should be typed or completed in block letters. The processing of the application may be refused if the required information or the required copies are incomplete.
此表格可從委員會的網頁下載, 亦可向委員會秘書處及規劃署的規劃資料查詢處索取。申請人須以打印方式或以正楷填寫表格。如果申請人所提交的資料或文件副本不齊全, 委員會可拒絕處理有關申請。

1. Name of Applicant 申請人姓名/名稱

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☐ Company 公司 / ☒ Organisation 機構)

Hong Kong Housing Authority

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱 (如適用)

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☐ Company 公司 / ☐ Organisation 機構)

3. Application Site 申請地點

(a) Full address / location / demarcation district and lot number (if applicable) 詳細地址/地點/丈量約份及地段號碼 (如適用)	Site B of Wang Chau Phase 1, Long Ping Road, Yuen Long
(b) Site area and/or gross floor area involved 涉及的地盤面積及/或總樓面面積	<p>Gross Site Area: 20,200 Net Site Area: 17,100 (excluded road and footprint of a free-standing Social Welfare Building etc.)</p> <p><input type="checkbox"/> Site area 地盤面積 sq.m 平方米 <input checked="" type="checkbox"/> About 約</p> <p><input checked="" type="checkbox"/> Gross floor area 總樓面面積 102,600 sq.m 平方米 <input checked="" type="checkbox"/> About 約</p>
(c) Area of Government land included (if any) 所包括的政府土地面積 (倘有)	<p>20,200 sq.m 平方米 <input checked="" type="checkbox"/> About 約</p>

(d) Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	Approved Ping Shan Outline Zoning Plan No. S/YL-PS/20
(e) Land use zone(s) involved 涉及的土地用途地帶	"Residential (Group A) 4"
(f) Current use(s) 現時用途	Under Site Formation Works (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

4. "Current Land Owner" of Application Site 申請地點的「現行土地擁有人」

The applicant 申請人 -

- ☐ is the sole "current land owner" (please proceed to Part 6 and attach documentary proof of ownership).
是唯一的「現行土地擁有人」(請繼續填寫第 6 部分，並夾附業權證明文件)。
- ☐ is one of the "current land owners" (please attach documentary proof of ownership).
是其中一名「現行土地擁有人」(請夾附業權證明文件)。
- ☐ is not a "current land owner".
並不是「現行土地擁有人」。

- ☒ The application site is entirely on Government land (please proceed to Part 6).
申請地點完全位於政府土地上(請繼續填寫第 6 部分)。

5. Statement on Owner's Consent/Notification

N/A

就土地擁有人的同意/通知土地擁有人的陳述

- (a) According to the record(s) of the Land Registry as at (DD/MM/YYYY), this application involves a total of "current land owner(s)".
根據土地註冊處截至 年 月 日的記錄，這宗申請共牽涉 名「現行土地擁有人」。

(b) The applicant 申請人 -

- ☐ has obtained consent(s) of "current land owner(s)".
已取得 名「現行土地擁有人」的同意。

Details of consent of "current land owner(s)" obtained 取得「現行土地擁有人」同意的詳情		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where consent(s) has/have been obtained 根據土地註冊處記錄已獲得同意的地段號碼/處所地址	Date of consent obtained (DD/MM/YYYY) 取得同意的日期 (日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

- ☐ has notified "current land owner(s)"[#]
已通知 名「現行土地擁有人」[#]。

Details of the "current land owner(s)" [#] notified 已獲通知「現行土地擁有人」 [#] 的詳細資料		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where notification(s) has/have been given 根據土地註冊處記錄已發出通知的地段號碼／處所地址	Date of notification given (DD/MM/YYYY) 通知日期(日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

- ☐ has taken reasonable steps to obtain consent of or give notification to owner(s):
已採取合理步驟以取得土地擁有人的同意或向該人發給通知。詳情如下：

Reasonable Steps to Obtain Consent of Owner(s) 取得土地擁有人的同意所採取的合理步驟

- ☐ sent request for consent to the "current land owner(s)" on (DD/MM/YYYY)^{#&}
於 (日/月/年)向每一名「現行土地擁有人」[#]郵遞要求同意書[&]

Reasonable Steps to Give Notification to Owner(s) 向土地擁有人發出通知所採取的合理步驟

- ☐ published notices in local newspapers on (DD/MM/YYYY)[&]
於 (日/月/年)在指定報章就申請刊登一次通知[&]
- ☐ posted notice in a prominent position on or near application site/premises on (DD/MM/YYYY)[&]
於 (日/月/年)在申請地點／申請處所或附近的顯明位置貼出關於該申請的通知[&]
- ☐ sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on (DD/MM/YYYY)[&]
於 (日/月/年)把通知寄往相關的業主立案法團/業主委員會/互助委員會或管理處，或有關的鄉事委員會[&]

Others 其他

- ☐ others (please specify)
其他（請指明）

Note: May insert more than one 「✓」.

Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application.

註：可在多於一個方格內加上「✓」號

申請人須就申請涉及的每一地段（倘適用）及處所（倘有）分別提供資料

6. Type(s) of Application 申請類別

- ☐ Type (i) Change of use within existing building or part thereof
第(i)類 更改現有建築物或其部分內的用途
- ☐ Type (ii) Diversion of stream / excavation of land / filling of land / filling of pond as required under Notes of Statutory Plan(s)
第(ii)類 根據法定圖則《註釋》內所要求的河道改道／挖土／填土／填塘工程
- ☐ Type (iii) Public utility installation / Utility installation for private project
第(iii)類 公用事業設施裝置/私人發展計劃的公用設施裝置
- ☒ Type (iv) Minor relaxation of stated development restriction(s) as provided under Notes of Statutory Plan(s)
第(iv)類 略為放寬於法定圖則《註釋》內列明的發展限制
- ☐ Type (v) Use / development other than (i) to (iii) above
第(v)類 上述的(i)至(iii)項以外的用途／發展

Note 1: May insert more than one 「✓」.

註 1：可在多於一個方格內加上「✓」號

Note 2: For Development involving columbarium use, please complete the table in the Appendix.

註 2：如發展涉及靈灰安置用途，請填妥於附件的表格。

(i) For Type (i) application 供第(i)類申請

(a) Total floor area involved 涉及的總樓面面積	sq.m 平方米		
(b) Proposed use(s)/development 擬議用途/發展	(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)		
(c) Number of storeys involved 涉及層數		Number of units involved 涉及單位數目	
(d) Proposed floor area 擬議樓面面積	Domestic part 住用部分		sq.m 平方米 □About 約
	Non-domestic part 非住用部分		sq.m 平方米 □About 約
	Total 總計		sq.m 平方米 □About 約
(e) Proposed uses of different floors (if applicable) 不同樓層的擬議用途(如適用) (Please use separate sheets if the space provided is insufficient) (如所提供的空間不足，請另頁說明)	Floor(s) 樓層	Current use(s) 現時用途	Proposed use(s) 擬議用途

(ii) For Type (ii) application 供第(ii)類申請				
(a) Operation involved 涉及工程	<input type="checkbox"/>	Diversion of stream 河道改道		
	<input type="checkbox"/>	Filling of pond 填塘		
		Area of filling 填塘面積	sq.m 平方米	<input type="checkbox"/> About 約
		Depth of filling 填塘深度	m 米	<input type="checkbox"/> About 約
	<input type="checkbox"/>	Filling of land 填土		
		Area of filling 填土面積	sq.m 平方米	<input type="checkbox"/> About 約
		Depth of filling 填土厚度	m 米	<input type="checkbox"/> About 約
	<input type="checkbox"/>	Excavation of land 挖土		
		Area of excavation 挖土面積	sq.m 平方米	<input type="checkbox"/> About 約
		Depth of excavation 挖土深度	m 米	<input type="checkbox"/> About 約
(Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用圖則顯示有關土地/池塘界線, 以及河道改道、填塘、填土及/或挖土的細節及/或範圍))				
(b) Intended use/development 有意進行的用途/發展				

(iii) For Type (iii) application 供第(iii)類申請			
(a) Nature and scale 性質及規模	<input type="checkbox"/>	Public utility installation 公用事業設施裝置	
	<input type="checkbox"/>	Utility installation for private project 私人發展計劃的公用設施裝置	
	Please specify the type and number of utility to be provided as well as the dimensions of each building/structure, where appropriate 請註明有關裝置的性質及數量, 包括每座建築物/構築物(倘有)的長度、高度和闊度		
	Name/type of installation 裝置名稱/種類	Number of provision 數量	Dimension of each installation /building/structure (m) (LxWxH) 每個裝置/建築物/構築物的尺寸 (米) (長 x 闊 x 高)
(Please illustrate on plan the layout of the installation 請用圖則顯示裝置的布局)			

(iv) For Type (iv) application 供第(iv)類申請

(a) Please specify the proposed minor relaxation of stated development restriction(s) and **also fill in the proposed use/development and development particulars in part (v) below** –

請列明擬議略為放寬的發展限制並填妥於第(v)部分的擬議用途/發展及發展細節 –

- ☐ Plot ratio restriction 地積比率限制 From 由 to 至
- ☐ Gross floor area restriction 總樓面面積限制 From 由sq. m 平方米 to 至sq. m 平方米
- ☐ Site coverage restriction 上蓋面積限制 From 由% to 至%
- ☒ Building height restriction 建築物高度限制
 From 由m 米 to 至 m 米
 From 由135 mPD 米 (主水平基準上) to 至145 mPD 米 (主水平基準上)
 From 由 storeys 層 to 至 storeys 層
- ☐ Non-building area restriction 非建築用地限制 From 由m to 至 m
- ☐ Others (please specify) 其他 (請註明)

(v) For Type (v) application 供第(v)類申請

(a) Proposed use(s)/development
擬議用途/發展

Proposed Minor Relaxation of Building Height Restriction for
Proposed Public Housing Development

(Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議詳情)

(b) Development Schedule 發展細節表

- Proposed gross floor area (GFA) 擬議總樓面面積102 600 sq.m 平方米 ☒ About 約
- Proposed plot ratio 擬議地積比率 Not more than 6.0 ☐ About 約
 15m or below: about 70%;
 over 15m: about 40% (Domestic) ☒ About 約
- Proposed site coverage 擬議上蓋面積 5
- Proposed no. of blocks 擬議座數 4 Residential blocks (Blocks, A, B, C, D): 40-41 storeys
 1 Welfare Building (ISWB): 7 storeys 層
- Proposed no. of storeys of each block 每座建築物的擬議層數
☐ include 包括 storeys of basements 層地庫
☐ exclude 不包括 storeys of basements 層地庫
- Proposed building height of each block 每座建築物的擬議高度 not more than 145 mPD 米 (主水平基準上) ☒ About 約
 m 米 ☐ About 約

☒ Domestic part 住用部分

GFA 總樓面面積 100,890 sq. m 平方米 ☒ About 約
 number of Units 單位數目 about 1,870
 average unit size 單位平均面積 54 sq. m 平方米(GFA) ☒ About 約
 estimated number of residents 估計住客數目 about 5,240

☒ Non-domestic part 非住用部分

GFA 總樓面面積

☐ eating place 食肆 sq. m 平方米 ☐ About 約
☐ hotel 酒店 sq. m 平方米 ☐ About 約
 (please specify the number of rooms
 請註明房間數目)
☐ office 辦公室 sq. m 平方米 ☐ About 約
☐ shop and services 商店及服務行業 sq. m 平方米 ☐ About 約

☒ Government, institution or community facilities
政府、機構或社區設施

(please specify the use(s) and concerned land
 area(s)/GFA(s) 請註明用途及有關的地面面積／總
 樓面面積)

Residential Care Home for the Elderly, Day Activity Centre, Hostel for Severely Mentally Handicapped Persons,
 Hostel for Moderately Mentally Handicapped Persons, Integrated Vocational Rehabilitation Services and
 Child Care Centre and Special Child Care Centre

(G/IC facilities as required by the Government are exempted from GFA calculation, based on the OZP notes.)

☒ other(s) 其他

(please specify the use(s) and concerned land
 area(s)/GFA(s) 請註明用途及有關的地面面積／總
 樓面面積)

Estate Management and Ancillary Facilities
 (about 1,710 sq.m GFA)

(Ancillary Parking Facilities are exempted from GFA calculation, based on the OZP Notes.)

☒ Open space 休憩用地

(please specify land area(s) 請註明地面面積)

☒ private open space 私人休憩用地 5,240 sq. m 平方米 ☒ Not less than 不少於
☐ public open space 公眾休憩用地 sq. m 平方米 ☐ Not less than 不少於

(c) Use(s) of different floors (if applicable) 各樓層的用途 (如適用)

[Block number] [座數]	[Floor(s)] [層數]	[Proposed use(s)] [擬議用途]
Block A	G/F - 1/F	Entrance lobby, refuse storage and material recovery chambers (RSMRC), podium garden and E&M facilities
Block A	2/F - 39/F	Residential flats
Block B, C & D	G/F - 2/F	Entrance lobby, welfare facilities, carpark area, refuse collection point, RSMRC, podium garden, management offices and E&M facilities
Block B, C & D	3/F - 40/F	Residential flats
Welfare Bldg (ISWB)	LG/F - 5/F	Welfare facilities, carpark and E&M facilities

(d) Proposed use(s) of uncovered area (if any) 露天地方 (倘有) 的擬議用途

Podium garden, circulation area and estate road/EVA

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7. Anticipated Completion Time of the Development Proposal 擬議發展計劃的預計完成時間

Anticipated completion time (in month and year) of the development proposal (by phase (if any)) (e.g. June 2023)
擬議發展計劃預期完成的年份及月份 (分期 (倘有)) (例：2023 年 6 月)
(Separate anticipated completion times (in month and year) should be provided for the proposed public open space and Government, institution or community facilities (if any))
(申請人須就擬議的公眾休憩用地及政府、機構或社區設施 (倘有) 提供個別擬議完成的年份及月份)

2027/2028

8. Vehicular Access Arrangement of the Development Proposal 擬議發展計劃的行人通道安排

<p>Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？</p>	<p>Yes 是 No 否</p>	<p><input type="checkbox"/> There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用))</p> <p><input checked="" type="checkbox"/> There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。(請在圖則顯示，並註明車路的闊度)</p>																
<p>Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車位？</p>	<p>Yes 是 No 否</p>	<p><input checked="" type="checkbox"/> (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示)</p> <table border="0"> <tr> <td>Private Car Parking Spaces 私家車車位</td> <td>Residential: 156 nos.</td> </tr> <tr> <td>Motorcycle Parking Spaces 電單車車位</td> <td>Visitor: 20 nos.</td> </tr> <tr> <td>Light Goods Vehicle Parking Spaces 輕型貨車泊車位</td> <td>17 nos.</td> </tr> <tr> <td>Medium Goods Vehicle Parking Spaces 中型貨車泊車位</td> <td>8 nos.#</td> </tr> <tr> <td>Heavy Goods Vehicle Parking Spaces 重型貨車泊車位</td> <td>Nil</td> </tr> <tr> <td>Others (Please Specify) 其他 (請列明)</td> <td>Nil</td> </tr> <tr> <td>Bicycle Parking Spaces</td> <td>125 nos.</td> </tr> <tr> <td>Welfare Facilities Parking Spaces</td> <td>4 nos.</td> </tr> </table>	Private Car Parking Spaces 私家車車位	Residential: 156 nos.	Motorcycle Parking Spaces 電單車車位	Visitor: 20 nos.	Light Goods Vehicle Parking Spaces 輕型貨車泊車位	17 nos.	Medium Goods Vehicle Parking Spaces 中型貨車泊車位	8 nos.#	Heavy Goods Vehicle Parking Spaces 重型貨車泊車位	Nil	Others (Please Specify) 其他 (請列明)	Nil	Bicycle Parking Spaces	125 nos.	Welfare Facilities Parking Spaces	4 nos.
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Bicycle Parking Spaces	125 nos.																	
Welfare Facilities Parking Spaces	4 nos.																	
<p>Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客貨車位？</p>	<p>Yes 是 No 否</p>	<p><input checked="" type="checkbox"/> (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示)</p> <table border="0"> <tr> <td>Taxi Spaces 的士車位</td> <td></td> </tr> <tr> <td>Coach Spaces 旅遊巴車位</td> <td></td> </tr> <tr> <td>Light Goods Vehicle Spaces 輕型貨車車位</td> <td></td> </tr> <tr> <td>Medium Goods Vehicle Spaces 中型貨車車位</td> <td></td> </tr> <tr> <td>Heavy Goods Vehicle Spaces 重型貨車車位</td> <td>Residential: 8 nos.®</td> </tr> <tr> <td>Others (Please Specify) 其他 (請列明)</td> <td></td> </tr> <tr> <td>Welfare Facilities Loading/Unloading Spaces</td> <td>2 nos.</td> </tr> </table>	Taxi Spaces 的士車位		Coach Spaces 旅遊巴車位		Light Goods Vehicle Spaces 輕型貨車車位		Medium Goods Vehicle Spaces 中型貨車車位		Heavy Goods Vehicle Spaces 重型貨車車位	Residential: 8 nos.®	Others (Please Specify) 其他 (請列明)		Welfare Facilities Loading/Unloading Spaces	2 nos.		
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Welfare Facilities Loading/Unloading Spaces	2 nos.																	

Shared Use Parking Space with Light Bus in accordance with HKPSG.

® Shared Use for overnight parking of medium/high goods vehicles and coaches/buses with due consideration of site constraints and local situation in accordance with HKPSG.

9. Impacts of Development Proposal 擬議發展計劃的影響

If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures.

如需要的話，請另頁註明可盡量減少可能出現不良影響的措施，否則請提供理據/理由。

<p>Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?</p>	<p>Yes 是 No 否</p>	<p><input type="checkbox"/> Please provide details 請提供詳情</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>																																	
<p>Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註：如申請涉及第(ii)類申請，請跳至下一條問題。)</p>	<p>Yes 是 No 否</p>	<p><input type="checkbox"/> (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及／或範圍)</p> <p><input type="checkbox"/> Diversion of stream 河道改道</p> <p><input type="checkbox"/> Filling of pond 填塘 Area of filling 填塘面積 sq.m 平方米 <input type="checkbox"/> About 約 Depth of filling 填塘深度 m 米 <input type="checkbox"/> About 約</p> <p><input type="checkbox"/> Filling of land 填土 Area of filling 填土面積 sq.m 平方米 <input type="checkbox"/> About 約 Depth of filling 填土厚度 m 米 <input type="checkbox"/> About 約</p> <p><input type="checkbox"/> Excavation of land 挖土 Area of excavation 挖土面積 sq.m 平方米 <input type="checkbox"/> About 約 Depth of excavation 挖土深度 m 米 <input type="checkbox"/> About 約</p>																																	
<p>Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響?</p>		<table border="0"> <tr> <td>On environment 對環境</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On traffic 對交通</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On water supply 對供水</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On drainage 對排水</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>On slopes 對斜坡</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Affected by slopes 受斜坡影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Landscape Impact 構成景觀影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Tree Felling 砍伐樹木</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Visual Impact 構成視覺影響</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Others (Please Specify) 其他 (請列明)</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> <tr> <td>Air Ventilation</td> <td>Yes 會 <input type="checkbox"/></td> <td>No 不會 <input checked="" type="checkbox"/></td> </tr> </table> <p>.....</p> <p>.....</p> <p>Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible) 請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可)</p> <p>Please refer to the attached Supporting Planning Statement.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	On environment 對環境	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On traffic 對交通	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On water supply 對供水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On drainage 對排水	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	On slopes 對斜坡	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Affected by slopes 受斜坡影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Landscape Impact 構成景觀影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Tree Felling 砍伐樹木	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Visual Impact 構成視覺影響	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Others (Please Specify) 其他 (請列明)	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>	Air Ventilation	Yes 會 <input type="checkbox"/>	No 不會 <input checked="" type="checkbox"/>
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10. Justifications 理由

The applicant is invited to provide justifications in support of the application. Use separate sheets if necessary.
現請申請人提供申請理由及支持其申請的資料。如有需要，請另頁說明。

Please refer to the attached Supporting Planning Statement.



11. Declaration 聲明

I hereby declare that the particulars given in this application are correct and true to the best of my knowledge and belief.
本人謹此聲明，本人就這宗申請提交的資料，據本人所知及所信，均屬真實無誤。

I hereby grant a permission to the Board to copy all the materials submitted in this application and/or to upload such materials to the Board's website for browsing and downloading by the public free-of-charge at the Board's discretion. 本人現准許委員會酌情將本人就此申請所提交的所有資料複製及/或上載至委員會網站，供公眾免費瀏覽或下載。

Signature
簽署

☒ Applicant 申請人 / ☐ Authorised Agent 獲授權代理人

Mr. CHAN King-kong, Theron

Chief Planning Officer / 1

Name in Block Letters
姓名（請以正楷填寫）

Position (if applicable)
職位（如適用）

Professional Qualification(s)
專業資格

☒ Member 會員 / ☐ Fellow of 資深會員

☒ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /

☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /

☐ HKILA 香港園境師學會 / ☐ HKIUD 香港城市設計學會

☒ RPP 註冊專業規劃師 (membership no.: 248)

Others 其他

on behalf of
代表

Hong Kong Housing Authority

☐ Company 公司 / ☒ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期

31 January 2023

(DD/MM/YYYY 日/月/年)

**Remark 備註**

The materials submitted in this application and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.

委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下，有關申請資料亦會上載至委員會網頁供公眾免費瀏覽及下載。

Warning 警告

Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance.

任何人在明知或故意的情況下，就這宗申請提出在任何要項上是虛假的陳述或資料，即屬違反《刑事罪行條例》。

Statement on Personal Data 個人資料的聲明

1. The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes:

委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門，以根據《城市規劃條例》及相關的城市規劃委員會規劃指引的規定作以下用途：

(a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and

處理這宗申請，包括公布這宗申請供公眾查閱，同時公布申請人的姓名供公眾查閱；以及

(b) facilitating communication between the applicant and the Secretary of the Board/Government departments.

方便申請人與委員會秘書及政府部門之間進行聯絡。

2. The personal data provided by the applicant in this application may also be disclosed to other persons for the purposes mentioned in paragraph 1 above.

申請人就這宗申請提供的個人資料，或亦會向其他人士披露，以作上述第 1 段提及的用途。

3. An applicant has a right of access and correction with respect to his/her personal data as provided under the Personal Data (Privacy) Ordinance (Cap. 486). Request for personal data access and correction should be addressed to the Secretary of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.

根據《個人資料(私隱)條例》(第 486 章)的規定，申請人有權查閱及更正其個人資料。如欲查閱及更正個人資料，應向委員會秘書提出有關要求，其地址為香港北角渣華道 333 號北角政府合署 15 樓。

For Developments involving Columbarium Use, please also complete the following:
如發展涉及靈灰安置所用途，請另外填妥以下資料：

Ash interment capacity 骨灰安放容量@

Maximum number of sets of ashes that may be interred in the niches

在龕位內最多可安放骨灰的數量

Maximum number of sets of ashes that may be interred other than in niches

在非龕位的範圍內最多可安放骨灰的數量

Total number of niches 龕位總數

Total number of single niches

單人龕位總數

Number of single niches (sold and occupied)

單人龕位數目 (已售並佔用)

Number of single niches (sold but unoccupied)

單人龕位數目 (已售但未佔用)

Number of single niches (residual for sale)

單人龕位數目 (待售)

Total number of double niches

雙人龕位總數

Number of double niches (sold and fully occupied)

雙人龕位數目 (已售並全部佔用)

Number of double niches (sold and partially occupied)

雙人龕位數目 (已售並部分佔用)

Number of double niches (sold but unoccupied)

雙人龕位數目 (已售但未佔用)

Number of double niches (residual for sale)

雙人龕位數目 (待售)

Total no. of niches other than single or double niches (please specify type)

除單人及雙人龕位外的其他龕位總數 (請列明類別)

Number of niches (sold and fully occupied)

龕位數目 (已售並全部佔用)

Number of niches (sold and partially occupied)

龕位數目 (已售並部分佔用)

Number of niches (sold but unoccupied)

龕位數目 (已售但未佔用)

Number of niches (residual for sale)

龕位數目 (待售)

Proposed operating hours 擬議營運時間

@ Ash interment capacity in relation to a columbarium means –

就靈灰安置所而言，骨灰安放容量指：

- the maximum number of containers of ashes that may be interred in each niche in the columbarium;
每個龕位內可安放的骨灰容器的最高數目；
- the maximum number of sets of ashes that may be interred other than in niches in any area in the columbarium; and
在該靈灰安置所並非龕位的範圍內，總共最多可安放多少份骨灰；以及
- the total number of sets of ashes that may be interred in the columbarium.
在該骨灰安置所內，總共最多可安放多少份骨灰。

Gist of Application 申請摘要

(Please provide details in both English and Chinese as far as possible. This part will be circulated to relevant consultees, uploaded to the Town Planning Board's Website for browsing and free downloading by the public and available at the Planning Enquiry Counters of the Planning Department for general information.)

(請盡量以英文及中文填寫。此部分將會發送予相關諮詢人士、上載至城市規劃委員會網頁供公眾免費瀏覽及下載及於規劃署規劃資料查詢處供一般參閱。)

Application No. 申請編號	(For Official Use Only) (請勿填寫此欄)		
Location/address 位置/地址	Site B of Wang Chau Phase 1, Long Ping Road, Yuen Long 元朗朗屏路橫洲一期地盤"乙"		
Site area 地盤面積	Gross Site Area 總地盤面積: 20,200 sq. m 平方米 <input checked="" type="checkbox"/> About 約 Net Site Area 地盤淨面積: 17,100 (excluded road and footprint of a free-standing Social Welfare Building - 不包括道路和獨立的社會福利大樓) (includes Government land of 包括政府土地 20,200 sq. m 平方米 <input checked="" type="checkbox"/> About 約)		
Plan 圖則	Approved Ping Shan Outline Zoning Plan No. S/YL-PS/20 屏山分區計劃大綱核准圖編號S/YL-PS/20		
Zoning 地帶	"Residential (Group A)4" 「住宅(甲類)4」		
Applied use/ development 申請用途/發展	Proposed Minor Relaxation of Building Height Restriction for Proposed Public Housing Development 擬議略為放寬建築物高度限制作准許的公營房屋發展		
(i) Gross floor area and/or plot ratio 總樓面面積及/或 地積比率		sq.m 平方米	Plot Ratio 地積比率
	Domestic 住用	100,890 <input type="checkbox"/> About 約 <input checked="" type="checkbox"/> Not more than 不多於	5.9 <input type="checkbox"/> About 約 <input checked="" type="checkbox"/> Not more than 不多於
	Non-domestic 非住用	1,710 <input type="checkbox"/> About 約 <input checked="" type="checkbox"/> Not more than 不多於	0.1 <input type="checkbox"/> About 約 <input checked="" type="checkbox"/> Not more than 不多於
(ii) No. of block 幢數	Domestic 住用		
	Non-domestic 非住用	1	
	Composite 綜合用途	4	

(iii) Building height/No. of storeys 建築物高度／層數	Domestic 住用	m 米 <input type="checkbox"/> (Not more than 不多於)	
		mPD 米(主水平基準上) <input type="checkbox"/> (Not more than 不多於)	
		Storeys(s) 層 <input type="checkbox"/> (Not more than 不多於) (<input type="checkbox"/> Include 包括 <input type="checkbox"/> Exclude 不包括 <input type="checkbox"/> Carport 停車間 <input type="checkbox"/> Basement 地庫 <input type="checkbox"/> Refuge Floor 防火層 <input type="checkbox"/> Podium 平台)	
	Non-domestic 非住用	m 米 <input type="checkbox"/> (Not more than 不多於)	
		42	mPD 米(主水平基準上) <input type="checkbox"/> (Not more than 不多於)
		7	Storeys(s) 層 <input type="checkbox"/> (Not more than 不多於) (<input type="checkbox"/> Include 包括 <input type="checkbox"/> Exclude 不包括 <input type="checkbox"/> Carport 停車間 <input type="checkbox"/> Basement 地庫 <input type="checkbox"/> Refuge Floor 防火層 <input type="checkbox"/> Podium 平台)
	Composite 綜合用途	m 米 <input type="checkbox"/> (Not more than 不多於)	
		145	mPD 米(主水平基準上) <input type="checkbox"/> (Not more than 不多於)
		Block A: 40 storeys (Including podium garden)	Storeys(s) 層 <input type="checkbox"/> (Not more than 不多於) (<input checked="" type="checkbox"/> Include 包括 <input type="checkbox"/> Exclude 不包括 <input type="checkbox"/> Carport 停車間 <input type="checkbox"/> Basement 地庫 <input type="checkbox"/> Refuge Floor 防火層 <input checked="" type="checkbox"/> Podium 平台)
(iv) Site coverage 上蓋面積	15m or below: about 70%; over 15m: about 40%		<input checked="" type="checkbox"/> About 約
(v) No. of units 單位數目	about 1,870		
(vi) Open space 休憩用地	Private 私人	5,240	sq.m 平方米 <input checked="" type="checkbox"/> Not less than 不少於
	Public 公眾		sq.m 平方米 <input type="checkbox"/> Not less than 不少於

(vii) No. of parking spaces and loading / unloading spaces 停車位及上落客貨車位數目 # Shared Use Parking Space with Light Bus in accordance with HKPSG. @ Shared Use for overnight parking of medium/high goods vehicles and coaches/buses with due consideration of site constraints and local situation in accordance with HKPSG.	Total no. of vehicle parking spaces 停車位總數 Private Car Parking Spaces 私家車車位 Motorcycle Parking Spaces 電單車車位 Light Goods Vehicle Parking Spaces 輕型貨車泊車位 Medium Goods Vehicle Parking Spaces 中型貨車泊車位 Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 Others (Please Specify) 其他 (請列明) Bicycle Parking Spaces 單車泊車位 Welfare Facilities Parking Spaces 社福設施泊車位	Residential: 156 nos; Visitor: 20 nos. 17 nos. 8 nos.# 125 nos. 4 nos.
	Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位／停車處總數 Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明) Welfare Facilities Loading/Unloading Spaces	Residential : 8 nos.@ 2 nos.

Submitted Plans, Drawings and Documents 提交的圖則、繪圖及文件

	Chinese 中文	English 英文
Plans and Drawings 圖則及繪圖		
Master layout plan(s)/Layout plan(s) 總綱發展藍圖／布局設計圖	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Block plan(s) 樓宇位置圖	<input type="checkbox"/>	<input type="checkbox"/>
Floor plan(s) 樓宇平面圖	<input type="checkbox"/>	<input type="checkbox"/>
Sectional plan(s) 截視圖	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Elevation(s) 立視圖	<input type="checkbox"/>	<input type="checkbox"/>
Photomontage(s) showing the proposed development 顯示擬議發展的合成照片	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Master landscape plan(s)/Landscape plan(s) 園境設計總圖／園境設計圖	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Others (please specify) 其他 (請註明)	<input type="checkbox"/>	<input type="checkbox"/>
Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental assessment (noise, air and/or water pollutions) 環境評估 (噪音、空氣及／或水的污染)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Traffic impact assessment (on vehicles) 就車輛的交通影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Traffic impact assessment (on pedestrians) 就行人的交通影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Visual impact assessment 視覺影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Landscape impact assessment 景觀影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Tree Survey 樹木調查	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical impact assessment 土力影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Drainage impact assessment 排水影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Sewerage impact assessment 排污影響評估	<input type="checkbox"/>	<input type="checkbox"/>
Risk Assessment 風險評估	<input type="checkbox"/>	<input type="checkbox"/>
Others (please specify) 其他 (請註明)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Visual Appraisal and Air Ventilation Assessment (Expert Evaluation)		
Note: May insert more than one 「✓」. 註：可在多於一個方格內加上「✓」號		

Note: The information in the Gist of Application above is provided by the applicant for easy reference of the general public. Under no circumstances will the Town Planning Board accept any liabilities for the use of the information nor any inaccuracies or discrepancies of the information provided. In case of doubt, reference should always be made to the submission of the applicant.

註：上述申請摘要的資料是由申請人提供以方便市民大眾參考。對於所載資料在使用上的問題及文義上的歧異，城市規劃委員會概不負責。若有任何疑問，應查閱申請人提交的文件。

(* Note: One loading/unloading bay provided at Site B to be shared between a welfare facility and domestic blocks. Another loading/unloading bay at Site B to be for shared use among welfare facilities in the ISWB.)

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S16 PLANNING APPLICATION

Approved PING SHAN OZP NO. S/YL-PS/20

**Proposed Minor Relaxation of Building
Height Restriction from 135mPD to
145mPD for Site B of Wang Chau Phase 1,
Yuen Long**

SUPPORTING PLANNING STATEMENT

January 2023

Executive Summary

This Planning Application is submitted by the Hong Kong Housing Authority (HA) to seek planning approval from the Town Planning Board (TPB) under Section 16 of the Town Planning Ordinance for minor relaxation of building height restriction (BHR) from 135mPD to 145 mPD (+7.41%) for the public housing development at Site B (**the Application Site**) of Wang Chau Phase 1, Yuen Long. With the proposed increase in building height, 1,870 public housing flats will be provided at the Application Site.

The Application Site falls under the Approved Ping Shan Outline Zoning Plan No. S/YL-PS/20, zoned as “Residential (Group A)4” (“R(A)4”), and is subject to a maximum BH of 135mPD and a maximum overall plot ratio (PR) of 6.0.

The proposed building height of the Application Site beyond the maximum BH of 135 mPD on OZP is due to (i) the major revision of the new public road alignment in 2015 leading to the significant change in site configuration, and (ii) the subsequent reduction in the number of residential blocks from 5 to 4. As a result, additional floors at the Application Site were required to maintain the targeted 4,400 flats in the whole Wang Chau Phase 1 public housing development. The proposed development is in line with the Government’s policy to better utilize land resources and maximize the site potential, and follows the permitted PR 6.0 under the OZP taking into account the planned infrastructure capacity available. The proposed development comprises four residential blocks providing about 1,870 flats as well as a social welfare block accommodating a wide range of welfare facilities which is equivalent to more than 5% of the total attainable domestic GFA of the Application Site.

The proposed minor relaxation of BHR could meet the acute demand for public housing, optimize development potential, achieve timely provision of public housing and will not generate any insurmountable impacts on visual, air ventilation and other technical aspects.

In view of the above, the TPB is requested to give favorable consideration to the proposed minor relaxation of the maximum BH of the Application Site.

行政摘要

(內文如有差異，應以英文版本為準)

本規劃申請由香港房屋委員會 (下稱「房委會」) 向城市規劃委員會 (下稱「城規會」) 提出，旨在根據《城市規劃條例》第 16 條，向城規會申請規劃許可，略為放寬於橫洲第一期的地盤 “乙” (下稱「申請地盤」) 的建築物高度限制由主水平基準上 135 米增加至 145 米 (+約 7.41%)。擬議的建築物高度能為整個橫洲第一期地盤 “乙” 提供 1,870 個公營房屋單位。

申請地盤位於屏山分區計劃大綱核准圖編號 S/YL-PS/20 (下稱「大綱圖」) 上的「住宅 (甲類) 4」地帶內，受限於建築物高度限制的主水平基準以上 135 米及最高總地積比率 6.0 倍。

申請略為放寬擬議建築物高度超過大綱圖上的最高建築物高度限制 (主水平基準上 135 米) 是基於 (1) 政府於 2015 年大幅改動擬建公用道路走線而令地盤佈局明顯改動；以及 (2) 因應佈局變動，住宅樓宇數量從 5 幢減至 4 幢。因此，申請地盤需要增加樓層才能維持整個橫洲第一期公營房屋項目提供 4,400 個單位的目標。擬議發展項目符合政府善用土地及發揮用地潛力的政策，同時考慮到區內已規劃的基礎設施容量，以符合大綱圖許可的最高總地積比率 6.0 倍而發展。擬議發展項目包括四幢住宅樓宇，提供約 1,870 個單位，以及一幢社福設施大樓，提供各種社會福利設施，相關設施佔申請地盤相當於總住用樓面面積5%以上。

擬議略為放寬建築物高度限制可滿足社會對公營房屋的迫切需求，善用地盤發展潛力和適時提供公營房屋，並且不會在視覺、空氣流通和其他技術方面構成無法克服的影響。

基於以上各點，懇請城規會從優考慮略為放寬申請地盤的建築物高度限制。

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1. INTRODUCTION

- 1.1 This Application is to seek approval from the Town Planning Board (TPB) under Section 16 of the Town Planning Ordinance on the minor relaxation of building height restriction (BHR) from 135 mPD to 145 mPD for the public housing development at Site B (**the Application Site**) of Wang Chau Phase 1, Yuen Long (**Plans 1 & 2**).

2. SITE CONTEXT

Planning Context

- 2.1 Wang Chau Phase 1 (WC Ph.1) public housing development, comprising Site A and Site B (i.e. the Application Site), is bounded by Wing Ning Tsuen to the west and Long Ping Road to the east and south in Yuen Long (**Plan 1**). It has a gross site area of about 3.97 ha, comprising 1.95 ha for Site A and 2.02 ha for the Application Site. WC Ph.1 falls within an area zoned “Residential (Group A)4” (“R(A)4”)¹ on the approved Ping Shan Outline Zoning Plan No. S/YL-PS/20, subject to a maximum BH of 135mPD and a maximum plot ratio (PR) of 6.0 (**Plan 2**). The Application Site is currently under site formation works by the Civil Engineering and Development Department (CEDD).
- 2.2 Compared with the indicative layout adopted for proposed amendments to the approved Ping Shan Outline Zoning Plan No. S/YL-PS/14 back in 2014 (**Plan 3**), the new public road was realigned and gazetted in 2015. The site configuration of the Application Site was therefore changed. Instead of 5 residential blocks at the Application Site, only 4 residential blocks could be designed to maximize the site potential upon consideration of sustainable building design, air ventilation and railway noise requirements. To achieve the maximum PR of 6.0 and the target production of 4,400 flats at WC Ph.1

¹ The “R(A)4” zone for Wang Chau Phase 1 development was first gazetted on 31.10.2014 under the draft Ping Shan OZP No. S/YL-PS/15 and then gazetted on 2.6.2015 under the approved Ping Shan OZP No. S/YL-PS/16.

(as confirmed in the Investigation, Design and Construction Study for WC Ph.1 undertaken by the Civil Engineering and Development Department), the building height of the Application Site will exceed the maximum BH of 135mPD as stipulated on the OZP. According to the Notes of the OZP, based on the individual merits of the development proposal, minor relaxation of the BHR may be considered by the TPB on application under section 16 of the Town Planning Ordinance.

Surrounding Land Uses

2.3 The Application Site is at the north-western fringe of Yuen Long New Town and in a predominantly residential neighborhood with a mix of public housing development and private village houses, as shown in **Plan 2**. The characteristics of the surroundings is listed as follows:

- Long Ping Estate, a high-density public housing development is situated to the east of the site. It comprises 15 residential blocks. Their building heights range from 20 to 35 no. of storeys (i.e. about 63mPD to 102mPD);
- Low rise village dwellings, temporary structures and open storage are located to the south, southwest and northwest of the site.
- A range of low wooded hills (about 50mPD) sit in the north of the site.

2.4 In addition, the area of Wang Chau and its adjoining areas will gradually transform into a medium to high-rise residential cluster area. A number of high-density public housing developments are being taken forward, including Wang Chau Remaining Phases (WCRP) at its north, Tin Tsz Road (TTR) at its northwest and Long Bin Phase 1 and 2 at its south. Under the current OZP No. S/YL/PS/20, the maximum BHs permitted are 135mPD and 160 mPD for WCRP and TTR respectively. For Long Bin Phase 1 & 2, the TPB at its meeting on 30 April 2021 approved a minor relaxation of BHR 170mPD for the public housing development (**Plan 2** refers).

3. DEVELOPMENT PROPOSAL

Proposed Scheme

- 3.1 The proposed public housing scheme at the Application Site adopts a maximum BH not exceeding 145 mPD for the residential blocks and seven storeys for the free standing Integrated Social Welfare Building (ISWB). The Proposed Scheme will provide about 1,870 flats with design population of about 5,240 persons (**Plan 4**). The differences in key parameters of the Proposed Scheme as compared against the Baseline Scheme which is an OZP compliant scheme are summarized in **Table 1** below. Since the Baseline Scheme does not have a breakdown between Sites A and B, the comparison in **Table 1** reflects the aggregate of both Site A and the Application Site.

Table 1 Comparison between the Baseline Scheme and Proposed Scheme (including both Site A and the Application Site)

Development Parameters	Baseline Scheme [X]	Proposed Scheme [Y]	Difference [Y] – [X]
Net Site Area	About 4.1 ha	About 3.66 ha* (Site A: 1.95 ha Application Site: 1.71 ha)	-0.44 ha (-10.7%)
Overall Maximum PR	6.0	6.0	No change
Overall GFA (m ²)	About 246,000 m ²	About 219,600 m ² * (Site A: 117,000m ² Application Site: 102,600m ²)	-26,400m ² (-10.7%)
Building Height (Measured at Main Roof Level)	Not exceeding +135 mPD	Not exceeding (Site A: +135mPD Application Site: +145mPD)	Site A – No change Application Site: +10m (+7.4%)
Flat Production	About 4,000	About 4,400 (Site A: 2,530 Application Site: 1,870)	+400 (+10%)
Design Population	About 12,300	About 12,320^ (Site A: 7,080 Application Site: 5,240)	+20 (+0.2%)

* Reduction of net site area and GFA is due to realignment of the new public road.

^ The estimated design population is based on the latest assumed household size of 2.8 for both Site A and the Application Site. If Site A is planned as PRH, the design population will be reduced to about 6,750 based on the actual flat mix.

- 3.2 The eastern portion of the proposed development comprises three residential blocks (about 38 domestic storeys) on 3-storey podium while the western portion comprises one residential block (about 38 domestic storeys) on 2-storey podium. The podium floors will accommodate social welfare facilities, management offices, carpark, recreation and other associated ancillary facilities. The ISWB would be a 7-storey building accommodating a wide range of welfare facilities including those for the elderly, child care services and rehabilitation services for the disabled, which is equivalent to more than 5% of total domestic GFA of the Application Site. Not less than 5,240 m² ancillary local open space in accordance with the HKPSG requirement of 1 m² per person will be provided in the Application Site. Podium gardens, ball courts and children's play area will also be provided in the public housing development for the enjoyment of the residents.
- 3.3 Based on the current indicative public housing scheme, the building height of the Application Site will reach a maximum of about 141 mPD as shown on **Plans 4 to 7**. Nevertheless, as the Application Site is located within the Scheduled Area No. 2 which is recognized as an area of complex geology with possible presence of marble and cavities, the unexpected geological uncertainties may induce design constraints/limits in the public housing scheme at later stage. Since the Application Site is more irregular in shape, the housing blocks, building configuration and disposition need to be site-specific designed to meet various design guidelines and requirements. To maximize the site potential, a small buffer of building height has been incorporated on top of the current indicative scheme. As such, planning permission from the TPB for minor relaxation of BHR from 135 mPD to 145 mPD for the Application Site is sought to allow flexibility in detailed design stage.
- 3.4 The key development parameters of the Application Site are summarized at **Table 2** below. A set of schematic drawings on the site layout and design of the public housing scheme are provided at **Plans 4 to 7**.

Table 2 Key Development Parameters for the Application Site

Development Parameters	Application Site[@]
Gross Site Area** (about)	About 2.02 ha
Net Site Area** (about)	About 1.71 ha
Maximum Plot Ratio (Overall)	6.0
Maximum Gross Floor Area	102,600m ²
Maximum Building Height (main roof)	+145mPD
Total No. of Flats (about)	1,870
Design Population (about)	5,240
No. of Blocks	4 Residential Blocks 1 Welfare Block
No. of storeys	Block A: 40 Block B: 41 Block C: 41 Block D: 41 Welfare Block: 7 Including 38 domestic storeys of each block
Green Coverage (% of Gross Site Area)	At least 20%
Recreation Facilities	
Local Open Space	Not less than 5,240 m ²
Children Play Area	Not less than 419 m ²
Basketball Court	1
Badminton Court	1
Table Tennis Table	1
Social Welfare/Community Facilities[#]	
60-p Special Child Care Centre (SCCC)	One (NOFA of 409m ²)
100-p Residential Care Centre Home for the Elderly (RCHE)	One (NOFA of 1,354 m ²)
50-p Day Activity Centre (DAC)	One (NOFA of 319 m ²)
50-p Hostel for the Moderately Mentally Handicapped Persons (HMMH)	One (NOFA of 617 m ²)
50-p Hostel for the Severely Mentally Handicapped Persons (HSMH)	One (NOFA of 691 m ²)
50-p Integrated Vocational Rehabilitation Services Centre (IVRSC)	One (NOFA of 325 m ²)
100-p Child Care Centre	One (NOFA of 530 m ²)
Estate Management & Ancillary Facilities	About 1710 m ² (GFA)
Parking Facilities^{^#}	

Development Parameters	Application Site [@]
Car Parking Spaces (Domestic)	156
Car Parking Spaces (Visitors)	20
Light Goods Vehicle Parking Space [%]	8
Motorcycle Parking Spaces (Domestic)	17
Bicycle Parking Spaces	125
Loading/Unloading (L/UL) Bay (Domestic) ^{\$}	8
Parking (Welfare facilities)	<ul style="list-style-type: none"> • 1 48-seater bus parking space for “SCCC” • 1 parking space for a 5.5 ton goods vehicle for “IVRSC” • 2 private light bus parking space with tail-lift for “RCHE” and “HSMH”
L/UL (Welfare facilities)	<ul style="list-style-type: none"> • 1 for shared use between “SCCC” and residential blocks • 1 for shared use among “IVRSC”, “RCHE”, “HSMH” and “CCC”.

[@] The scheme is for illustration purpose and subject to detailed design.

^{**} Subject to detailed survey.

[^] As per HKPSG requirement and TD’s agreement.

[%] Shared Use Parking Space with Light Bus in accordance with HKPSG.

^{\$} Shared Use for overnight parking of medium/high good vehicles and coaches/buses with due consideration of site constraints and local situation in accordance with HKPSG.

[#] Ancillary parking facilities and government, institution and community facilities are assumed to be exempted from PR calculation in accordance with the Remarks of the Notes of the OZP for the “R(A)” zone.

Implementation Programme

3.5 Piling works for the Application Site is tentatively to be commenced in 2023/24 for building completion in 2027/28.

4. JUSTIFICATIONS AND PLANNING MERITS

Meet the Acute Demand for Public Housing

4.1 Under the Long Term Housing Strategy Annual Progress Report 2022, the split ratio of public / private housing of 70:30 for the ten year from 2023/24 to 2032/33 is maintained. The supply target for public housing is 301,000. As

at end September 2022, there were about 135,500 general applications for PRH, and about 99,100 non-elderly one-person applications under the Quota and Points System. The proposal with minor relaxation of BHR would allow public housing production of 1,870 flats at the Application Site. As compared with the previous (baseline) scheme for rezoning (i.e. 4,000 flats), additional 400 public housing flats will be provided in the whole site of Wang Chau Phase 1. It is in line with the Government policy to better utilize land resources in order to meet the imminent housing need.

Optimize Development Potential and Timely Provision of Public Housing

- 4.2 The disposition and layout of the housing blocks have been specifically designed in response to site constraints and opportunities to optimize development potential of the Application Site while addressing various environmental and technical aspects in minimizing their impacts.
- 4.3 Apart from maximization of the site potential in view of the irregular site configuration mentioned in Para. 3.3 above, the minor relaxation of building height will also help address the railway noise problem arising from the Tuen Ma Line in the southwest. The high-level flats of Blocks B, C & D facing the Tuen Ma Line are subject to more severe railway noise than the respective lower-level flats. The three housing blocks in the eastern portion (i.e. Block B, C & D) are truncated at low to medium floors which limited the south west-facing flat numbers. Flat numbers could only be compensated by increasing the other side north-facing flat numbers. The same has applied to Block A in the western portion. Flats of which are single-aspect and north-facing to comply with the railway noise requirement.
- 4.4 In addition, the building separation between housing blocks proposed in the Air Ventilation Assessment (AVA) as summarized in paragraph 4.10 are adopted to facilitate the wind penetration across the Sites and enhance the wind environment.
- 4.5 In order to deliver the public housing development in timely manner taking

into account the planned infrastructure capacity available and site constraints, the proposed development will follow the permitted PR 6.0 under the OZP and only propose a moderate increase of BHR from 135 mPD to 145 mPD (i.e. 7.41%) for the Application Site in response to the new site configuration and to maximize the flat production.

Compatible with Surrounding Development Context

- 4.6 The proposed public housing development is next to Long Ping Estate with a maximum BH of 102 mPD. A number of high-density residential development will be in place in the vicinity including the planned public housing developments at Wang Chau Remaining Phases (WCRP) to the north, near Tin Tsz Road (TTR) to the northwest and at Long Bin (LB) to the south. Therefore, the proposed BHR at the Application Site (i.e. 145mPD) will be compatible with its surroundings in terms of building heights, massing and land use.

No Insurmountable Visual, Landscape, Air Ventilation and Technical Implications

No Insurmountable Impact on Visual Aspect

- 4.7 The proposed development will stand in harmony with the existing and planned visual townscape. A Visual Appraisal (**Appendix 1**) for the minor relaxation of maximum BHR from 135 mPD to 145 mPD at the Application Site has been conducted and concluded that the overall visual impacts ranged from negligible to moderate.
- 4.8 To ameliorate the visual impact, building gaps/tower setback/building setback with width of 10 to 22 metres will be introduced in the Application Site (**Appendices 1 & 2**). Height variations between blocks will be incorporated wherever practicable. Design measures like façade treatment and color will be implemented and studied to enhance the aesthetic quality of the building outlook at the later stage. Associated green measures like

vertical greening would be applied where appropriate. With implementation of the above mitigation measures, the visual impacts due to the slight increase in BHR will be acceptable.

No Adverse Impact on Landscape Aspect

- 4.9 Not less than 20% greening ratio of total Gross Site Area will be provided at the Application Site. Associated green measures (vertical green, and podium greening) where appropriate will be furnished in suitable locations to contribute the greening coverage and at the same time beautify the outdoor landscape environment. We will provide a minimum of three trees per 100 m² of the total green coverage area. Recreational facilities including local open space and communal/children play areas will be provided. Open space will be embraced by soft landscaping with seats for the residents' enjoyment. It is considered that minimal landscape impact is anticipated.

No Adverse Impact on Air Ventilation Aspect

- 4.10 An Air Ventilation Expert Evaluation (AVA-EE) in support of the current public housing scheme has been conducted (**Appendix 2**). With wind enhancement features incorporated in the Application Site including building gaps/tower setback/building setback with width of 10 to 22 metres and empty bays under domestic blocks and at podium levels, no adverse air ventilation impact is anticipated to the surrounding pedestrian wind environment under the proposal.

No Insurmountable Impact on Environmental Aspect

- 4.11 An Environmental Assessment Study (EAS) based on the current housing layout has been conducted to evaluate and address the potential railway noise, road traffic noise, fixed noise and air quality (**Appendix 3**). The EAS has concluded that the proposed development of the Application Site will have no insurmountable impact with proper building layout, design and mitigation measures to be incorporated in the Application Site, including truncated residential blocks, building orientation, acoustic fins etc. The EAS has been

submitted to EPD and EPD's agreement have been sought. No insurmountable problem is envisaged.

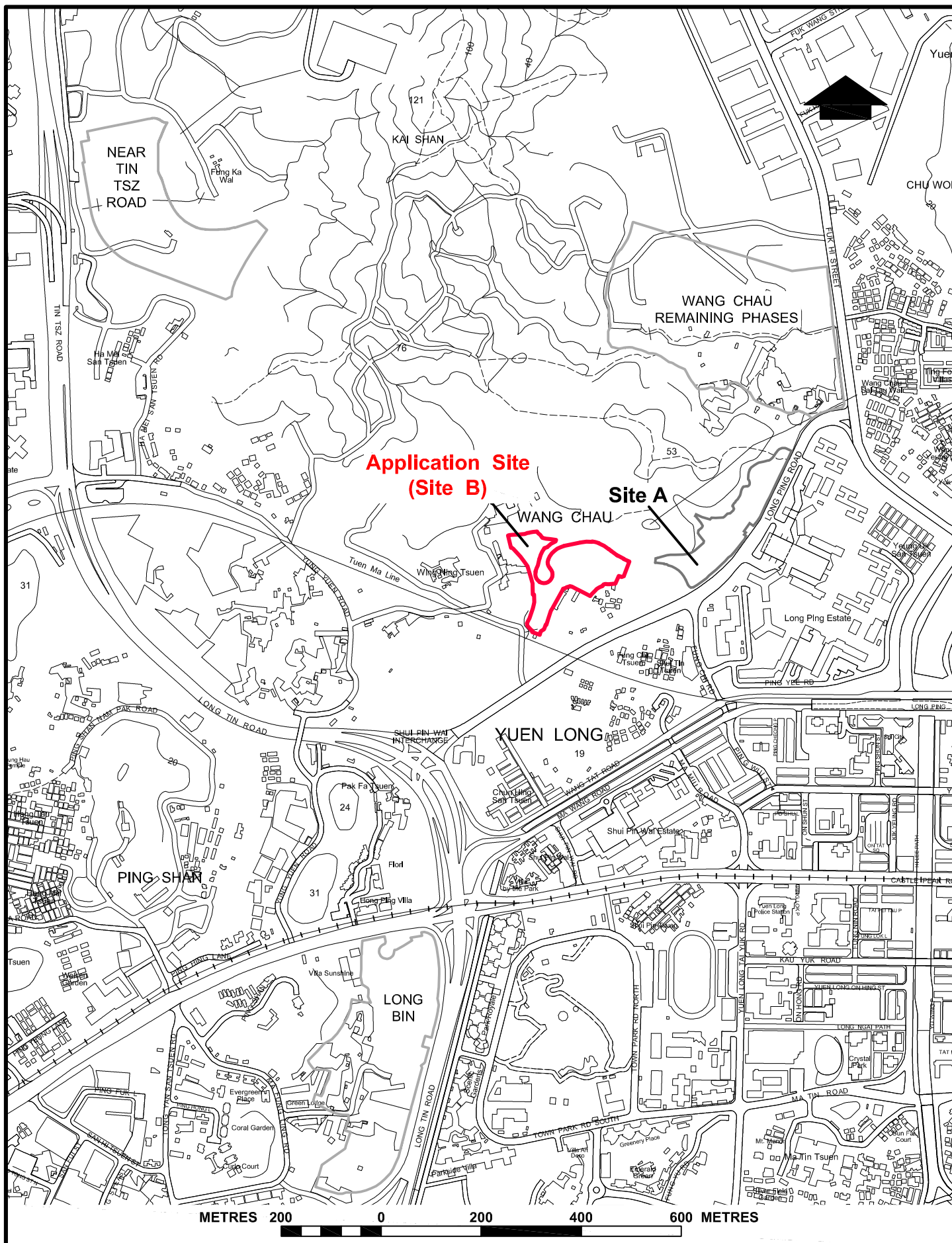
No Insurmountable Technical Implications

- 4.12 To support the proposed public housing development, CEDD has completed a series of technical assessments for the whole Wang Chau Phase 1 under the Investigation, Design and Construction (IDC) study based on a 10% design allowance (i.e. equivalent to maximum flat number of 4,400 and maximum population of 13,508), taking into account the site constraints, environmental and engineering considerations to recommend the necessary infrastructures including access road, junction improvement works, drainage, sewerage, waterworks and the public utilities provisions. HD has also conducted technical reviews based on the development parameters of the current scheme. Approval from relevant departments including Transport Department (TD), Drainage Services Department (DSD), Water Supplies Department (WSD) and Environmental Protection Department (EPD) have been obtained and no insurmountable problem is envisaged.

5. CONCLUSION

- 5.1 This application is submitted under Section 16 of the Town Planning Ordinance for the proposed minor relaxation of maximum BH from 135mPD to 145mPD for the public housing development at Site B (**the Application Site**) of Wang Chau Phase 1, Yuen Long.
- 5.2 The proposed development is in line with the Government's policy to better utilize land resources and maximize the site potential with a view to meeting the pressing demand for affordable housing. As demonstrated in the technical assessments, the proposal will have no insurmountable impacts on visual, landscape, air ventilation, environmental, traffic, sewerage and water supply aspects.

In light of the above, we sincerely seek favorable consideration from the TPB on the proposed minor relaxation of BHR of the Application Site.



SITE LOCATION PLAN OF SITE B OF WANG CHAU PHASE 1



**HOUSING DEPARTMENT
PLANNING SECTIONS**

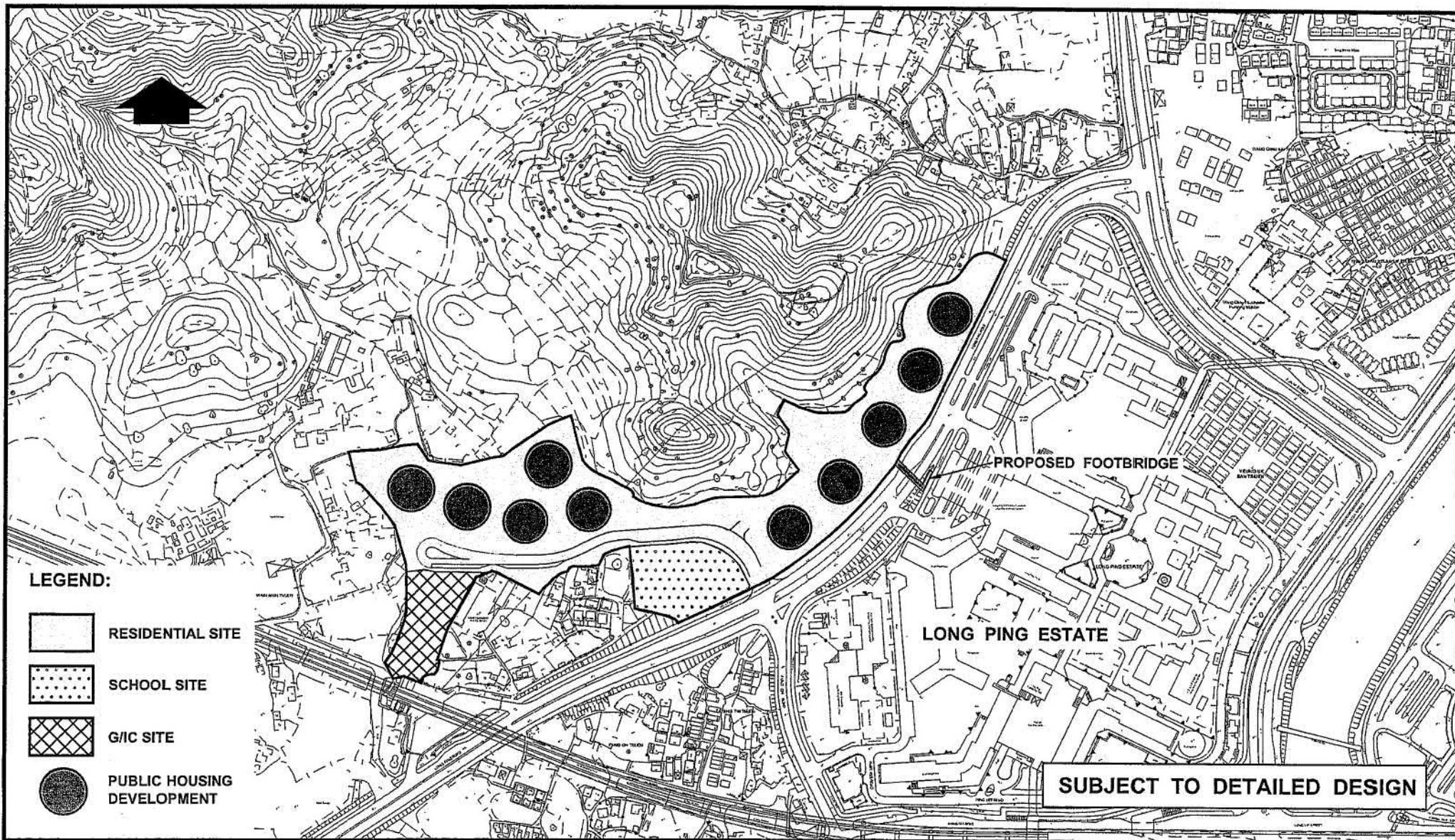
Plan 1

**DATE :
6. 1. 2023**



Plan 2

DATE :
6. 1. 2023



PUBLIC HOUSING DEVELOPMENT
AT WANG CHAU
YUEN LONG

METRES 90 0 90 180 270 METRES

LEGEND

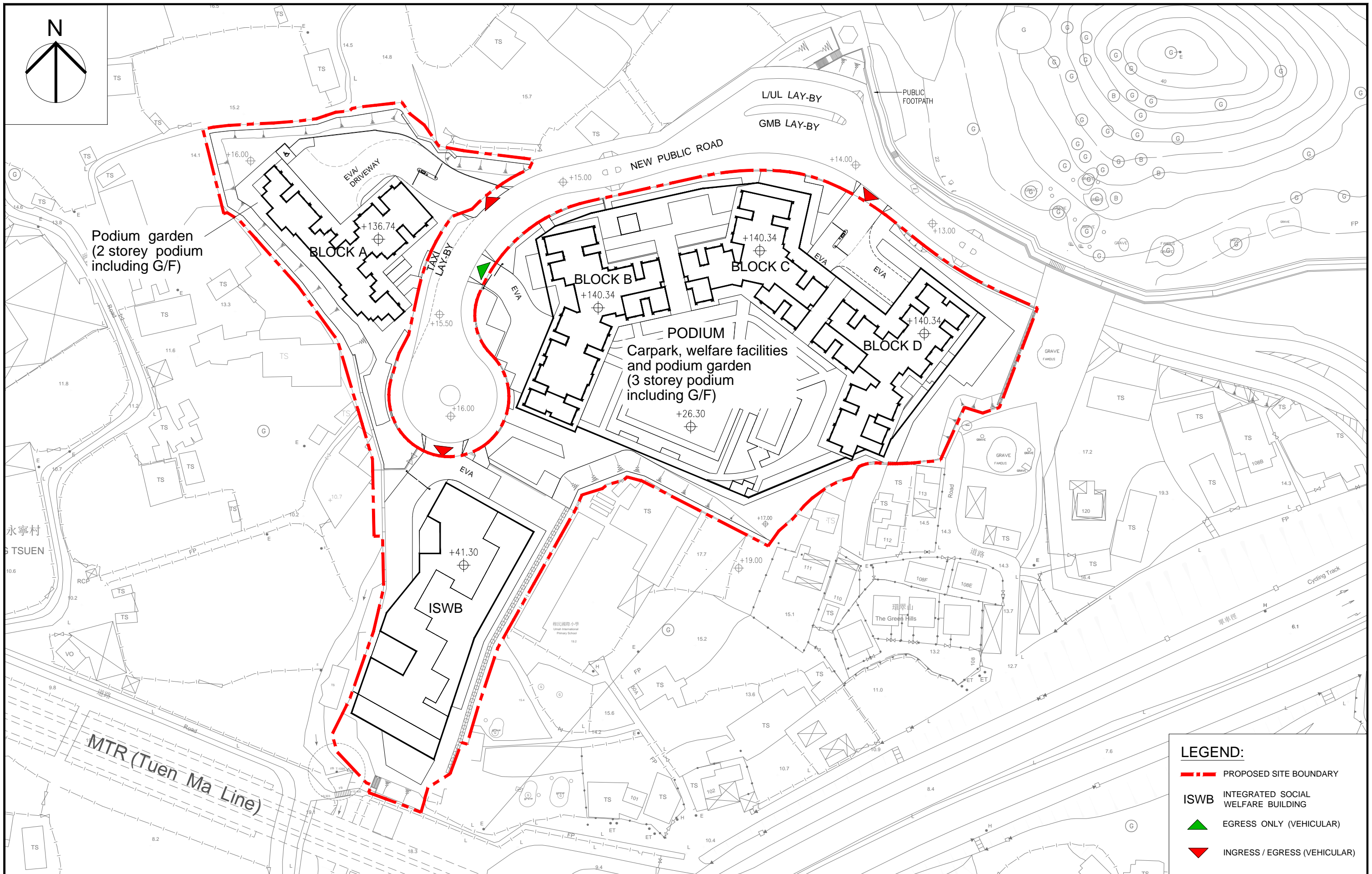
Rezoning Boundary



HOUSING
DEPARTMENT

CONCEPTUAL SITE LAYOUT

Plan 3



PROJECT TITLE
PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU PHASE 1 SITE B

DRAWING TITLE
MASTER LAYOUT PLAN
(FOR REFERENCE ONLY & SUBJECT TO DESIGN REVIEW)



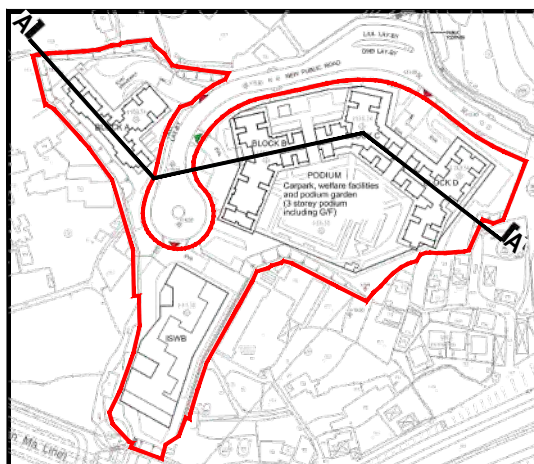
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HOUSING DEPARTMENT

DRAWING NO.
YL51NH/BC/SITE/A/PLO-03

DATE
6 JAN 2023

Plan 5

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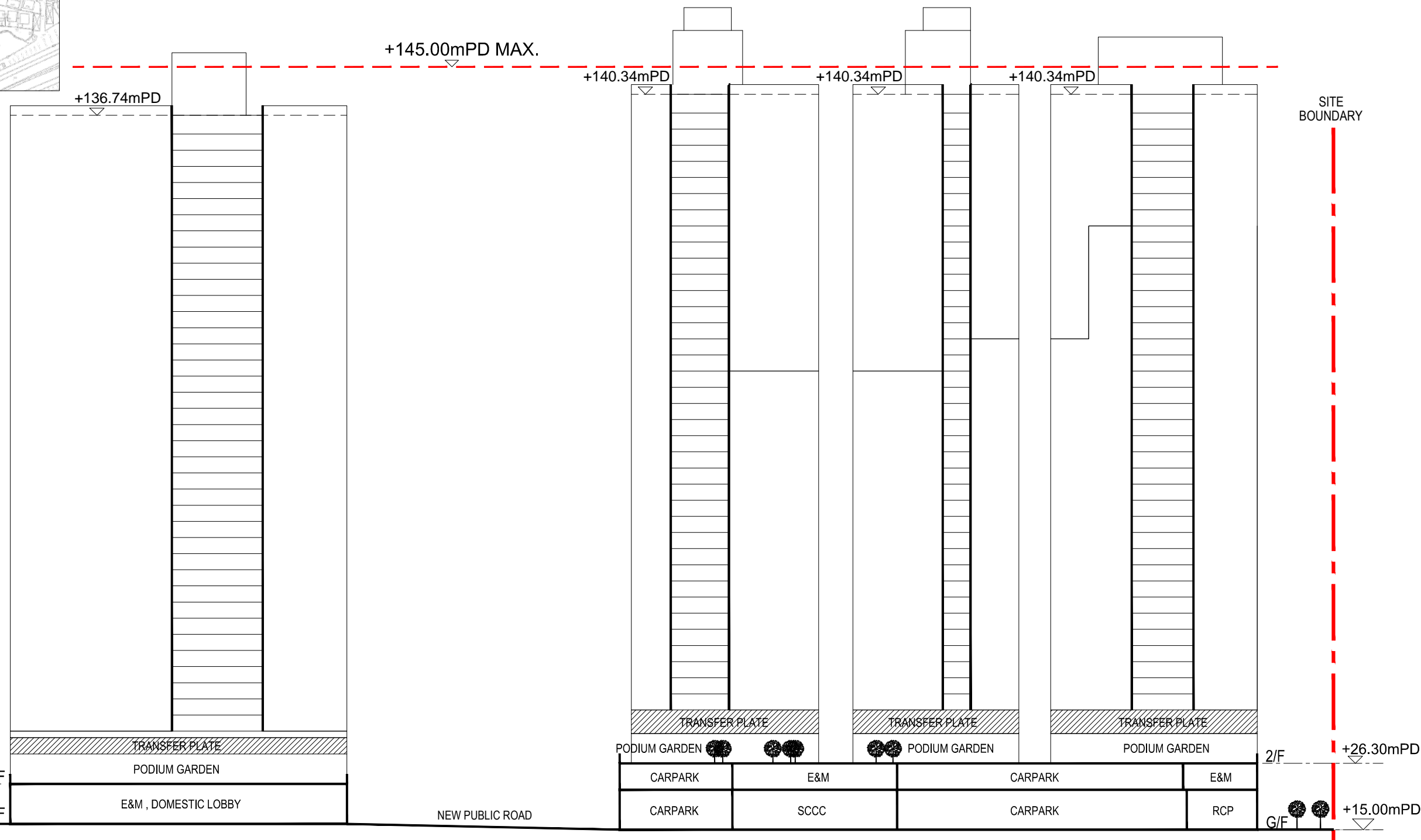


BLOCK A

BLOCK B

BLOCK C

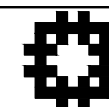
BLOCK D



PROJECT TITLE

DRAWING TITLE

(FOR REFERENCE ONLY & SUBJECT TO DESIGN REVIEW)



房屋署

DATE	6 JAN 2023
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Plan 6



PROJECT TITLE
PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU PHASE 1 SITE B

DRAWING TITLE
MASTER LANDSCAPE LAYOUT PLAN
(FOR REFERENCE ONLY & SUBJECT TO DESIGN REVIEW)

SCALE 1:1000 (A3)



房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/BC/SITE/L/PLO-01

DATE
6 JAN 2023

Plan 7

VISUAL APPRAISAL FOR PUBLIC HOUSING DEVELOPMENT
AT WANG CHAU PHASE 1, YUEN LONG

S16 PLANNING APPLICATION
APPROVED PING SHAN OZP NO. S/YL-PS/20

Proposed Minor Relaxation of Building Height Restriction from 135mPD to 145mPD for Site B of Wang Chau Phase 1, Yuen Long

VISUAL APPRAISAL

January 2023

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1. Introduction

1.1 This Visual Appraisal (VA) is prepared by the Hong Kong Housing Authority (HA) as the project proponent in support of a Section 16 Planning Application for minor relaxation of maximum building height restriction (BHR) for the public housing development at Site B (**the Application Site**) of Wang Chau Phase 1, Yuen Long (**Plan 1 in the Supporting Planning Statement**). The site context and development proposal are presented in Sections 2 and 3 of the Supporting Planning Statement.

1.2 For better illustration, the public housing developments at Wang Chau Remaining Phases (WCRP), Tin Tsz Road (TTR) and Long Bin Phase 1 and 2 are incorporated into the photomontages where appropriate, based on the indicative schemes adopted for rezoning/S16 application approved by the TPB.

2. Visual Context

2.1 The Application Site (**Figure 1**) is bounded by Wing Ning Village to the west, Fung Chi Tsuen to the south, Tung Ma Line Viaduct to the southwest.

2.2 Key visual elements surrounding the Application Site (**Figure 1**) are summarized as follows:

- To the northwest of the Application Site is Kai Shan, a popular hiking spot in Wang Chau;
- To the northeast of the Application Site is Chu Wong Ling, another hiking spot in Yuen Long;
- To the east and further east of the Application Site are Long Ping Estate and the Tung Tau Industrial Area respectively;
- To the southeast and further southeast of the Application Site are low rise village dwellings and Yuen Long New Town respectively; and
- To the south and southwest of the Application Site are low rise village dwellings.

3. Assessment Area

- 3.1 Since the maximum building height of the Proposed Scheme for Site B is about 130m (proposed BHR of 145mPD with mean ground level of about 15mPD), a radius of 390m from the Proposed Scheme is defined as the Assessment Area¹

4. Viewing Points

- 4.1 In selecting the viewing points (VP), a VP at nearby Chun Hing San Tsuen southwest of the Application Site within the Assessment Area is selected to represent the views of the villagers/residents towards the proposed scheme. Besides, four VPs outside the Assessment Area are included. Two VPs are from two main streets to/from the nearby industrial areas to represent the views of commuters and pedestrians. The remaining two VPs (i.e. Kai Shan, Chu Wong Ling) are selected to represent the views of the occasional hikers/visitors. A total of five viewing points (**Figure 1** refers) are selected and listed in **Table 1** below:

Table 1 – Location of Viewing Points

VP1 (east of the site)	Fu Yip Street next to Yuen Long Trading Centre (~ 840m away at ~ 5mPD)
VP2 (southwest of the site)	Chun Hing San Tsuen (~ 210m away at ~ 5mPD)
VP3 (northeast of the site)	Fuk Hi Street Intersection (~ 540m away at ~ 5mPD)
VP4 (northwest of the site)	Kai Shan Facing Southwest (~ 870m away at ~ 120mPD)
VP5 (northeast of the site)	Chu Wong Ling (~ 970m away at ~ 50mPD)

¹ As prescribed in the TPB PG-No. 41, when the viewer is at a distance equal to three times of the height of a building, the viewer will tend to see the building as part of a group rather a single building. Therefore, the 3H zone could be used as a reference in determining the assessment area.

5. Visual Appraisal

VP1 - Fu Yip Street next to Yuen Long Trading Centre (Figure 3 refers)

5.1 Visual Composition

This VP is located at Fu Yip Street which is about 840m east of the Application Site. As shown in **Figure 3**, nearly all of the public housing blocks at the Site are blocked by Long Ping Estate Blocks and trees along the Wang Lok Street in the visual foreground. Therefore, the proposed minor relaxation of the said BHR will not affect the visual composition from VP1.

5.2 Visual Obstruction

Since nearly all of the proposed public housing blocks at the Site cannot be seen, no visual obstruction will be caused by these residential blocks.

5.3 Effect on Public Viewers and Visual Resources

As Fu Yip Street is one of the main local roads easily accessible, the public viewers at this VP are mainly the working population in the Tung Tau Industrial Area in the east. The commuters are expected to have short duration of sight towards the Proposed Scheme. Therefore, the visual impact is considered occasional. However, in view of the popularity of Fu Yip Street, the visual sensitivity of the public viewers at this VP1 is rated as “medium”. Notwithstanding the above, nearly all of the said public housing blocks is invisible from this VP, the overall impact to the public viewers by a slight increase in the maximum BHR at the Site from 135mPD to 145mPD can be regarded as negligible and no effect on visual resources is anticipated.

VP2 – Chun Hing San Tsuen (Figure 4 refers)

5.4 Visual Composition

This VP is located at Chun Hing San Tsuen, which is a low-rise private housing development about 210m southwest from the Site. From **Figure 4**, the visual foreground is dominated by mature trees/vegetation. The proposed public housing blocks at the Site are nearly screened off by trees/vegetation which have outgrown over the nearby fence and above the nullah. Hence, the proposed relaxation of the BHR for the Site will not affect the visual context from this VP.

5.5 Visual Obstruction

As nearly all of the proposed public housing blocks at the Site will be screened off by mature trees in the visual foreground, the visual change due to the minor relaxation of the BHR from 135mPD to 145mPD is negligible and will have insignificant impact to the visual openness.

5.6 Effect on Public Viewers

The public viewers at this VP are mainly the local villagers/residents of Chun Hing San Tsuen. These people mainly pass by with only short duration of sight towards the Proposed Scheme. Therefore, the visual impact is considered occasional and the visual sensitivity of the public viewers at this VP1 is medium. Since the building blocks at the Site will be shaded and other visual characters in this visual context are mostly unaffected, the overall visual impacts caused by the proposed relaxation of BHR from 135 mPD to 145 mPD can be regarded as negligible upon the public viewers.

5.7 Effect on Visual Resources

From this VP2, as no visual resources like ridgelines or scenic areas are affected by the proposed public housing development at the Site, there will not be any impact on the visual resources arising from the minor relaxation of BHR for Site B from 135mPD to 145mPD.

VP3 – Fuk Hi Street Intersection (Figure 5 refers)

5.8 Visual Composition

This VP is at the intersection of Fuk Hi Street and Long Ping Road which is about 540m northeast of the Application Site. **Figure 5** shows that the visual foreground is dominated by an existing Long Ping Estate block, mature trees at street level and proposed public housing blocks at Site A. Only minor parts of upper storeys of the proposed housing blocks at the Site can be seen at the visual background. Hence, the proposed relaxation of the BHR for the development will not significantly affect the visual composition in this VP.

5.9 Visual Obstruction

As only minor portion of the public housing blocks at the Site can be seen at the background and most of the sky view is unaffected, the proposed development will have very slight impact to the visual openness.

5.10 Effect on Public Viewers

Fuk Hi Street is a main local road leading to/from the Yuen Long Industrial Estate (YLIE) in the northeast. The intersection of Fuk Hi Street and Long Ping Road is located at a common pedestrian travel route. The public viewers at this VP are mainly the working people serving the YLIE and local residents of nearby low rise dwellings such as Fuk Hing Tsuen, Ting Fook Villas, etc. However, the commuters and the residents are primarily passersby with only short duration of sight towards the Proposed Scheme. Therefore, the visual impact is considered occasional. As Fuk Hi Street is a main road, the visual sensitivity of the public viewers at this VP is regarded as medium. In view of only minor portion of the public housing blocks seen at the background, the visual effect caused by the minor increase of BHR from 135 to 145mPD is insignificant. As commuters/pedestrians are kinetic in nature, the overall visual impact to the public viewers at this VP is slight having regard to the existing visual context.

5.11 Effect on Visual Resources

Figure 5 shows that the proposed public housing blocks at the Site will be in harmony with the surrounding Long Ping Estate and the proposed public housing blocks at Site A. The proposed relaxation of the maximum BHR for the Site would not adversely impact the condition, quality, and character of the urban landscape view. The sky view will not be significantly affected.

VP4 – Kai Shan Facing Southwest (Figure 6 refers)

5.12 Visual Composition

This VP is located at the high point of Kai Shan, which is a popular hiking destination at about 870m northwest from the Site. As observed in **Figure 6**, the proposed public housing blocks at the Site will appear as a new cluster of tall building mass at the front edge of the Yuen Long Town Centre and their building

heights would echo with the existing high-rise development Yoho Town at the background and the planned housing development at WCRP at the visual context. Compared to the existing view towards the Yuen Long New Town, the proposed development with building heights of less variations would inevitably reduce the visual interest from this view. However, as more medium to high-rise residential clusters will be built in the adjoining areas in the future, the proposed development would be compatible with the planned landscape setting in the proximity.

5.13 Visual Obstruction

From **Figure 6**, the proposed building heights at the Site would level with part of the ridgeline in the far while the general ridgeline profile would not be affected. The proposed relaxation of BHR for Site B up to 145mPD may lead to visual obstruction towards the ridgeline from this VP. However, no significant obstruction to the sky view and other scenic areas like the ridgeline of Ho Hok Shan at the background will be made. The proposed minor relaxation of BHR for the Site will not result in unacceptable impact on visual openness.

5.14 Effect on Public Viewers

Kai Shan is a popular hiking spot in Wang Chau. This VP represents the views of occasional hikers/visitors looking towards the proposed public housing development. However, the number of the public viewers at this VP is normally low though it may rise during the public holidays. The viewers would only stop for a short period of time to have sight towards the proposed scheme. Therefore the visual impact is considered occasional and the visual sensitivity of the public viewers at this VP is considered low. Compared with the BHR of 135mPD, the public viewers may feel that the proposed building height relaxation of the Site up to 145mPD may affect the visibility of the ridgeline far in the distance. However, as presented in Section 2 of the Supporting Planning Statement and **Para. 5.12** above, the overall visual impact caused by the proposed relaxation of BHR from 135mPD to 145mPD for the Site would be compatible with the surrounding planned developments such as those at WCRP and considered substantial but acceptable in the overall visual context.

5.15 Effect on Visual Resources

As observed from **Figure 6**, visual resources such as the sky view and the general ridgeline profile at the background will not be seriously affected. The proposed minor relaxation of the maximum BHR from 135 mPD to 145 mPD will only cause moderate impact upon the visual resources of the area.

VP5 - Chu Wong Ling (Figure 7 refers)

5.16 Visual Composition

This VP is at the high point of Chu Wong Ling, which is also a popular hiking destination at about 970m northeast from the Site. As observed from **Figure 7**, all the proposed public housing blocks at the Site will be shaded by future housing blocks at WCRP and trees/vegetation at the visual foreground. Most of the sky view is unaffected. Hence, the minor relaxation of BHR will not create a significant difference to the visual context.

5.17 Visual Obstruction

As illustrated in **Figure 7**, the proposed public housing blocks at the Site cannot be seen. The visual impact from minor relaxation of the maximum BHR from 135mPD to 145mPD is negligible and would not result in significant impact towards the visual openness having regard to the existing visual context.

5.18 Effect on Public Viewers

Chu Wong Ling is another popular hiking spot in Yuen Long. This VP represents the views of occasional hikers/visitors looking towards the proposed public housing development. Same to Kai Shan, the number of the public viewers is normally low though it may increase during the public holidays. The viewers would only stop for short duration of sights. Therefore the visual impact from this VP is considered occasional and the visual sensitivity of the public viewers at this VP is considered low. Considering that the building blocks of the Site are shielded by the future housing blocks at WCRP and cannot be seen, the overall visual impacts caused by the proposed relaxation of BHR from 135mPD to 145mPD for the Site upon public viewers are negligible.

5.19 Effect on Visual Resources

As the proposed public blocks at the Site cannot be seen, the visual impact due to BHR relaxation for the Site on the visual resources would be regarded as negligible.

6. Mitigation Measures

6.1 The above appraisal demonstrated that the visual impact of the proposed minor relaxation of the maximum BHR from 135 mPD to 145 mPD for the Site ranges from negligible to moderate. Nonetheless, efforts would be made to mitigate the visual impact to a more acceptable level.

6.2 To ameliorate the visual impacts, HD endeavors to consider and implement mitigation measure wherever it is practicable. However, apart from maximization of the site potential, the recent government initiatives including the revised parking standards for public housing development, incorporation of welfare facilities in the public housing developments have inevitably induced the increase of the building bulk and building mass. Despite the irregular shape of the Site, various design guidelines such as Sustainable Building Guidelines in PNAP No. APP-152 will be followed to ease the aesthetic and efficiency concerns of the housing development. Notwithstanding the above, two building gaps with width of no less than 15m between building blocks are introduced. Tower setback of about 10m from eastern site boundary and building setback of about 17m from the western site boundary have been incorporated into the Application Site so as to avoid the wall effect and ameliorate the visual impact of building mass (**Figure 2**).

6.3 Distinctive building height variations between blocks would be incorporated in the overall housing design of Wang Chau Phase 1 as far as practicable to reduce the perceived visual bulk, though the scope is limited for the reasons mentioned in Para. 4.3 of the Planning Statement. The maximum building heights of the Site are about 137mPD (Block A) to 141mPD (Blocks B, C & D). The overall height difference of building blocks is about 4 mPD. Flats under Block B, C and D facing the south are truncated with height variations from 94mPD to 118mPD to enhance

the visual interest as well as to address the noise from Tuen Ma Line. Some design measures like façade treatment and color will be implemented and studied to enhance the aesthetic quality of the building outlook at the later stage. Associated green measures like vertical greening would be applied where appropriate. Public viewers can still enjoy the scenic view towards the general ridgeline profile from afar.

7. Conclusion

7.1 This VA is prepared in support of a Section 16 Planning Application for minor relaxation of maximum BHR from 135mPD to 145 mPD for the Site B of Wang Chau Phase 1. The visual impacts of the five selected VPs are summarized in **Table 2**.

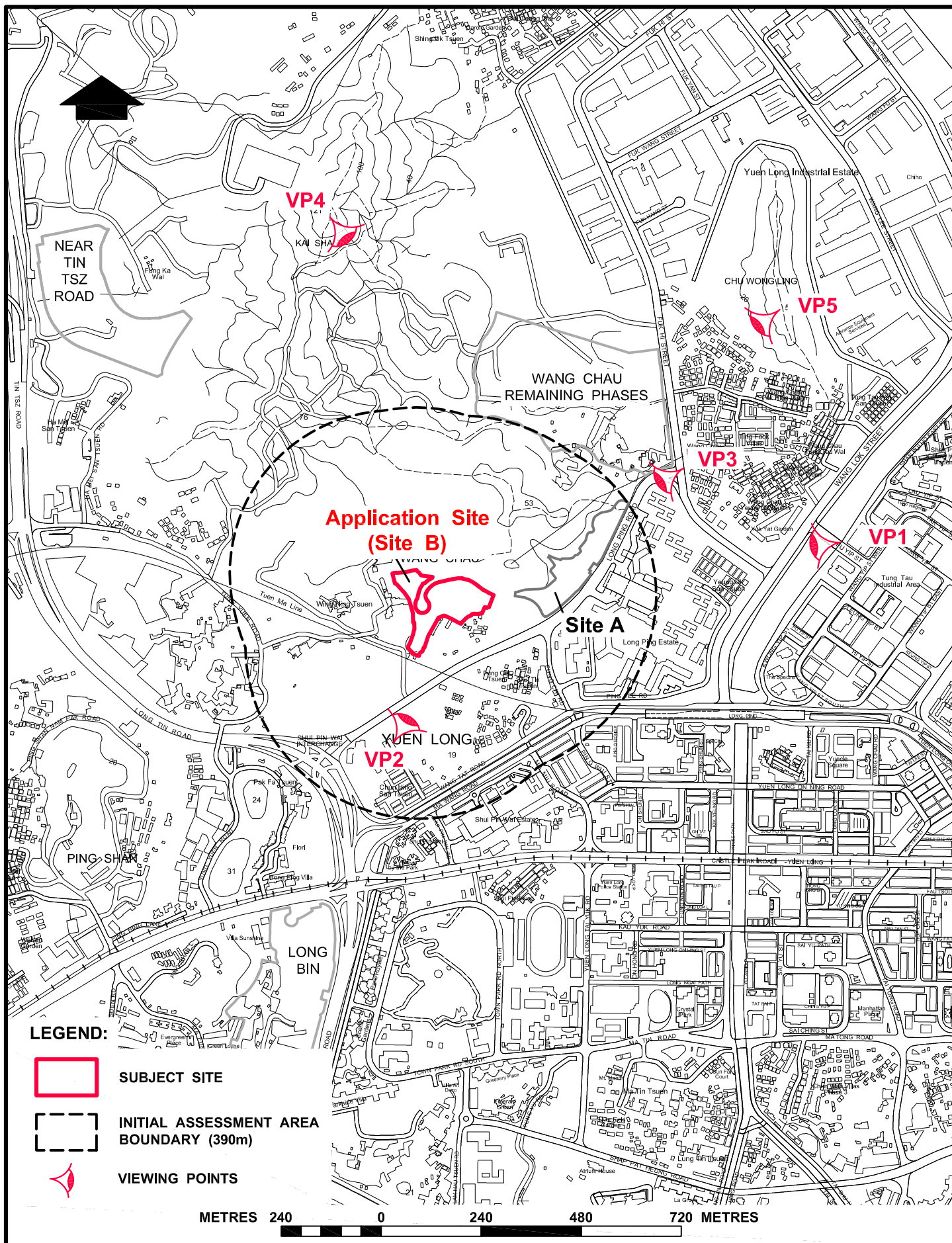
7.2 Amongst the visual impacts presented in the 5 VPs, the visual impacts from VP1 (Fu Yip Street next to Yuen Long Trading Centre), VP2 (Chun Hing San Tsuen) and VP5 (Chu Wong Ling) are negligible as the proposed public housing blocks in Site B are completely blocked by existing/planned developments. The visual impacts from VP3 (Fuk Hi Street Intersection) are slight as the proposed residential blocks are largely blocked by existing developments or trees. Therefore, the proposed development will not adversely affect the visual compatibility with the built/planned landscape. Also, no/less visual obstruction to the nearby visual resources has been made. Impacts upon the public viewers are either slight or negligible.

7.3 For VP4 (Kai Shan), although the proposed building blocks would more or less level with part of the ridgeline in the far, the public viewers can still view the general ridgeline profile at the visual background. With consideration of more planned medium to high-rise residential developments in Wang Chau and its adjoining areas in the coming decade and implementation of mitigation measures, the proposed development will stand in harmony with the surrounding planned developments. The visual impacts due to the slight increase in maximum building height restriction from 135mPD to 145 mPD will be acceptable in terms of planned building landscape.

7.4 In view of the above, it is concluded that the overall visual changes of the minor relaxation of maximum BHR from 135 mPD to 145 mPD at the Site B of Wang Chau Phase 1 are considered “negligible to moderate” depending on the viewpoint location but it will be acceptable in the existing and planned visual townscape.

Table 2 Summary of Overall Visual Impacts

Viewpoints (VPs)	Distance/ Direction	Height in mPD (Approx.)	Public Viewers (PVs)	Visual Change after Proposed Scheme	Visual Sensitivity of PVs	Overall Visual Impact
VP1: Fu Yip Street next to Yuen Long Trading Centre	Approx. 840m / East	+5.0	Commuters	Negligible	Medium	Negligible
VP2: Chun Hing San Tsuen	Approx. 210m / Southwest	+5.0	Local Villagers/ Residents	Negligible	Medium	Negligible
VP3: Fuk Hi Street Intersection	Approx. 540m /Northeast	+5.0	Commuters/ Local Residents	Slight	Medium	Slightly Adverse
VP4: Kai Shan Facing Southeast	Approx. 870m / Northwest	+120.0	Hikers/ Visitors	Moderate	Low	Moderately Adverse
VP5: Chu Wong Ling	Approx. 970m / Northeast	+50.0	Hikers/ Visitors	Negligible	Low	Negligible



VIEWING POINTS



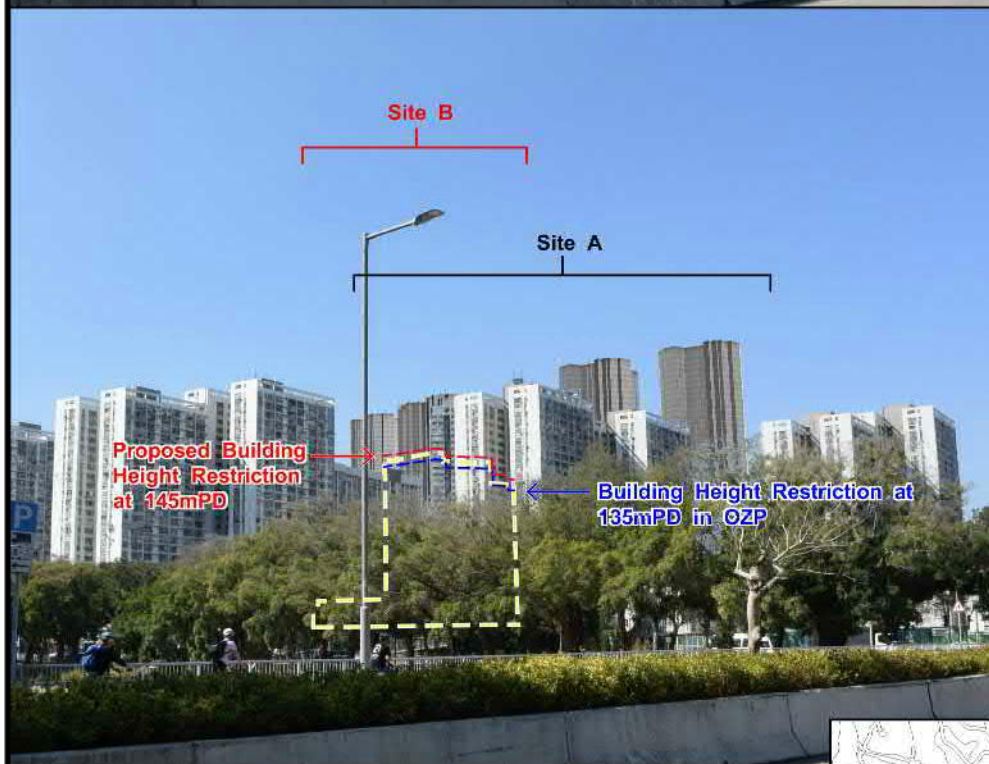
**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 1

DATE:
6. 1. 2023



**Existing
View**

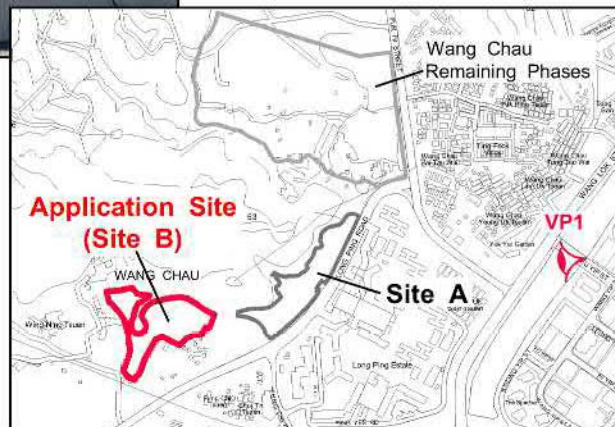


**Proposed
Development**

LEGEND:



Public Housing Blocks at Site B (About 137 - 141mPD)



**PHOTOMONTAGE OF VIEWPOINT 1
(VIEW FROM FU YIP STREET NEXT TO
YUEN LONG TRADING CENTRE)**



**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 3

**DATE :
6. 1. 2023**



Existing View

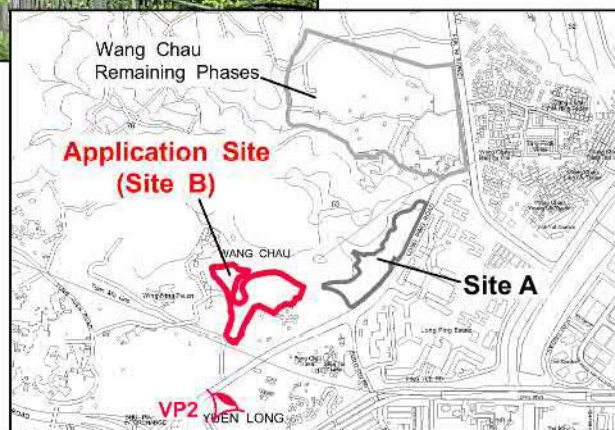


Proposed Development

LEGEND:



Public Housing Blocks at Site B (About 137 - 141mPD)



**PHOTOMONTAGE OF VIEWPOINT 2
(VIEW FROM CHUN HING SAN TSUEN)**



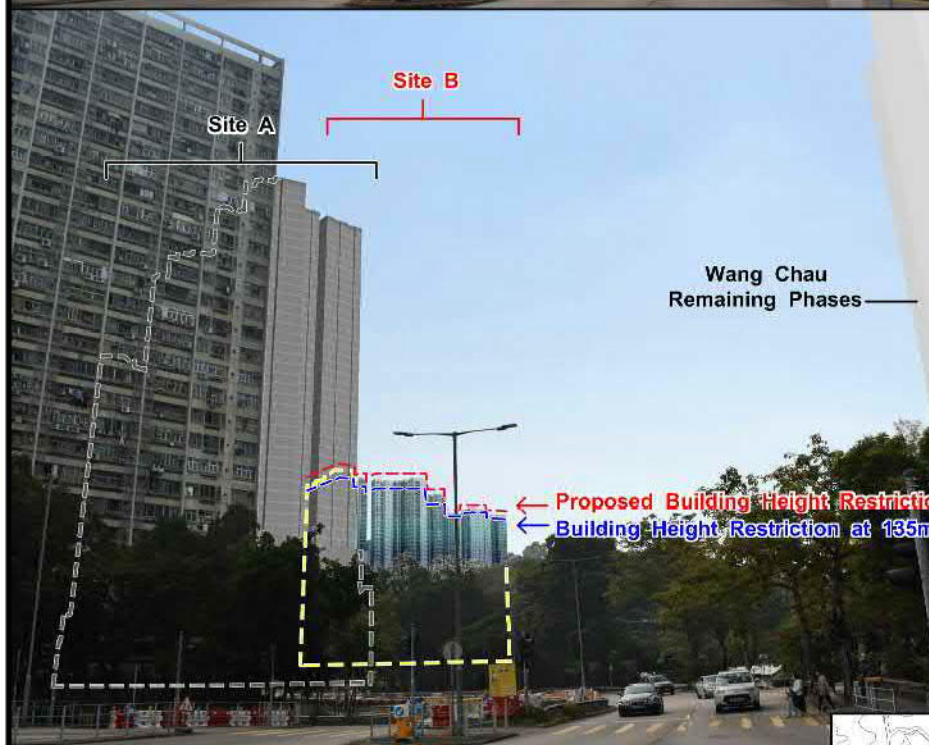
**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 4

**DATE :
6. 1. 2023**



Existing View

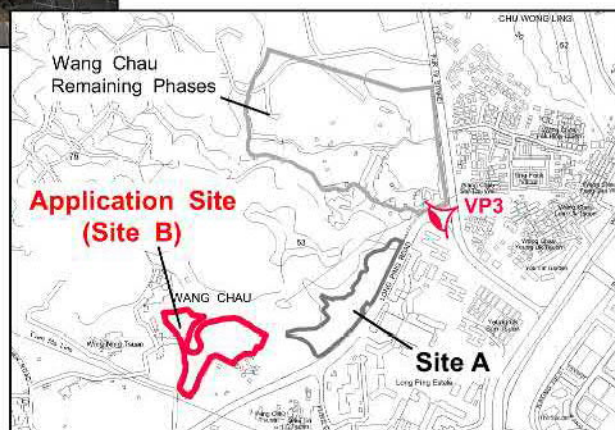


Proposed Development

LEGEND:



Public Housing Blocks at Site B (About 137 - 141mPD)



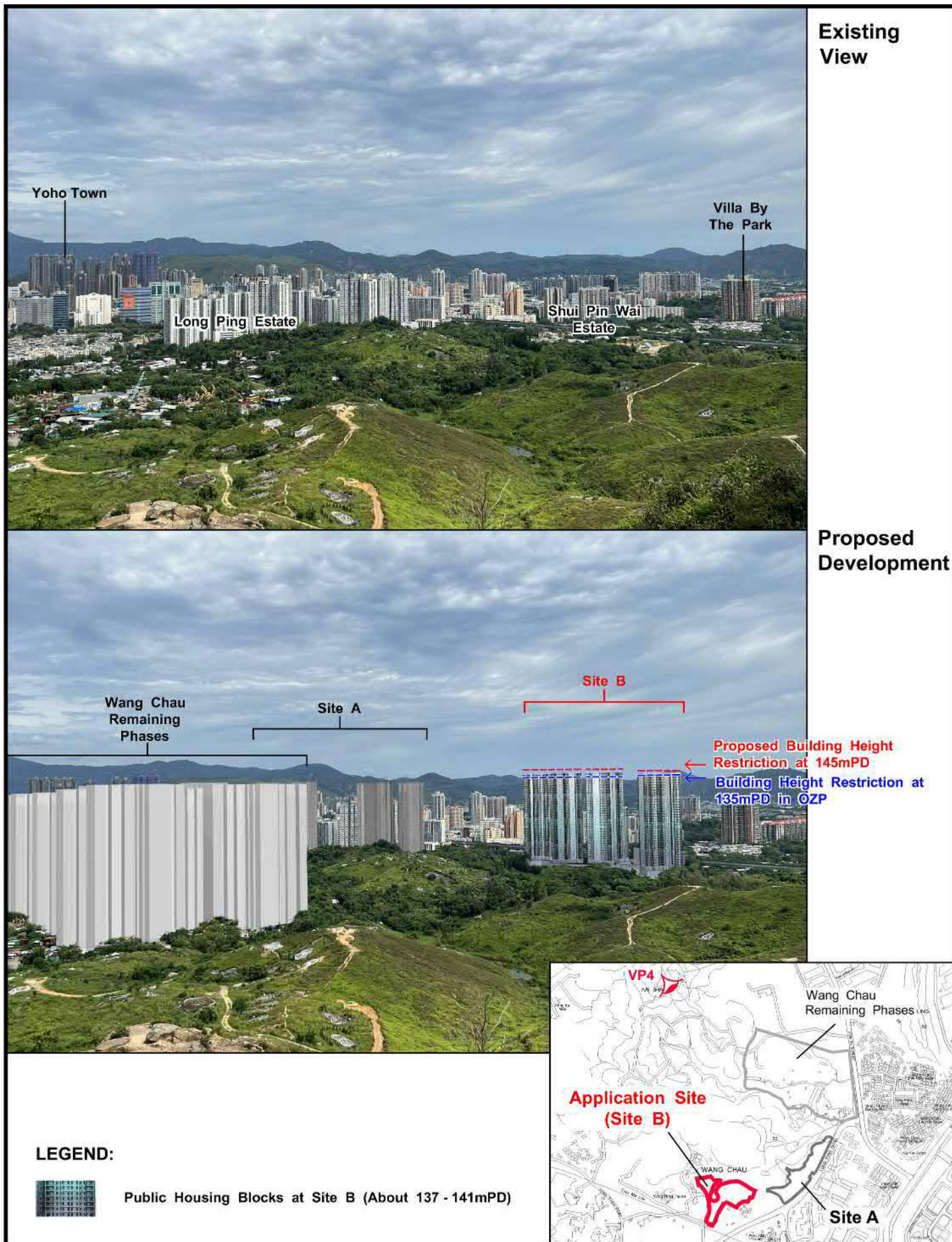
**PHOTOMONTAGE OF VIEWPOINT 3
(VIEW FROM FUK HI STREET INTERSECTION)**



**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 5

**DATE :
6. 1. 2023**



PHOTOMONTAGE OF VIEWPOINT 4 (VIEW FROM KAI SHAN FACING SOUTHEAST)



**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 6

**DATE :
6. 1. 2023**



Existing View

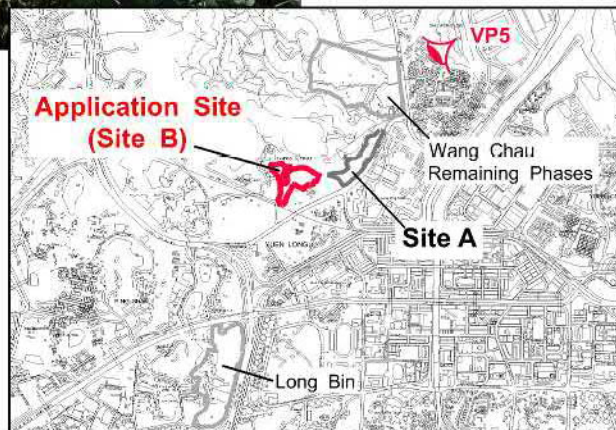


Proposed Development

LEGEND:



Public Housing Blocks at Site B (About 137 - 141mPD)



**PHOTOMONTAGE OF VIEWPOINT 5
(VIEW FROM CHU WONG LING)**



**HOUSING DEPARTMENT
PLANNING SECTIONS**

Figure 7

**DATE :
6. 1. 2023**




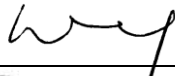

Hong Kong Housing Authority

CB20190467

**Consultancy for Environmental Design
Studies for Public Housing Development
at Wang Chau Phase 1 Site B, Yuen Long**

**Air Ventilation Assessment – Expert Evaluation
(AVA-EE)**

November 2022

	Name	Signature
Prepared:	Sam Shao	
Checked:	Tsang Hon Wai	
Reviewed & Approved:	Elaine Ma	

Version:	4	Date: 28/11/2022
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Appendix A	Layout of the Proposed Scheme
Appendix B	Wind Probability Table (obtained from Planning Department)

1 INTRODUCTION

Background

- 1.1 AECOM Asia Co. Ltd. has been commissioned by the Hong Kong Housing Authority (HKHA) to undertake an Air Ventilation Assessment (AVA) Study – Expert Evaluation (EE) for the potential Public Housing Development located at Wang Chau Phase 1 Site B, Yuen Long to examine the air ventilation impact of the proposed building design qualitatively and formulate effective and practicable measures enhancing the air ventilation in support of planning application of proposed minor relaxation of Building Height Restriction (BHR) from 135mPD to 145mPD under Section 16 of the Town Planning Ordinance. This assessment is based on maximum building height of 145mPD.

Objectives

- 1.2 The AVA Study for the proposed Public Housing Development at Wang Chau Phase 1 Site B, Yuen Long (i.e. the Project Area) has been conducted in accordance with the methodology outlined in the Technical Guide for AVA for Developments in Hong Kong (the Technical Guide) annexed in HPLB and ETWB TC No. 1/06. Site A is included only to facilitate the evaluation of air ventilation impacts and comparison with Baseline Scheme.
- 1.3 The key purposes of the Expert Evaluation are to identify the major wind breezeways, air paths and good wind performance areas, locate obvious problematic areas and propose appropriate mitigation measures if necessary. Based on the findings of the Expert Evaluation, it is required to determine whether further study is required.
- 1.4 This Expert Evaluation Report presents the following findings:
- List the Site Wind Availability information in the Preliminary AVA-EE Report;
 - Examine qualitatively the prima facie impact, merits or demerits of the housing layouts of the Housing Sites in the Developments on the pedestrian wind environment of the Assessment Area focusing on public areas frequented by pedestrians in the existing and/or planned condition, and advise whether the pedestrian wind environment of the Assessment Area and the surrounding affected areas could likely be better, similar or worsened due to the Developments;
 - Identify major breezeways and air paths due to the housing layout;
 - Identify the rough order of the magnitude of any possible wind problem areas in the Developments;
 - Recommend any improvements that could be made in refining the housing layouts of the Housing Sites;
 - Recommend mitigation and improvement measures with due regard to the relevant statutory plans, Building (Planning) Regulations, and Urban Design Guidelines in HKPSG as well as the existing constraints. The recommended mitigation and improvement measures should be effective and practical; and
 - Determine if further study should be staged into Initial Study and/or Detailed Study.

2 SITE CHARACTERISTICS

Project Area and Its Surrounding Area

- 2.1 Wang Chau Phase 1 (WCP1) was rezoned from "Green Belt" ("GB") to "Residential (Group A) 4" ("R(A)4") in 2014. In the AVA-EE conducted for rezoning, the proposed development site consisted of 2 public housing sites (i.e. Site A and Site B), a social welfare block, a school site and a new public road. The current study location, namely Wang Chau Phase 1 Site B is situated at the east of Wing Ning Tsuen.
- 2.2 In 2015, a major revision of the new public road alignment was made by the Government. The configuration of Site B was changed. After review of the site constraints, the development site (the "Study Area") was revised. The public housing development at Site B ("the Project Area"),

with a gross site area of about 2.02 ha, is bounded by Wing Ning Village to the west, West Rail Line viaduct to the southwest, Kai Shan hillside to the north, Umah International Primary School and a school site to the east. A new public road will be constructed at the east to link up the Project Area to the existing Long Ping Road.

- 2.3 According to the “Approved Ping Shan Outline Zoning Plan No. S/YL-PS/20”, the Project Area currently falls within an area zoned “Residential (Group A)4” (“R(A)4”) with a maximum plot ratio (PR) of 6 and a building height restriction (BHR) of +135mPD. The potential public housing development at the eastern portion of the Study Area (i.e. Wang Chau Phase 1 Site A) is zoned “R(A)4” and is subject to the Plot Ratio and Building Height Restriction same as those for the Project Area. In April 2021, the site of Wang Chau Remaining Phases (WCRP) was rezoned from “GB” and “OS” to “Residential (Group A)5” (“R(A)5”) for high-density public housing development. The WCRP site is subject to a maximum PR of 6.5 and a building height restriction (BHR) of 135mPD.
- 2.4 The Project Area is currently under site formation works by CEDD after completion of land resumption and clearance in April 2021. The surrounding areas of the Project Area are characterized by a mixture of various land uses. To the east of the Project Area across Long Ping Road is high-rise residential Long Ping Estate (63-102mPD) in “R(A)”. To the immediate south of the Project Area are low-rise village houses of the Green Hills and Umah International Primary School (26mPD) in “Green Belt” (“GB”). Wing Ning Tsuen in zone “GB” in the west comprises of rural residential dwellings, temporary structures and open storages. To the north are small knolls (50mPD) in “Conservation Area” (“CA”) which consists of natural landscapes, burial grounds and graves.
- 2.5 The topography is generally flat. Natural slopes to the north of Project Area are from mild gradient to hilly where approaching Kai Shan (121mPD) in the northwest.

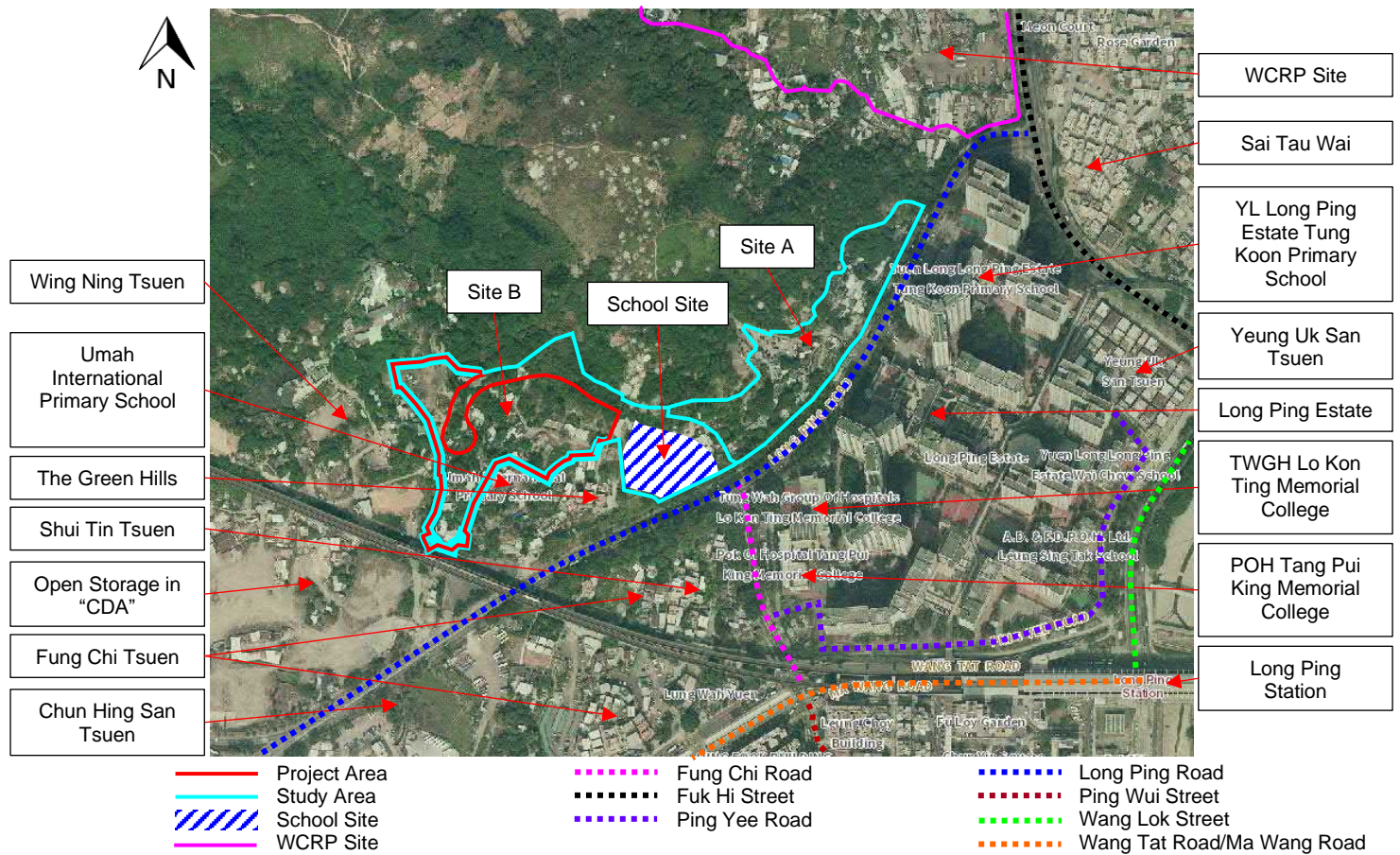


Figure 2.1 Overview of the Project Area and its Surroundings (Source: GeolInfo Map)

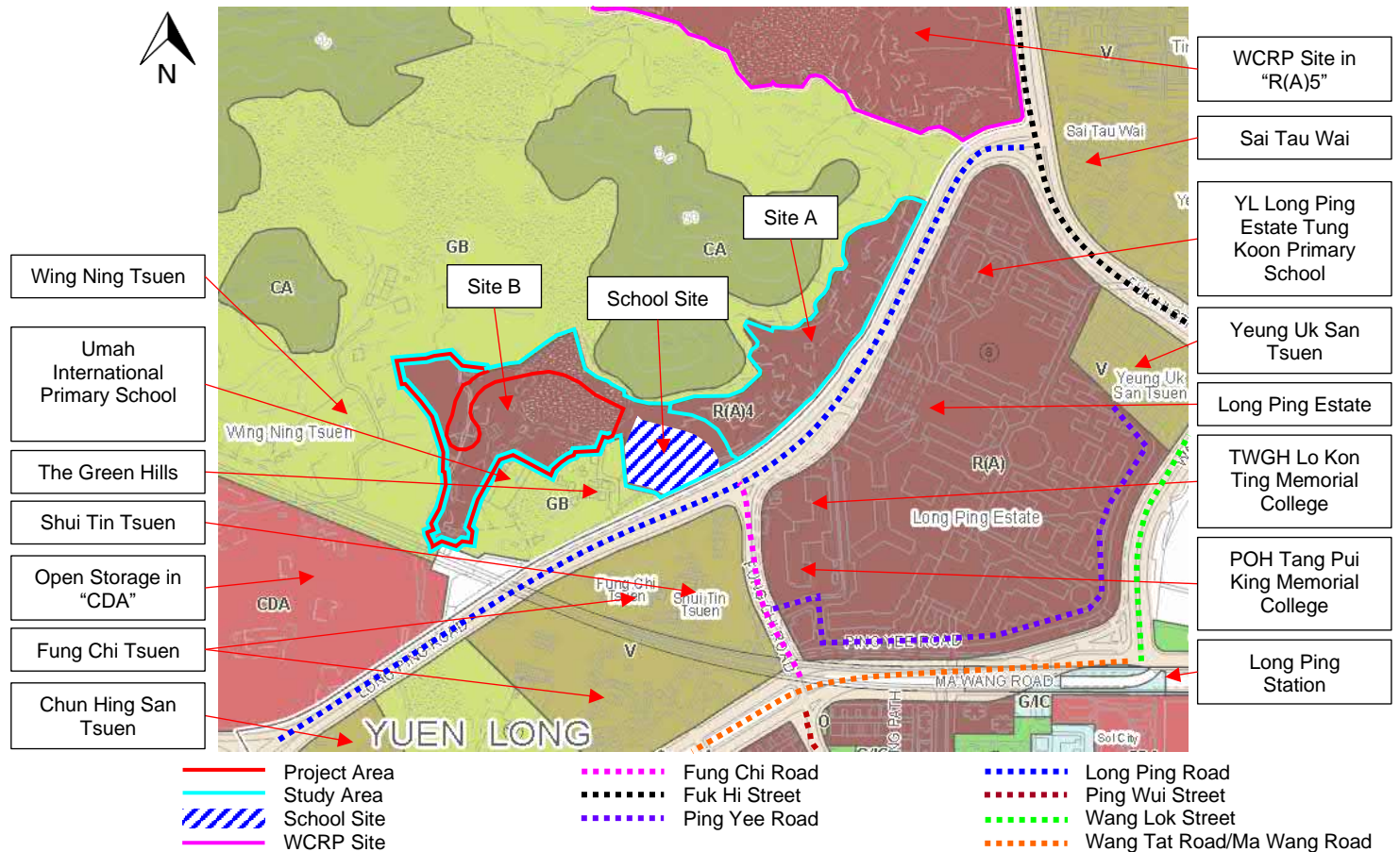


Figure 2.2 Land Use of the Project Area and its Surroundings in Draft OZP
(Source: Statutory Planning Portal 2)

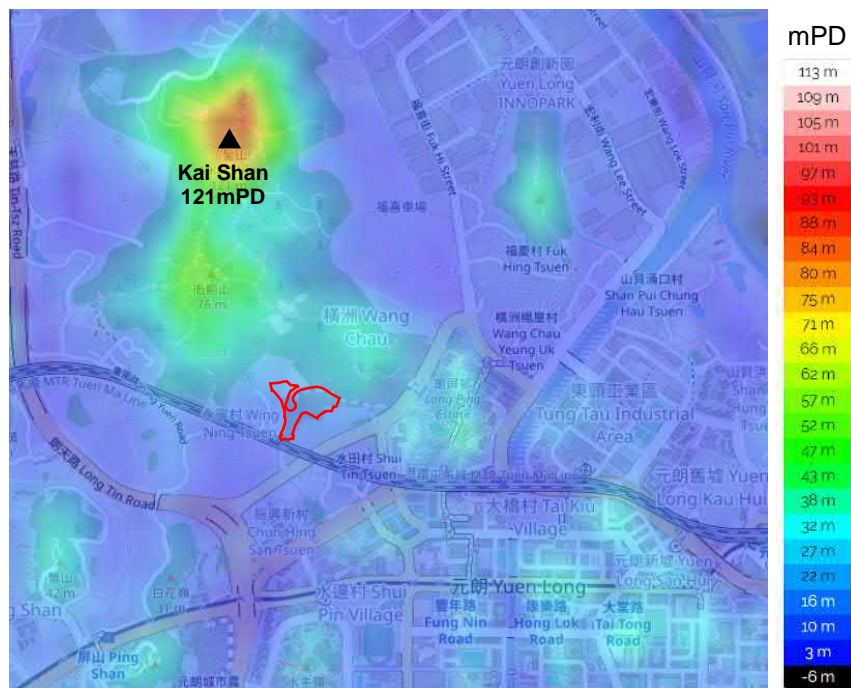


Figure 2.3 Topography of the Project Area and its Surroundings (Source: topographic-map.com)

3 SITE WIND AVAILABILITY

- 3.1 Natural wind availability is crucial to the investigation of wind ventilation performance. In this section, relevant measured wind data obtained from the Hong Kong Observatory (HKO) weather station, computed wind data from the RAMS model and experimental wind data from wind tunnel study are analysed and compared in order to identify the prevailing wind directions.
- 3.2 The 500m site wind availability data represents the wind characteristics of free flow at wind boundary layer at the Project Area. The 200m site wind availability data represents the wind characteristics that takes into account the topographical effect around the Project Area. Therefore, a lower level of wind rose at 200m height is considered more representative to study the prevailing wind condition at pedestrian level as it represents the incoming wind to the Project Area with the influence by the surrounding topography.

Wind Direction Analysis Based on HKO Weather Stations' Data

- 3.3 Hong Kong Observatory (HKO) operates automatic weather monitoring stations to provide reliable data on the wind environment in Hong Kong. The wind information and weather data from these stations provide reference to aid a general understanding of the surface wind environment.
- 3.4 The nearest weather station was the Wetland Park Weather Station as illustrated in **Figure 3.1**, which is about 2.1km away from the Project Area. The relevant wind rose information of the Wetland Park Weather Station is extracted as shown in **Figure 3.2**. It is observed that the annual prevailing winds are mainly from E, ENE and SE, while wind rose summer prevailing winds are not available. However, due to the location difference of the weather station and the Project Area, the wind data collected should be site specific influenced by topography features, especially hilly regions of Lau Fau Shan and the topography of Tuen Mun valley.

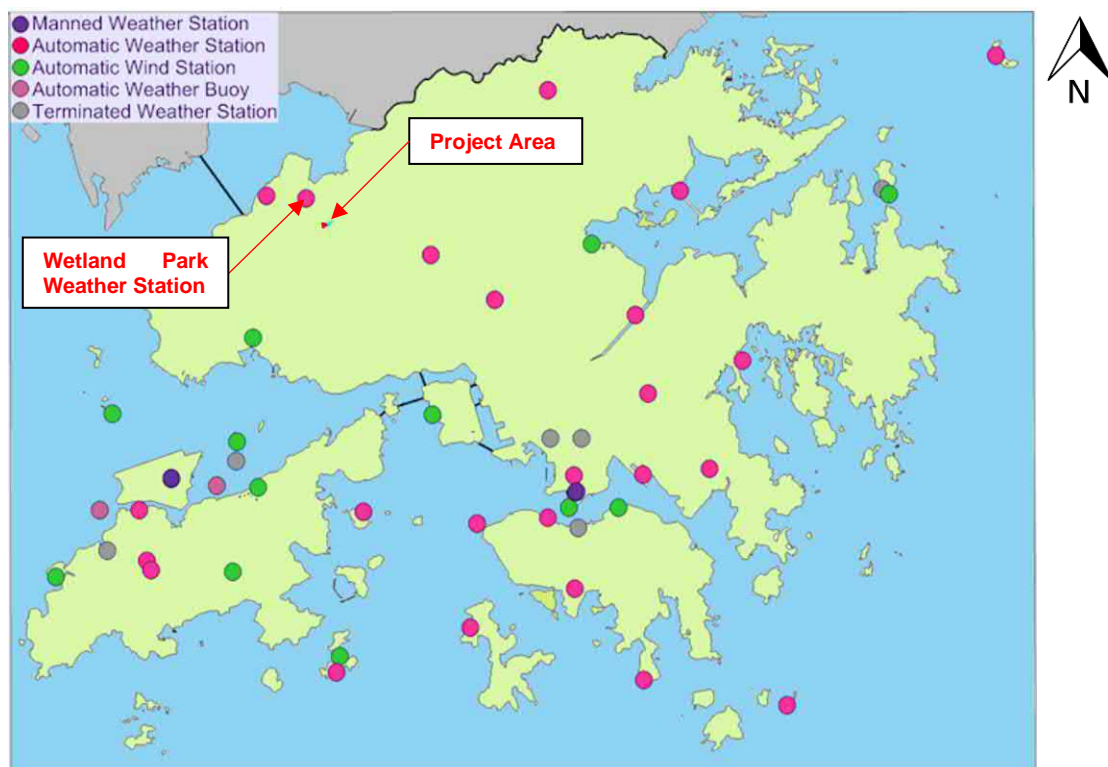


Figure 3.1 Locations of HKO Weather Stations with Wind Anemometer in Hong Kong

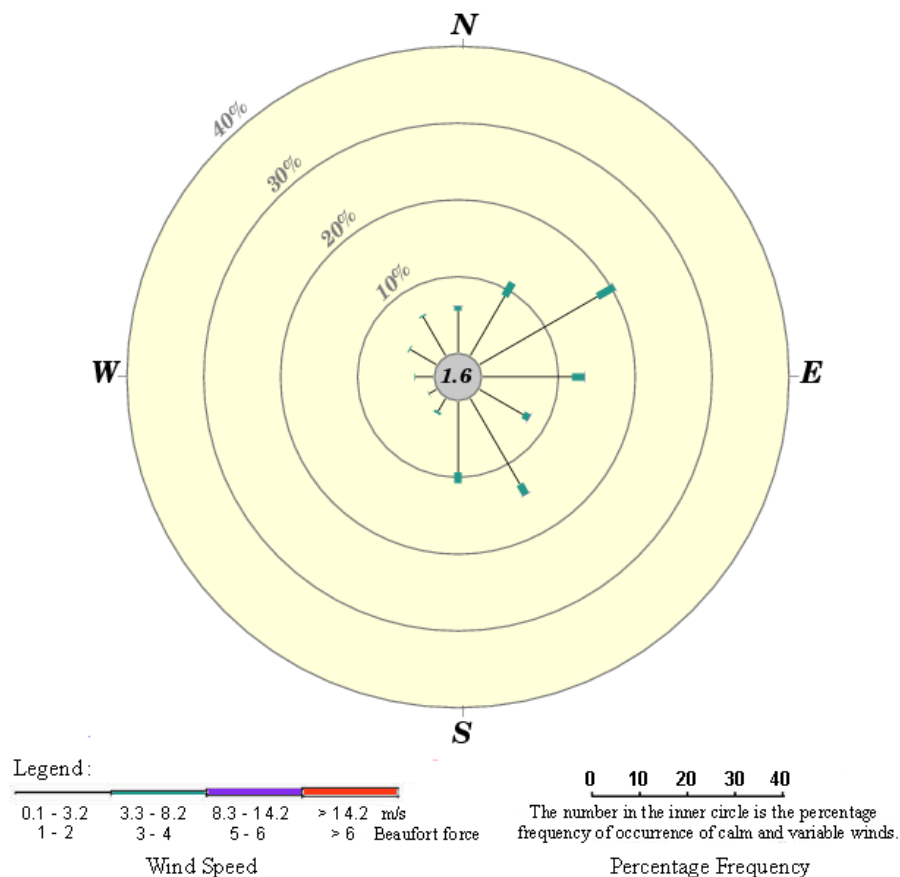


Figure 3.2 Annual Wind Rose (2006 - 2019) for Wetland Park (HKO)

Wind Direction Analysis Based on PlanD RAMS Wind Data

- 3.5 The site wind availability of the Project Area can be determined based on the wind availability simulation result of Regional Atmospheric Modelling System (RAMS) model published by Planning Department (PlanD from hereafter), which is the most relevant to the Project Area due to site-specific grid location. **Figure 3.3** shows the location of relevant wind data extraction while the wind roses representing annual and summer winds at the Project Area of this study are presented in **Figure 3.4** below.
- 3.6 By referring to the wind roses obtained from PlanD RAMS wind data from Grid (X048, Y071), the annual prevailing winds at the Project Area, Wang Chau, Yuen Long are mainly comprised by NNE, NE E, SSE and S winds, while summer winds are comprised by SSE, S, SSW and SW winds.

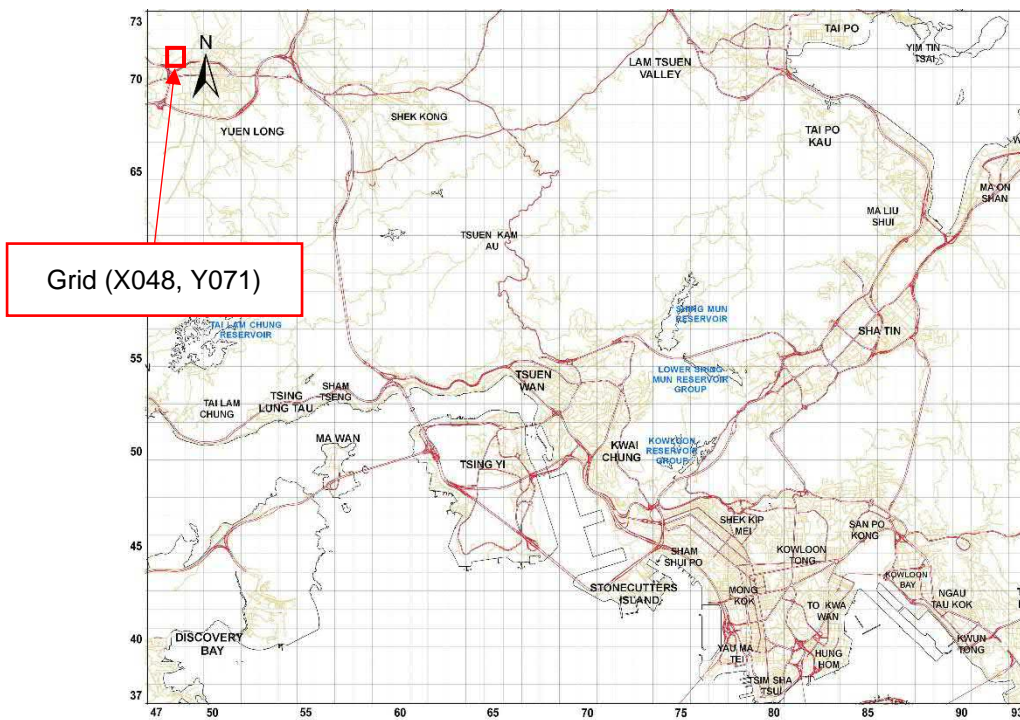


Figure 3.3 Location of data extraction in RAMS model

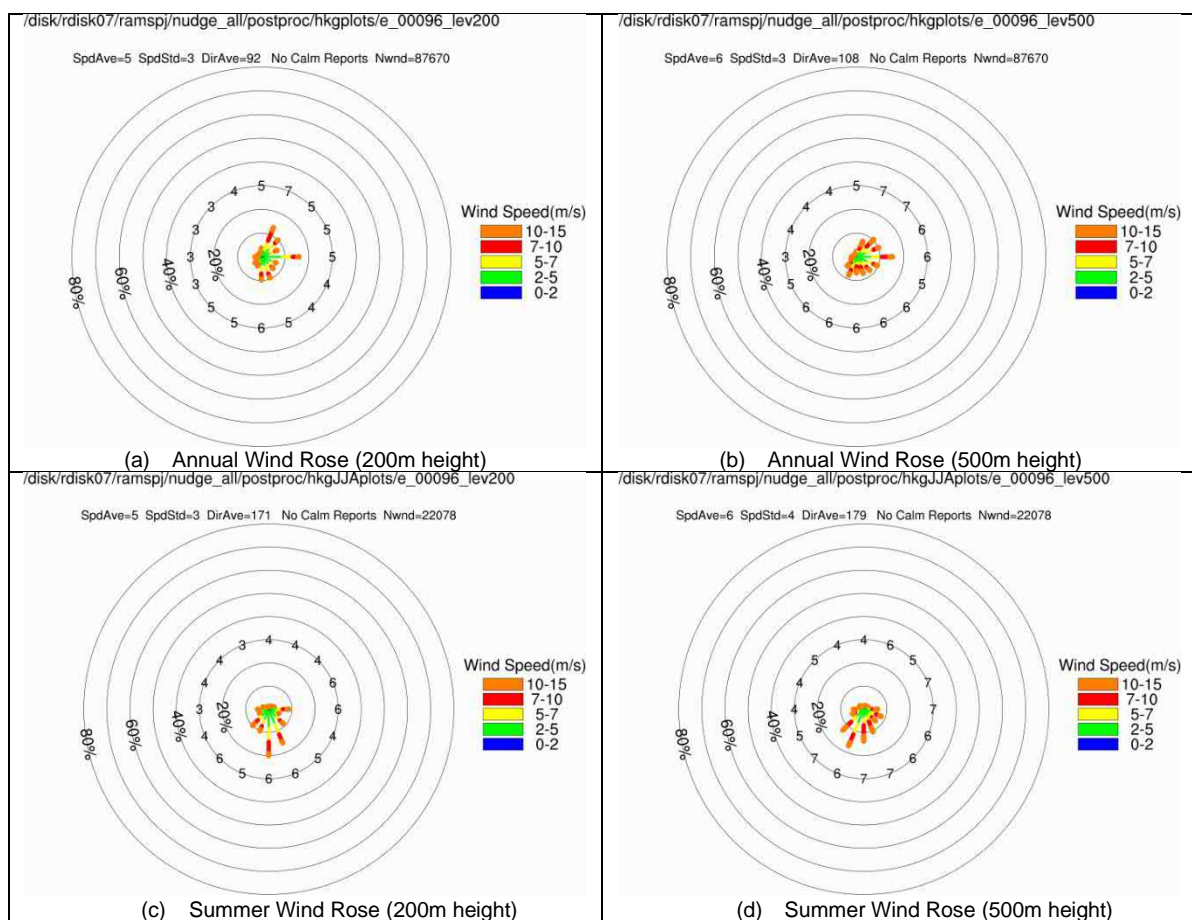


Figure 3.4 Wind Rose at Grid (X048, Y071)

Wind Direction Analysis Based on Experimental Site Wind Data

- 3.7 According to Experimental Site Wind Availability Study (SWAS) for the Public Housing Development and Yuen Long Industrial Estate Extension (YLIEE) at Wang Chau (2014), carried out in the Boundary Layer Wind Tunnel (BLWT) at CityU. The precise wind availability and characteristics information in terms of the wind directions, magnitudes, frequencies, speed and turbulence intensity profiles at the study area in Wang Chau were obtained.
- 3.8 The study area was located in Wang Chau as shown in **Figure 3.5**. The resulting annual prevailing winds are mainly from NNE, NE, ENE and E while summer prevailing winds are from ESE, SSW, SW and WSW.



Figure 3.5 Site Wind Availability Study by Wind Tunnel

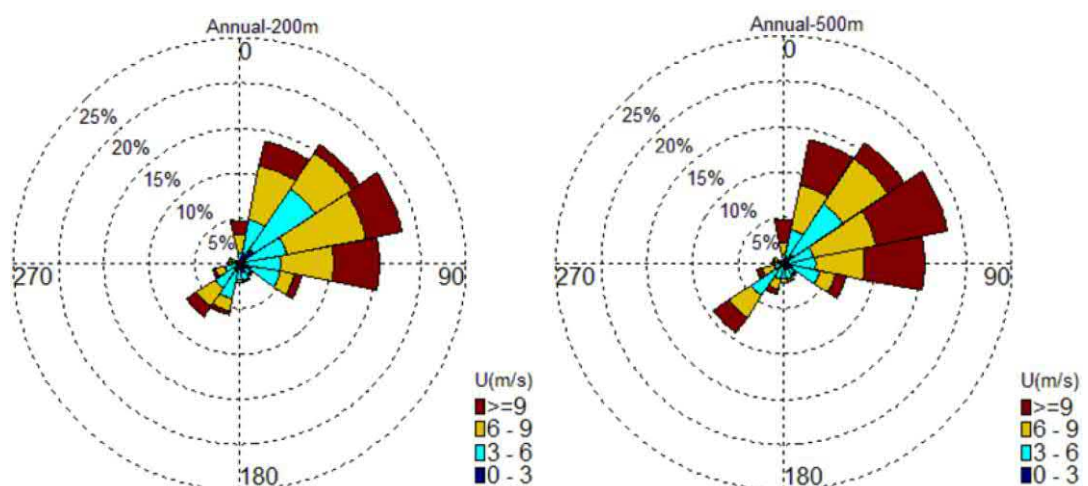


Figure 3.6 Annual Wind Rose for Wang Chau area from Wind Tunnel Data at 200m and 500m height

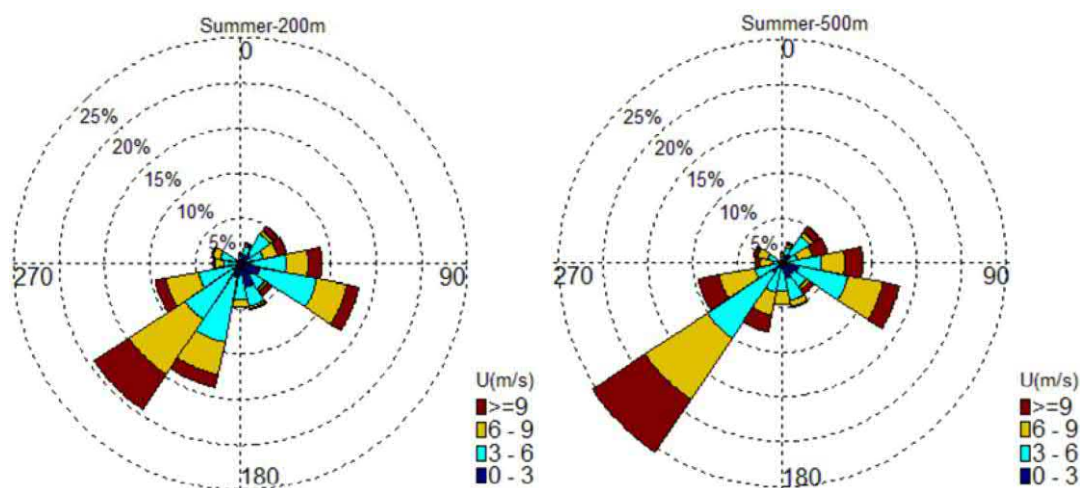


Figure 3.7 Summer Wind Rose for Wang Chau area from Wind Tunnel Data at 200m and 500m height

Summary and Identification of Prevailing Wind Directions

3.9 By reviewing the wind data from HKO Wetland Park Weather Station, site specific PlanD RAMS wind data and Wind Tunnel Experiment, it can be concluded that the annual prevailing winds at the Project Area are coming from north-easterly quadrant (i.e. NNE, NE, ENE), as well as easterly direction (E). Meanwhile, the summer winds at the Project Area are coming from south-easterly direction (ESE), south-westerly quadrant (i.e. S, SSW, SW and WSW).

3.10 **Table 3.1** summarized the annual and summer prevailing winds from difference sources.

Table 3.1 Summary of Annual and Summer Prevailing Winds from different sources

		Annual	Summer
Wetland Park (HKO) Weather Station		E, ENE, SSE	N/A
Wang Chau Phase 1 Site B	RAMS wind data (200m)	NNE, NE, E, SSE, S	SSE, S, SSW, SW
	Experimental site wind data (200m)	NNE, NE, ENE, E	ESE, SSW, SW, WSW
	Prevailing winds	NNE, NE, ENE, E, SSE, S	ESE, SSE, S, SSW, SW, WSW

4 EXISTING AND PLANNED SCENARIO

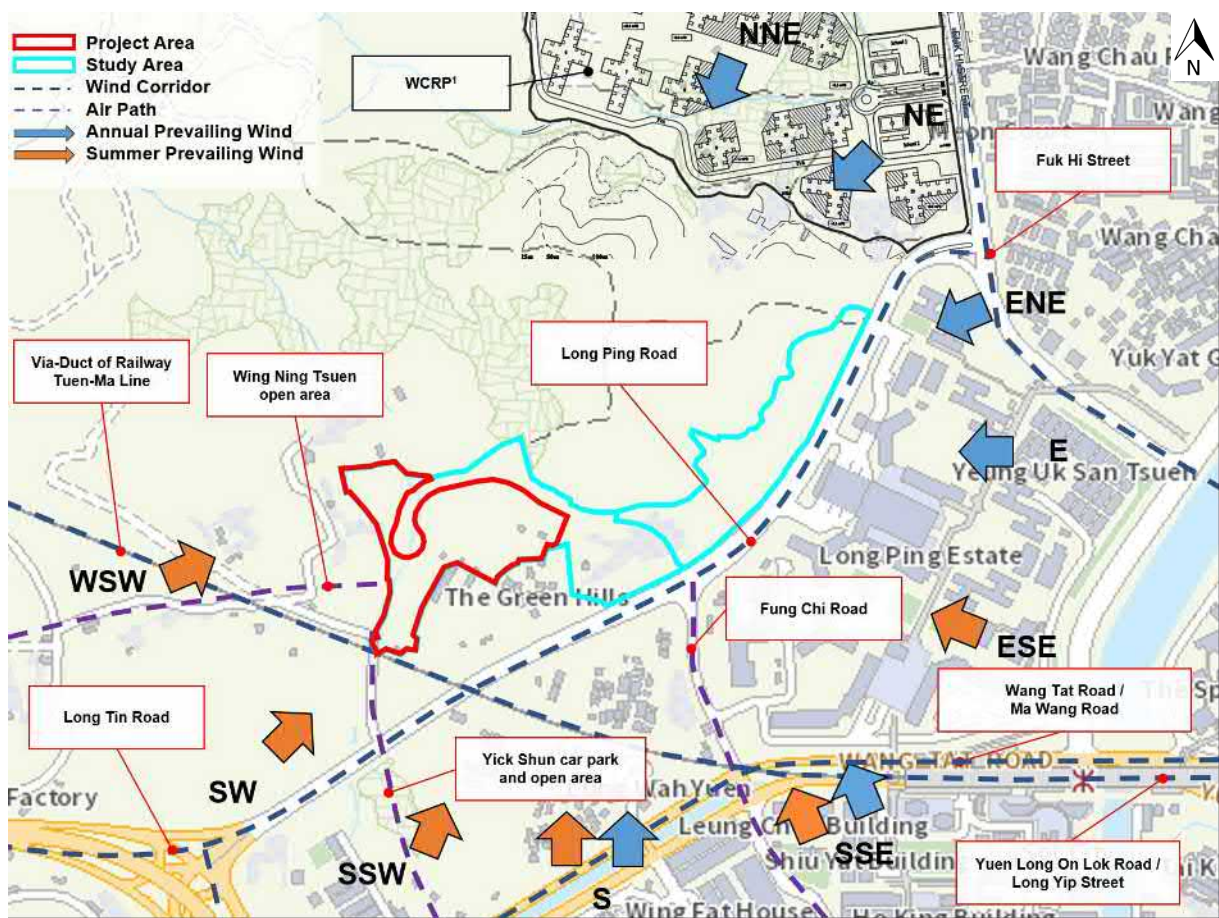
Topography and Building Height Profile

- 4.1 The Yuen Long Ping Shan Area consists mostly of low-lying flat land and a few wooded hills near existing villages. To the north-west of Long Ping Road are a group of knolls known as Kai Shan (121mPD) including the permitted burial grounds and the foothills and lowlands adjoining the Yuen Long New Town to the east and south-east. Chu Wong Ling (52mPD) is located at the south of Yuen Long Industrial Estate in the northeast further away from the Project Area.
- 4.2 The built area is mainly occupied by village settlements, 3-storey village houses and industrial workshops from low to medium height profile to the south, southwest and northeast of the Project Area, they are not expected to block the wind from north-eastern and south-western directions. The open storage, temporary structures and scattered low-rise buildings to the immediate east-northeast and further northeast of the Project Area falls within a zone "R(A)4" (WCP1, Site A) and "R(A)5" (WCRP Site) respectively are subject to a maximum building height of 135mPD. According to the P&E study in 2014, there would be low-rise YLIEE buildings located to the west of existing Yuen Long Industrial Estate and to the north of WCRP. Under existing scenario, the Project Area is predominantly surrounded by open areas which facilitate

penetration of NNE and NE winds from Yuen Long Industrial Estate and SW quadrant winds from low-rise clusters at Wing Ning Tsuen and Fung Chi Tsuen. In the planned scenario, the potential developments in YLIEE and WCRP are likely to weaken northeast quadrant winds. Existing Long Ping Estate (63-102mPD) is a high-rise residential cluster in the east of the Project Area with mix of Double H blocks, New Slab blocks, and Trident (i.e. Y-shape) blocks, which would partially obstruct easterly winds. Low-rise zones and open spaces identified in between the buildings would allow easterly winds to skim over.

Wind Corridors near the Project Area

- 4.3 By understanding the prevailing wind directions, the local topography and building morphology, as well as the previous AVA studies at Wang Chau, the major wind corridors (blue dotted lines) and air paths (purple dotted lines) near the Project Area are identified as illustrated in **Figure 4.1**. Under the existing condition, most of prevailing winds could reach the Project Area and its immediate surroundings due to the relatively open nature, especially over the natural landscapes in the north and northeast, open areas in the south and southwest.
- 4.4 The Fuk Hi Street is oriented in N-S direction whilst the Long Ping Road is oriented in NE-SW direction. These two roads are considered as the major air paths under northeast quadrant winds. A section of Long Tin Road in about N-S direction serves as an important wind corridor through the built-up area under southwest quadrant winds. Wang Tat Road/Ma Wang Road, Yuen Long On Lok Road/Long Yip Street, and the Via-Duct of Railway Tuen-Ma Line are considered to be a wind corridor under easterly winds. In addition, several minor roads and open areas in the vicinity also act as potential air paths, namely Fung Chi Road, Yick Shun car park and open area, as well as Wing Ning Tsuen open area.



Note 1: The layout for WCRP is based on indicative scheme used for rezoning in 2021

Figure 4.1 Prevailing Wind and Air Paths in the Area

5 EXPERT EVALUATION

Baseline Scheme

- 5.1 The Baseline Scheme adopted the indicative layout plan for rezoning of Wang Chau Phase 1 in 2014. The maximum permitted overall Plot Ratio of the Project Area is 6.0 (as land designated “R(A)4”).
- 5.2 The Baseline Scheme of the Project Area (Site B) comprises 5 residential blocks (90-118mPD, in varying height profile) with building gaps from 10 to 15m at grade and a social welfare block (35mPD). Site A consists of 5 residential blocks in Site A (107-135mPD, in stepped height profile to both sides) with building gaps from 10 to 15m at 14mPD in height platform without the podium bulk. The preliminary layout of school (45mPD) is situated between Site A and Site B, which serves as a buffer zone of high-rise residential clusters. The alignment of the new public road creates about 20-metre-wide air path between buildings within Wang Chau Phase 1. In addition, the configuration of low-rise social welfare block in the south of Site B reduces the bulkiness of the potential development against easterly winds. The disposition of residential blocks in Site A has a short frontage with respect to NE wind. Although adequate building gaps are considered in Site A, due to orientation, Site A would have a continuous modulation to easterly and southerly winds, creating a relatively large wind stagnant zone at downwind area.

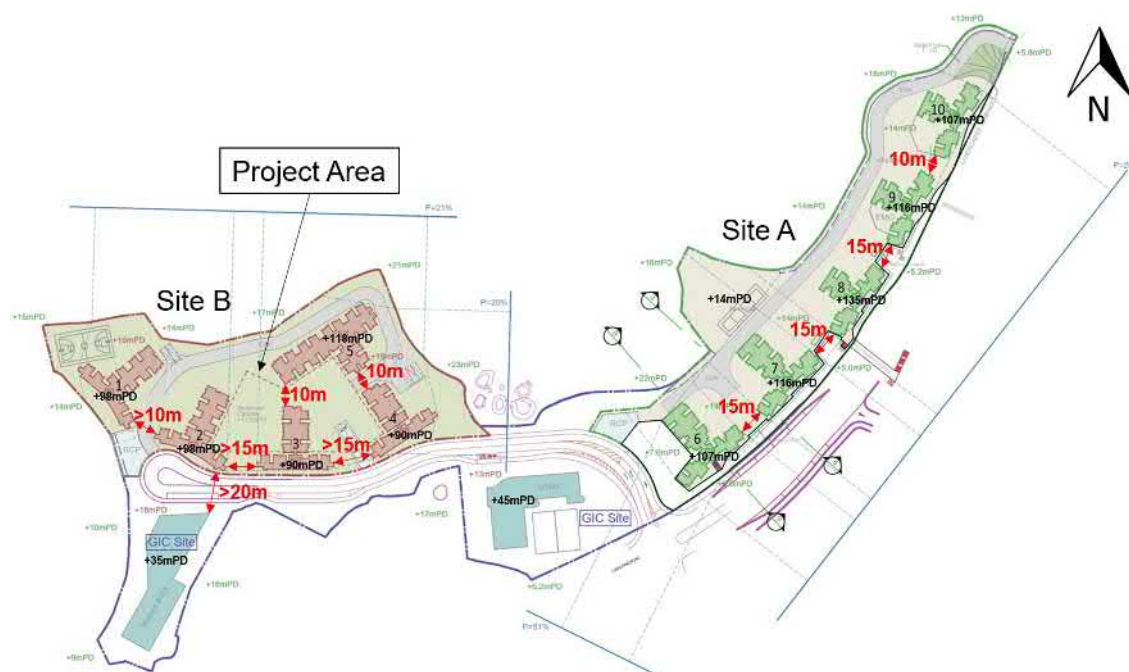


Figure 5.1 Indicative Plan of Baseline Scheme (Master Layout) Extracted from Wang Chau AVA-EE (2014)

Table 5.1 Height Profile of Baseline Scheme

Residential Building	Building Height (mPD)	G/IC Building	Building Height (mPD)
Block 1	98	Social Welfare Block	35
Block 2	98	Primary School	45
Block 3	90		
Block 4	90		
Block 5	118		
Block 6	107		
Block 7	116		
Block 8	135		
Block 9	116		
Block 10	107		

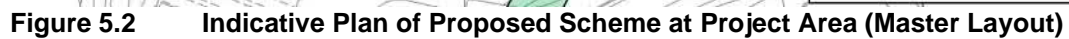
Proposed Scheme

- 5.3 Due to the change of site configuration of the Project Area (Site B), the number of residential blocks is amended from 5 to 4. The Proposed Scheme of the Project Area will comprise 4 residential blocks with the maximum building heights of about 137-141mPD on 1 to 2-storey podiums and 1-storey podium garden. A social welfare block (ISWB) is proposed to be built next to the blocks (**Figure 5.2** to **Figure 5.4**). The proposed development parameters are shown in **Table 5.2**.
- 5.4 Under this s.16 application for proposed minor relaxation of BHR from 135mPD to 145mPD at Site B of Wang Chau Phase 1, the assessment is based on the maximum building height of 145mPD for residential blocks at the Project Area. Site A is included only to facilitate the evaluation of air ventilation impacts and comparison with the Baseline Scheme. Site A consists of 4 residential blocks with the maximum building heights of 133-135mPD on 3 to 5 storeys podiums and 1-storey podium garden, according to the indicative layout plan in **Figure 5.5**. The preliminary layout of school (45mPD) is included. Empty bays are designed at podium levels of the residential blocks at Site B to enhance the wind permeability. Minimum 10-15m building separations between blocks for wind penetrations are incorporated as illustrated in **Figure 5.2**.

Table 5.2 Development Parameters

Public Housing Development at Wang Chau Phase 1 Site B	
Zoning in Approved OZP	Residential (Group (A)4) "R(A)4" with 135mPD BHR
Gross Site Area	About 20,200m ²
No. of Blocks	4 nos. of residential blocks and a social welfare block
No. of Storeys	Block A: 38 domestic storeys on top of 2 storey podium with similar building footprint (including 1-storey covered podium garden at about 23mPD) Block B to D: 38 domestic storeys on top of 3 storey podium (including 1-storey landscaped podium garden at about 27mPD) Welfare Block: 7 storeys (about 42mPD)
No. of Flats	1,870
Facility	Carpark, social welfare and estate management office
Maximum Building Height	About 141mPD

* The above development parameters are for reference only and subject to review.



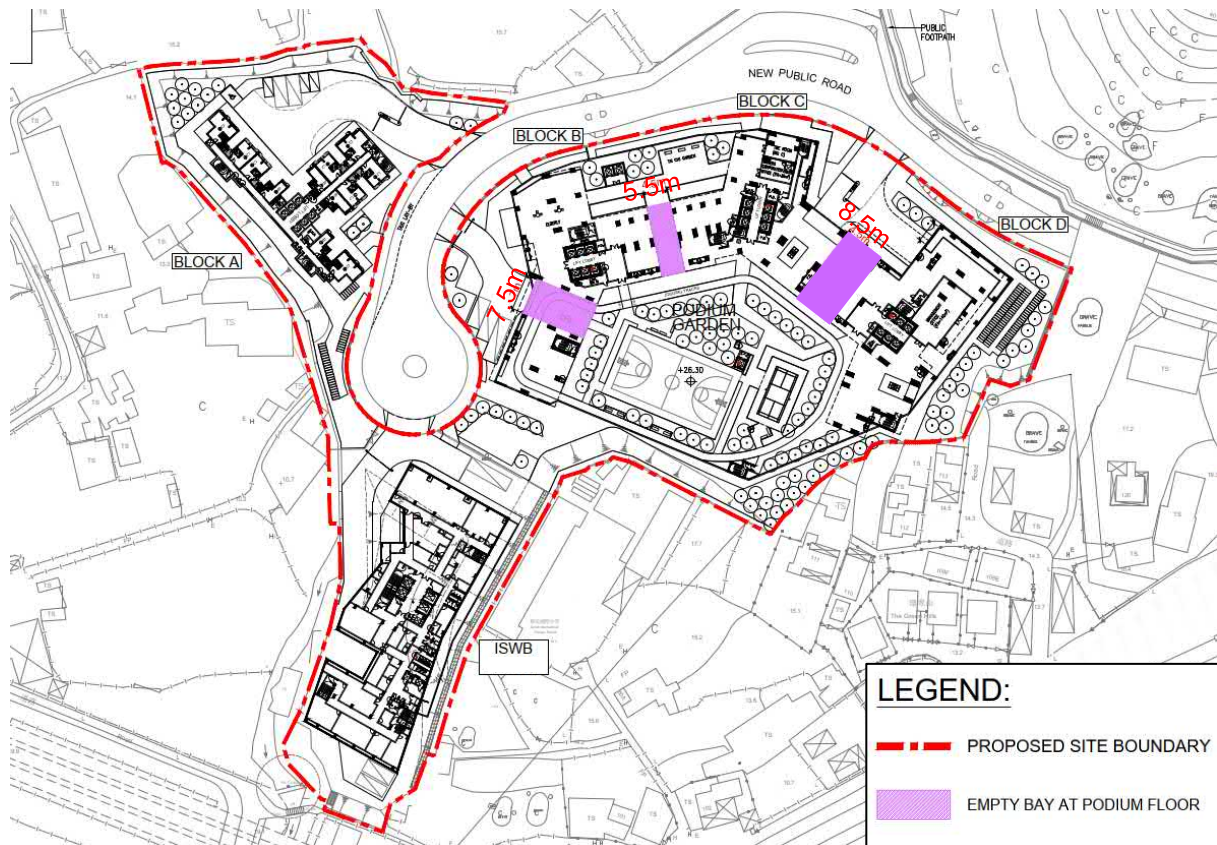


Figure 5.4 Preliminary Layout of Proposed Scheme at Site B (P2/F)

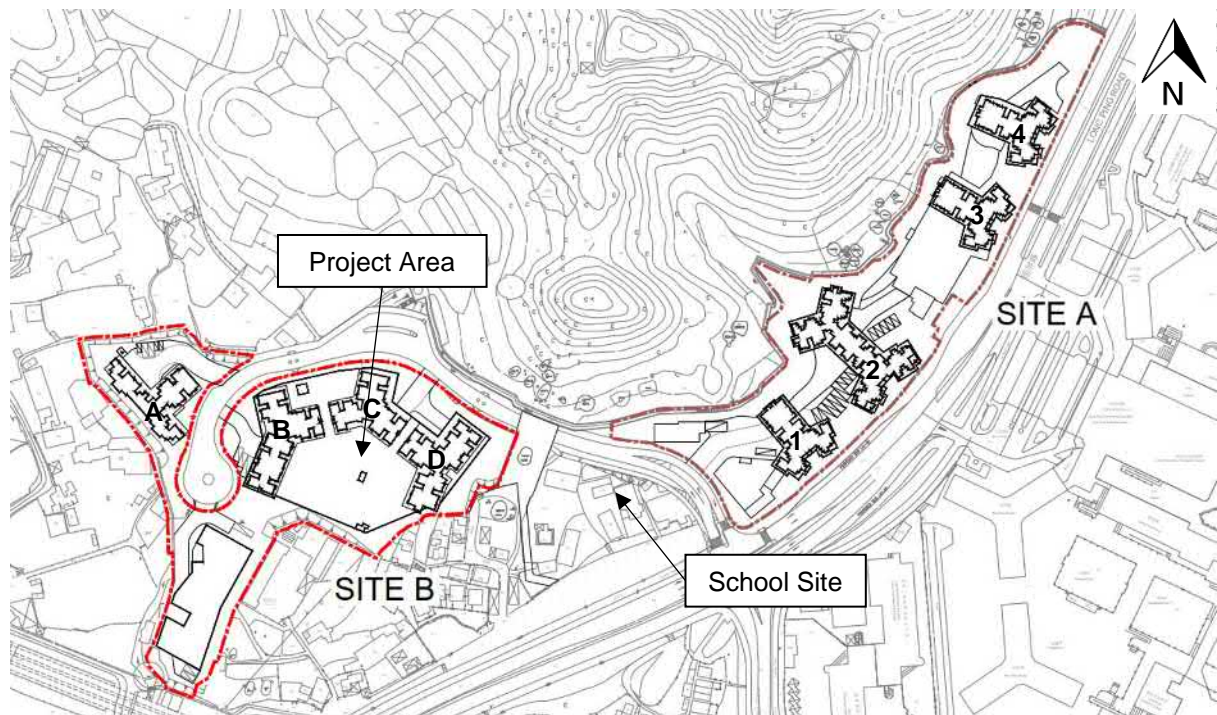


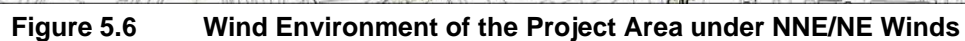
Figure 5.5 Indicative Master Layout Plan of WCP1

Good Design Features

- 5.5 Good design features inherited from the Baseline Scheme (for Site B) include:
- Building gaps to breakdown bulkiness of the potential development
 - Building setback of about 17m (blue stripe) to the west of Block A in **Figure 5.2**
 - Tower setback of about 10m (green stripe) from eastern site boundary and about 22m (yellow stripe) from social welfare block in **Figure 5.2**
 - 22m-wide building separation at ground level between Block B and social welfare block in **Figure 5.2**
- 5.6 Additional good design features for improving air ventilation performance of the Proposed Scheme (for Site B) include:
- Widening of building gap between Block A & B (Block 1 & 2 in Baseline Scheme) from about 10m to about 20m
 - Empty bays designed at podium levels of the residential blocks (**Figure 5.3** to **Figure 5.4**)
 - Reducing the number of residential blocks from 5 to 4 with area of tower footprints from about 3,610m² to 3,180m², to enhance the building permeability and reduce building bulkiness against prevailing winds from mid to high levels

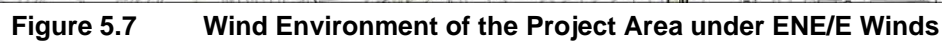
Wind Influencing Zone under NNE/NE Prevailing Winds

- 5.7 Under NNE/NE winds, the Project Area is at the downstream of the YLIEE and WCRP. Major air paths mainly follow Long Ping Road and flow over the hilly region of Kai Shan. A portion of wind would diffuse through the building gaps and flow over the buffer zone of natural landscapes to reach the Project Area.
- 5.8 In the Baseline Scheme, a stream of NNE/NE wind flows along the north perimeter of Site A and then penetrate through the building gap between Block 4 and the proposed school, ventilating the Green Hills and a section of Long Ping Road. Another stream of NNE wind could pass through the 15m building gap between Block 2 and 3 to reach Umah International Primary School, while the alignment of this 15m-wide building gap is not effective under NE wind. In addition, building gaps of Block 3 to 5 are not in line to create an effective wind corridor through Site B, generating localized air ventilation impact at leese of residential blocks. Due to lower building height from 90 to 118mPD, it is expected that the wind influencing zone would be from the Green Hills, Umah International Primary School and Wing Ning Tsuen, extended to the CDA zone and a section of Long Ping Road in the SW.
- 5.9 In the Proposed Scheme, similarly, wind flows through the building gap between Block D and the proposed school to reach the Green Hills and a section of Long Ping Road. Although building height of 145mPD is adopted, due to wider building gap of about 20m between Block A & B as compared with that of 10m building gap in the Baseline Scheme, and the closely packed Block B, C & D while the building gaps in the Baseline Scheme are not effective under prevailing NNE/NE, a comparable influencing zone is expected at downwind region of the CDA. The width of building gaps in the Proposed Scheme are reduced to about 5m at podium level that could only have limited air flow to enhance wind permeability locally. However, the Proposed Scheme in the Project Area would have longer wind influencing zone on Wing Ning Tsuen in terms of taller building height (145mPD), additional podium (in dotted black line at 26.3mPD), and higher welfare block (42mPD) when compared to Baseline Scheme.



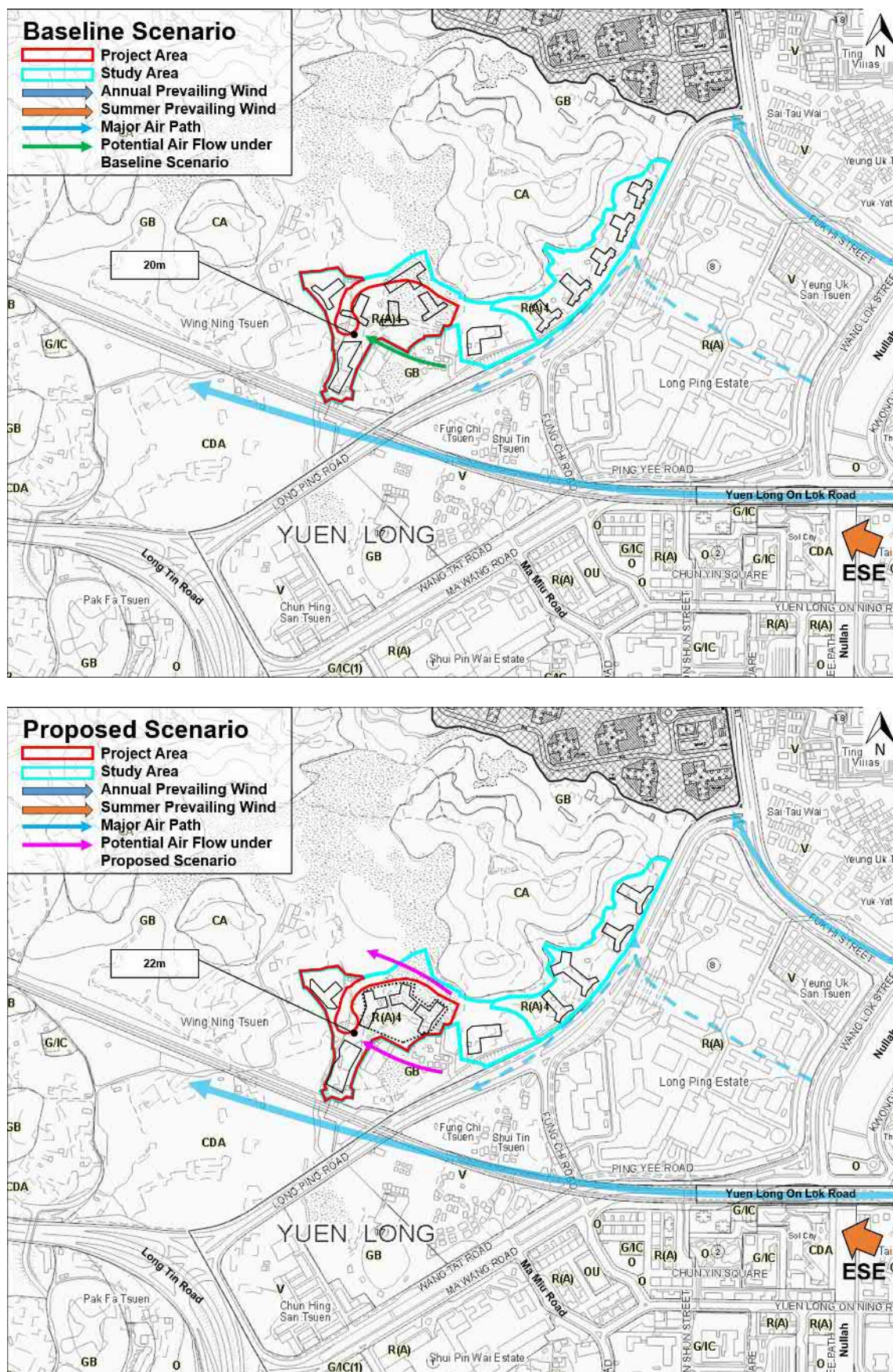
Wind Influencing Zone under ENE/E Prevailing Winds

- 5.10 ENE/E winds skim over the low-rise village houses above the pedestrian level, located to the east of Fuk Hi Street, freely to reach the natural landscapes in the north of Site A and Site B, through the junction of Long Ping Road and Fuk Hi Street. Another stream of wind skims over the low-rise villages in Yuen Long Kau Hui and then passes through the Yuen Long Town along Yuen Long On Lok Road/Long Yip Street and Wang Tat Road/Ma Wang Road. Due to a lack of effective air path aligning with the prevailing winds, Long Ping Estate and proposed development in Site A at the upstream would obstruct the ENE/E winds from penetrating into downstream areas such as the hilly region of Kai Shan and Site B. The site wind availability of the Project Area is generally weak, mainly relies on redirected wind from natural landscapes, diffused wind from Site A, the low-rise zones and building gaps at Long Ping Estate.
- 5.11 In the Baseline Scheme, although there are 10m to 15m building gaps in Site A, they are less effective under ENE/E winds. The alignment of high-rise residential blocks (107 to 135mPD) in Site A creates a continuous modulation to incoming wind into Long Ping Road, weakening wind penetration to reach natural landscapes and Site B, lowering the air ventilation performance at downwind region including the proposed school, the Green Hills, Umah International Primary School and the Project Area. The wind influencing zone would further extend from the Project Area to Wing Ning Tsuen and the CDA zone. Notwithstanding, the 20m-wide building separation between the welfare block and the residential Block 2 and 3 in the Project Area aligned with the incoming winds that could facilitate the wind penetration of the ENE/E winds to the downstream of the Project Area including Wing Ning Tsuen.
- 5.12 In the Proposed Scheme, similar air flow pattern on Long Ping Road and site wind availability of the Project Area is expected. Within the Project Area, Site B, Block D may potentially create more obstruction to the ENE/E wind as compared with the Baseline Scheme due to the building disposition and orientation. The low-rise podium (in dotted black line at 26.3mPD) further modulates the incoming wind from the building gap between Block D and the proposed school, away from the 22m-wide building gap of Block B and welfare block, reducing the air ventilation performance at Wing Ning Tsuen. Proposed Scheme in the Project Area would have longer wind influencing zone on Wing Ning Tsuen in terms of taller building height (145mPD), additional podium (26.3mPD), and higher welfare block (42mPD) when compared to Baseline Scheme.
- 5.13 On the other hand, the potential modification within the Study Area, Site A, may influence the wind availability of the Project Area and downstream. The wider building gap of more than 50m between Block 2 and 3 facilitates air movement to reach its downstream area of Kai Shan. However, due to taller residential blocks in Site A (133-135mPD) and the Project Area (145mPD), the wind influencing zone would be longer in terms of building height, lowering the air ventilation performance at Wing Ning Tsuen in the West and the CDA zone in the SW.



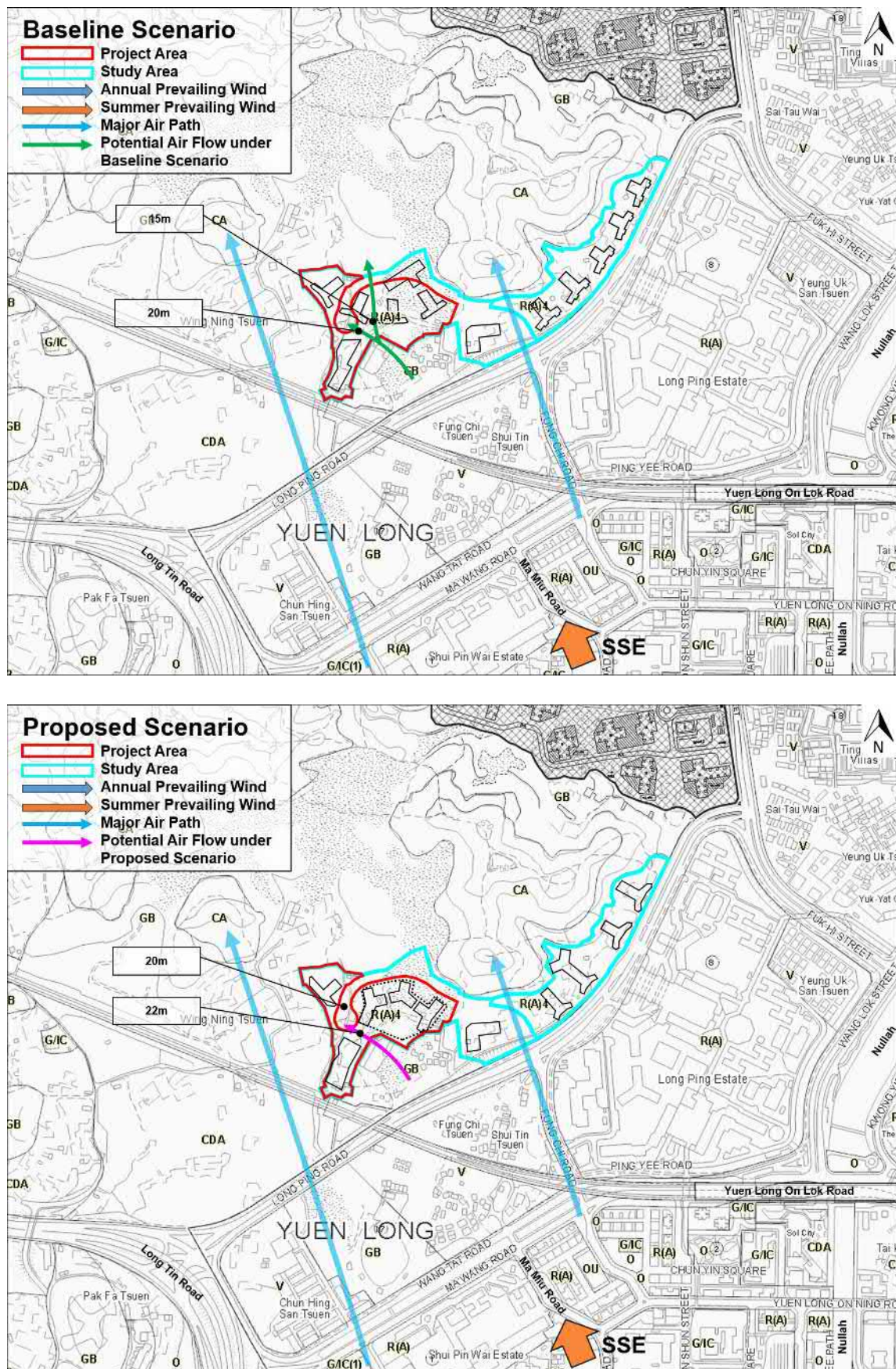
Wind Influencing Zone under ESE Prevailing Wind

- 5.14 ESE wind adopts Yuen Long On Lok Road/Long Yip Street and Wang Tat Road/Ma Wang Road as major air path through the Yuen Long Town and then follow the viaduct of Tuen-Ma Line Railway to ventilate the area in the south. A stream of wind would enter Fuk Hi Street from the nullah of Shan Pui River. Incoming ESE wind is partially obstructed by Long Ping Estate and proposed development in Site A from penetrating into downstream areas such as the hilly region of Kai Shan. Site wind availability of the Project Area is weak, while mainly relies on redirected wind from Long Ping Road, low-rise zones and building gaps at Long Ping Estate.
- 5.15 In the Baseline Scheme, the proposed developments in Site A would divert a portion of wind into Long Ping Road. A portion of incoming wind would enter the Project Area where the low-rise welfare block in the southern portion and a 20m building gap that would facilitate easterly wind penetration. Wind influencing zone is expected from low-rise welfare block (35mPD) to impact Wing Ning Tsuen in the west due to its long frontage. Moreover, building separations between residential blocks are not aligned with ESE wind, therefore, reduces the air ventilation performance of Wing Ning Tsuen in the west.
- 5.16 Similarly, in the Proposed Scheme, wind would be diverted by the proposed developments in Site A into Long Ping Road. In the Project Area, the 22m building gap in the southern portion of the Project Area would improve the ESE wind penetration as compared to the Baseline Scheme. The taller Proposed Scheme (145mPD) with the higher welfare block (42mPD) would have slightly longer wind influencing zone compared to Baseline Scheme due to increase in building height, covering a larger portion of Wing Ning Tsuen in the west and hilly terrains of Kai Shan, reducing the air ventilation performance at these areas. The closely packed Block B to D would have less obstruction to incoming wind reaching the new public road and natural landscapes in the north.
- 5.17 In addition, the Study Area, Site A is expected to have a wider building separation between Block 2 and 3, which may facilitate the wind penetration to the hilly region of Kai Shan under ESE prevailing wind.



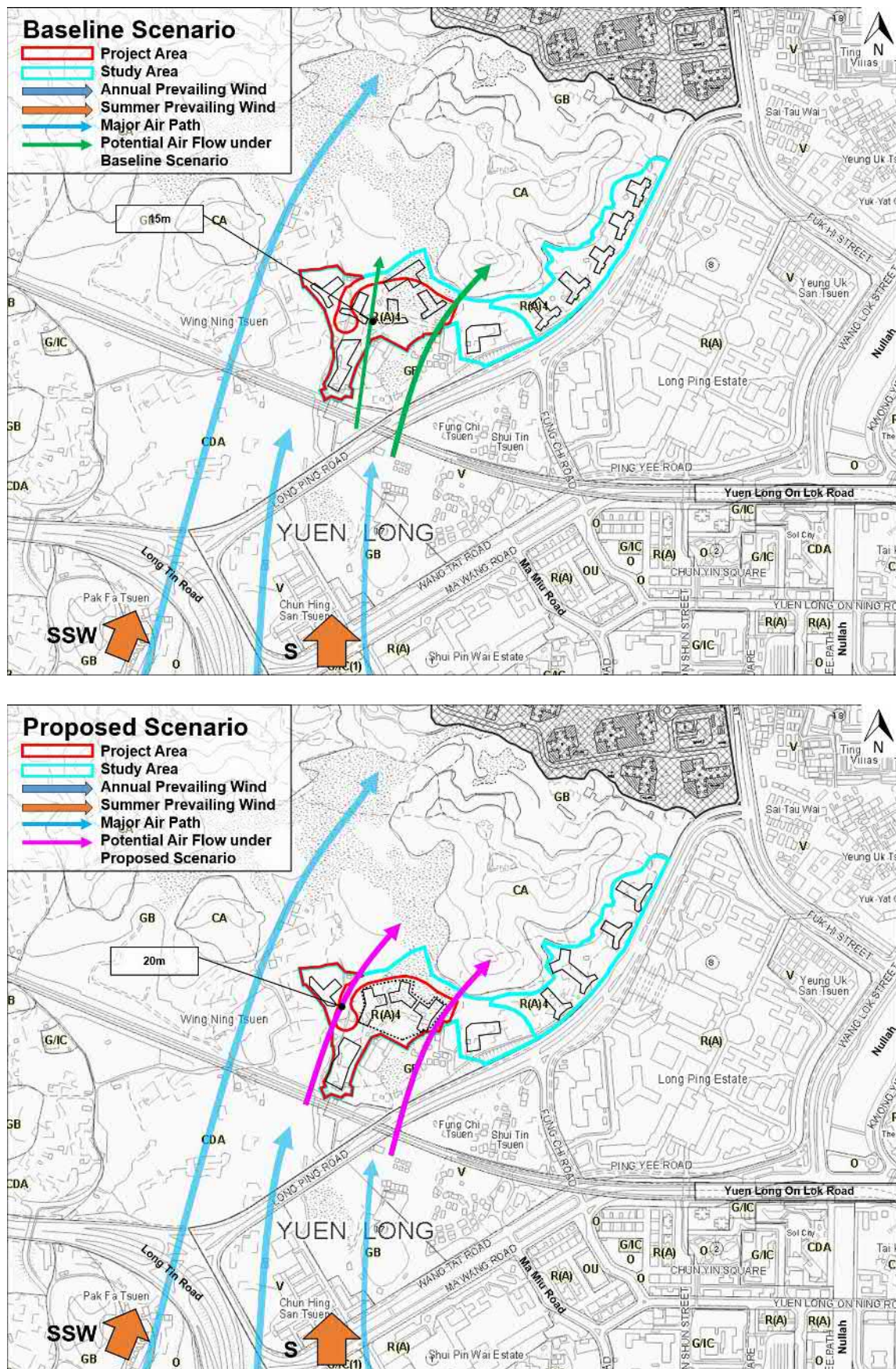
Wind Influencing Zone under SSE Prevailing Wind

- 5.18 SSE wind flows from building gaps and open space of Yuen Long Town to the upstream of Wang Tai Road / Ma Wang Road would pass through Chun Hing San Tsuen and the GB zone, the existing open storage area and the Yick Shun car park freely to reach Wing Ning Tsuen to the west of the Project Area. However, the prevailing winds would not be able to penetrate through the building gaps of Shui Pin Wai Estate, limiting the site wind availability at the Project Area. Another stream of SSE wind travels along Fung Chi Road, which is aligned in SSE direction, reaches the building gap between the proposed school and residential Block 6 in the Study Area, Site A. The site wind availability of the Project Area relies on a portion of incoming wind that would reattach at Fung Chi Tsuen and Shui Tin Tsuen, and then reach the Green Hills and Umah International Primary School in the upstream of the Project Area.
- 5.19 In the Baseline Scheme, the reattached incoming winds at Fung Chi Tsuen and Shui Tin Tsuen could ventilate the welfare block to enter the 15m-wide building gap between Block 2 and 3, and the 20m-wide building gap between Block 2 and the welfare block in the Project Area, Site B. Wind influencing zone is expected to cover part of Wing Ning Tsuen and hilly regions of Kai Shan in the northwest.
- 5.20 In the Proposed Scheme, similarly, the welfare block and Block B in the Project Area, Site B, could be ventilated by the reattached incoming winds from Fung Chi Tsuen and Shui Tin Tsuen via the 22m-wide building gap. It is expected that the higher welfare block in the Proposed Scheme may slightly reduce the wind availability to Block A and Wing Ning Tsuen in the NW. The width of building gaps in the Proposed Scheme are reduced to about 5m at podium level that could only have limited air flow to enhance wind permeability locally as compared to the Baseline Scheme. However, cumulative wind influencing zone is expected to be longer in Proposed Scheme (145mPD) compared to the Baseline Scheme (90 to 118mPD) in terms of building height, which covers the new public road, natural landscapes in the north, larger portion of Wing Ning Tsuen and hilly regions of Kai Shan in the northwest, reducing the air ventilation performance at these areas.
- 5.21 On the other hand, the widened building separation in the Study Area, Site A may potentially facilitate the wind penetration of the incoming winds, which favors the wind environment in the natural landscapes in the north.



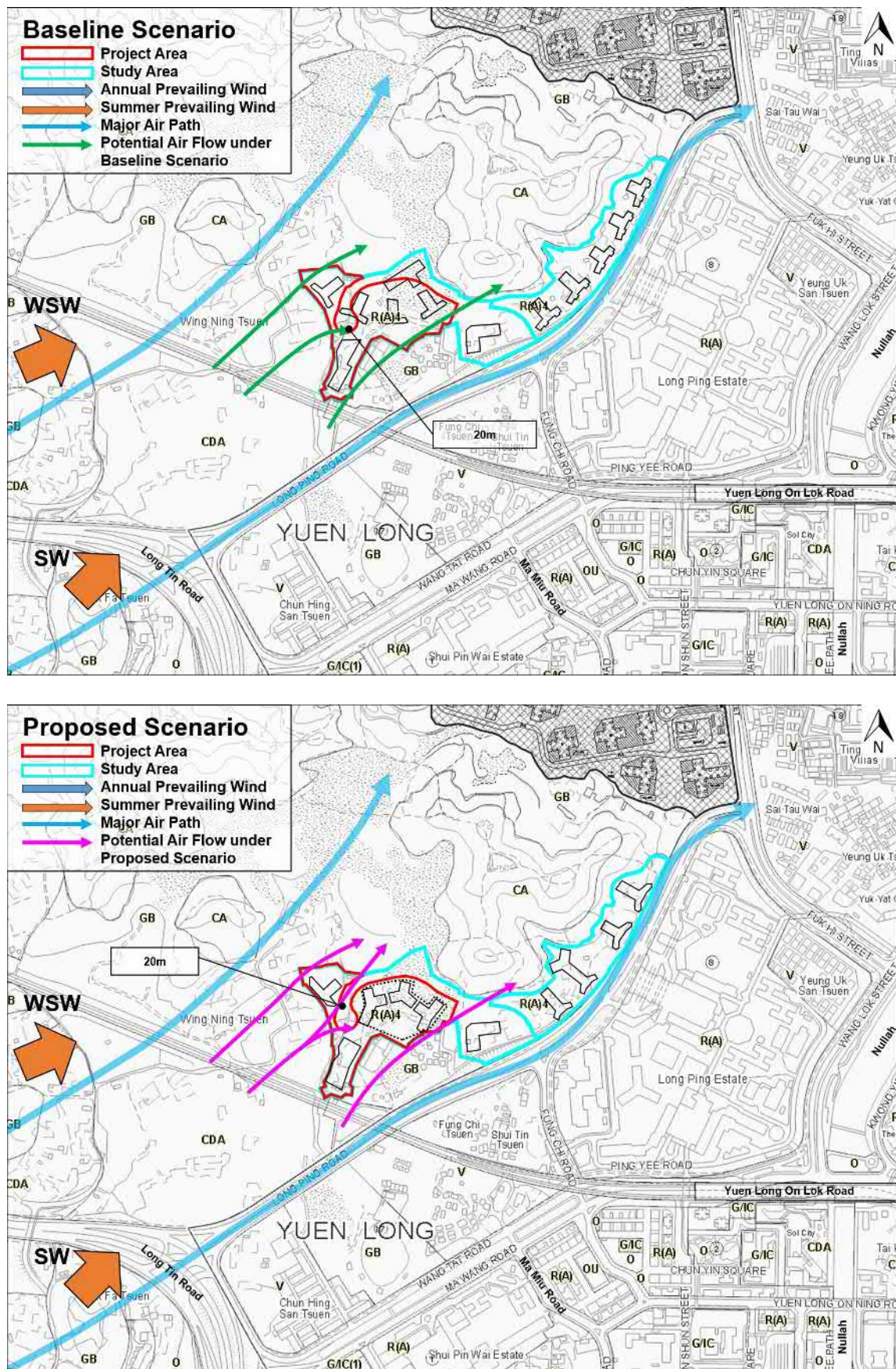
Wind Influencing Zone under S/SSW Prevailing Winds

- 5.22 S/SSW winds travel along Long Tin Road freely without much hindering from low-rise village houses of Choi Hong San Tsuen to reach the Green Hills and the Project Area after reattachment of wind from Yuen Long Park via low-rise zones.
- 5.23 In the Baseline Scheme, the unobstructed wind from Long Tin Road and Choi Hong San Tsuen enters the Project Area freely and flushes both the lateral sides of the low-rise welfare block at its short frontage, and then penetrates through the 15m-wide building gap between Block 2 & 3, and the building gap between Block 4 & the proposed school, ventilating natural landscapes in the north and northeast. Due to wind penetration, wind would reattach over a short distance within 2H and the wind influencing zone over the trails of natural landscapes is relatively small. With the sufficient buffer zone, it is expected the air ventilation impact to WCRP at far field regarding to the Baseline Scheme would be insignificant. It is observed that 10m to 15m building gaps in Site A are not effective under S/SSW winds, creating wind influencing zone that extends to WCRP. The air ventilation impact is relatively less significant under SSW wind with respect to the alignment of residential blocks in Site A.
- 5.24 In the Proposed Scheme, similarly, the unobstructed wind flushes both the lateral sides of the low-rise welfare block at its short frontage, and then penetrates through wider building gap (20m) of Block A & B due to the closely packed configuration of Block B to D on top of a podium bulk (in dotted black line at 26.3mPD). However, the width of building gaps in the Proposed Scheme are reduced to about 5m at podium level that could only have limited air flow to enhance wind permeability locally. The tower setback between Block D & the proposed school maintains the air movements through the Green Hills to reach the trails of natural landscapes in the northeast. The taller residential blocks (145mPD) and higher welfare block (42mPD) would create a longer wind influencing zone at downwind compared to Baseline Scheme, covering the new public road and natural landscapes in the north, while it is not expected to have significant air ventilation impact at WCRP caused by the Proposed Scheme within the Project Area.



Wind Influencing Zone under SW/WSW Prevailing Winds

- 5.25 Incoming SW/WSW winds over the low-rise clusters and the open space at Wing Ning Tsuen are unobstructed to reach the Project Area freely. A stream of wind adopts Long Ping Road as major air path.
- 5.26 In the Baseline Scheme, the unobstructed wind from low-rise clusters and the open space at Wing Ning Tsuen enters the Project Area, Site B freely. However, building gaps within Project Area, Site B are less than 15m wide or not in line to create an effective wind corridor through the Project Area under SW/WSW winds, generating localized air ventilation impact at leaside of residential blocks over the trails of natural landscapes in the north and northeast. A portion of wind would be diverted into the 20m-wide building gap between Block 2 and the low-rise welfare block, to ventilate Umah International Primary School.
- 5.27 In addition, it is observed that 10m to 15m building gaps in Site A are not effective under SW/WSW winds, creating wind influencing zone that extends to WCRP. The wind influencing zone is small with respect to the alignment of residential blocks in Site A under SW/WSW winds.
- 5.28 In the Proposed Scheme, similarly, the unobstructed wind from low-rise clusters and the open space at Wing Ning Tsuen enters the Project Area, Site B freely, which is then penetrate through the wider building gap (about 20m) between Block A & B that would facilitate more wind penetration to natural landscapes in the north. The building gaps among Block B to D are not effective for wind penetration under SW/WSW winds due to width and alignment, creating a wind influencing zone over the trails of natural landscapes in the northeast. The wind influencing zone would be longer in terms of taller residential blocks (145mPD) and higher welfare block (42mPD) covering the natural landscapes, covering the new public road and natural landscapes in the north, while it is not expected to have significant air ventilation impact at WCRP caused by the Proposed Scheme within the Project Area.



Recommendation

5.29 In view of the drawbacks and air ventilation impacts identified above, apart from the good design features incorporated in the Proposed Scheme detailed in paragraphs 5.5 & 5.6, the followings are some further recommendations that would be considered for adoption where applicable in the detailed design stage of the Proposed Development to facilitate wind penetration:

- Minimization of podium coverage and height;
- Minimization of welfare block height;
- Provision of empty bays at G/F level;
- Wider building gaps among Block B to D / empty bays at podium level;
- Adoption of empty floor podium design;
- Building Permeability (refer to “P” in the PNAP APP-152 Sustainable Building Design Guideline): building gap of more than 15m could be considered to enhance the building separation;
- Greening coverage and building setback with reference to PNAP APP-152;
- Reference could also be made to recommendations of design measures in the Hong Kong Planning Standards and Guidelines.

6 FURTHER STUDY

- 6.1 This study only provides an overview of the existing wind environment, proposed scenario and recommends broad measures to minimize negative impacts. The Proposed Scheme maintains a building gap and a low-rise social welfare block at the southern portion which enables air movement from Long Ping Road under annual prevailing wind direction. The Proposed Scheme has considered building gaps within Project Area as air paths to facilitate wind penetration from Long Tin Road under summer prevailing wind direction.
- 6.2 From the above findings, the proposed high-rise development with podium at the Project Area, western portion of the Wang Chau Phase 1, zoned “R(A)4” would unlikely have additional air ventilation impacts on the downstream pedestrian wind environment when compared to the Baseline Scheme. The Proposed Development does not impact the effectiveness of major air paths in the Area and the Proposed Scheme has adopted a range of good design features in consideration with the wind environment.

7 CONCLUSION

7.1 This Air Ventilation Assessment (AVA) Study – Expert Evaluation (EE) aims at assessing the characteristics of the wind availability of the Project Area, providing a general pattern, identify the major wind breezeways, air paths good wind performance areas, locate obvious problematic areas and propose appropriate mitigation measures.

7.2 To mitigate the potential air ventilation impact on site perimeter by the Proposed Development several good design features have been adopted to allow the penetration of prevailing wind, including:

Good design measures maintained from the Baseline Scheme include:

- Building gaps to breakdown bulkiness of the potential development
- Building setback of about 17m from the western site boundary
- Tower setback of about 10m from eastern site boundary
- 22m-wide building separation at ground level between Block B and social welfare block

Additional good design measures incorporated in the Proposed Scheme include:

- Widening of building gap between Block A & B (Block 1 & 2 in Baseline Scheme) from about 10m to about 20m
- Empty bays designed at podium levels of the residential blocks
- Reducing the number of residential blocks from 5 to 4 with area of tower footprints from about 3,610m² to 3,180m², to enhance the building permeability and reduce building bulkiness against prevailing winds from mid to high levels

7.3 It is anticipated that these measures could facilitate prevailing wind penetration through the Project Area and alleviate the potential air ventilation impact under the Proposed Scheme with a podium, taller residential blocks and welfare block as compared with the Baseline Scheme, so as to minimize impact to the wind environment in the surrounding areas and sensitive receivers around the Project Area including natural landscapes in the north and northeast, Wing Ning Tsuen in the west, CDA zone in the southwest, the Green Hills and Umah International Primary School in the southeast. The minor relaxation proposal on BHR from 135mPD to 145mPD will slightly enlarge the air ventilation impact areas in terms of assessment area in building height of the Proposed Scheme to a further extent covering natural landscapes in the north and northeast, Wing Ning Tsuen in the west and CDA zone in the southwest. However, taking into account the good design measures mentioned above to be adopted in the Proposed Scheme such as the building gap of 20m between Block A & B facilitating northeast quadrant winds and southwest quadrant winds penetration, the overall air ventilation performance of the Proposed Scheme in terms of magnitude would be similar to the one of the Baseline Scheme in the natural landscapes and CDA zone. In the scheme optimization, the feasibility of creating more air permeable space at G/F such as EVA under the podium and designing parapet wall/railing at the carpark perimeter will be explored to further improve the air ventilation at the pedestrian zone around the perimeter of the podium in the Proposed Scheme.

7.4 The proposed high-rise development with podium at the Project Area would have higher building heights on the residential blocks and the welfare block, which is likely to have localized air ventilation impacts on the downstream pedestrian areas, however unlikely to impact the effectiveness of major air paths in the Area.

Appendix A

Wind Probability Table

[illegible]

[illegible]

TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY
SERVICES 2019-2021 FOR NEW TERRITORIES WEST REGION
(AGREEMENT NO.: CB20180685)

PROPOSED PUBLIC HOUSING DEVELOPMENT AT SITE B OF
WANG CHAU (PHASE 1), YUEN LONG

ENVIRONMENTAL ASSESSMENT STUDY
(REVISION 4)



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1 INTRODUCTION

1.1 General

- 1.1.1 WSP (Asia) Ltd. was commissioned on 31 October 2019 to provide environmental consultancy service and conduct an Environmental Assessment Study (EAS) for the Proposed Public Housing Development at Wang Chau Phase 1 under HKHA Term Traffic and Environmental Consultancy Services 2019-2021 for New Territories West Region (Agreement No. CB20180685). Wang Chau Phase 1 comprises Site A and Site B for public housing development. This EAS is to support planning application for Town Planning Board's Approval under Section 16 of the Town Planning Ordinance for minor relaxation of Building Height Restriction (BHR) from 135mPD to 145mPD for the public housing development at Site B. Site B of the Proposed Development consists of 4 no. of residential blocks which contains a total of 1,870 units of residential flats with Integrated Social Welfare Block (ISWB).

1.2 Objective of this Environmental Assessment Study (EAS)

- 1.2.1 The aims of this EAS comprise the following:
- (a) Assess the road traffic & railway noise impacts upon the proposed development with reference to the Hong Kong Planning Standards and Guidelines (HKPSG);
 - (b) Assess the potential fixed noise sources in the vicinity of the proposed development and its associated impacts;
 - (c) Assess the potential vehicular emissions from the surroundings road network with reference to HKPSG;
 - (d) Assess the potential air pollutant emissions from the nearby industrial premises with reference to HKPSG / international standards; and
 - (e) Recommend appropriate environmental mitigation measures as required.

1.3 Site Location

- 1.3.1 The proposed development (Phase 1) is located at Long Ping Road, Wang Chau. The area of Site B is approximately 2.02 Hectares.

1.4 Proposed Development Layout Designs

- 1.4.1 Site B of the proposed development consists of 4 nos. of residential blocks which mainly serve for domestic purpose (with 1,870 units of residential flats). An Integrated Social Welfare Block (ISWB) is also provided at the south of Site B. The population intake year is 2028/29 according to the latest master programme for the public housing development in Wang Chau (Phase 1). In particular, the public housing development at Site B is expected to be completed in 2027/28. Detailed layout plan and cross-sectional plan of the proposed development is shown in **Appendix 1.1**.

2 AIR QUALITY IMPACT ASSESSMENT

2.1 Environmental Legislation, Standards and Guidelines

2.1.1 The assessment is carried out in accordance with the relevant criteria and standards as specified in the following legislation and guidelines for evaluating air quality impacts:

- Annex 4 & Annex 12 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM);
- Air Pollution Control (Construction Dust) Regulation;
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation;
- Air Pollution Control (Fuel Restriction) Regulation;
- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG) and
- Air Pollution Control Ordinance (APCO) (Cap. 311)

Air Quality Objectives (AQO) in Air Pollution Control Ordinance (APCO)

2.1.2 The principal legislation for the management of air quality is the APCO. It specifies AQOs which stipulate the statutory concentration limits of seven air pollutants and the maximum allowable numbers of exceedance over specific periods. The AQOs enacted on 1st January 2022 are listed in **Table 2.1** below.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging Time	AQO Concentration ^[i] ($\mu\text{g}/\text{m}^3$)	Allowable Number of Exceedance
Respirable Suspended Particulates (PM_{10}) ^[ii]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($\text{PM}_{2.5}$) ^[iii]	24-hour	50	18 ^[iv]
	Annual	25	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Carbon Monoxide (CO)	1-hour	30,000	Not Applicable
	8-hour	10,000	Not Applicable
Ozone (O_3)	8-hour	160	9
Lead	Annual	0.5	Not Applicable
Note: [i] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325kPa. [ii] Respirable suspended particulates (PM_{10}) mean suspended particles in air with a nominal aerodynamic diameter of 10 μm or less. [iii] Fine suspended particulates ($\text{PM}_{2.5}$) mean suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less. [iv] 18 times of exceedances of 24-hour $\text{PM}_{2.5}$ per year is allowed for new government projects.			

Air Pollution Control (Construction Dust) Regulation

- 2.1.3 Notifiable and regulatory works are under the control of Air Pollution Control (Construction Dust) Regulation. Notifiable works include site formation, reclamation, demolition, foundation and superstructure construction for buildings and road construction. Regulatory works are building renovation, road opening and resurfacing slope stabilisation, and other activities including stockpiling, dusty material handling, excavation, concrete production, etc. Contractors and site agents are required to adopt construction dust suppression measures to reduce dust emission to the acceptable level.
- 2.1.4 The Regulation requires any notifiable work shall give advance notice to Environmental Protection Department (EPD), and the contractor to ensure that both notifiable works and regulatory works will be conducted in accordance with the Schedule of the Regulation, which provides dust control and suppression measures.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

- 2.1.5 The Air Pollution Control (Non-Road Mobile Machinery) (Emission) Regulation takes effects since 1 June 2015, which requires Non-road Mobile Machinery (NRMM) to comply with the prescribed emission standards except those exempted. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes.

Air Pollution Control (Fuel Restriction) Regulation

- 2.1.6 To minimize SO₂ emission from construction plants and equipment, requirements stipulated in the Air Pollution Control (Fuel Restriction) Regulation (Amendment) Regulation 2008, using liquid fuel with a sulphur content of less than 0.005% by weight or viscosity less than 6 Centistokes at 40°C should be fulfilled

Hong Kong Planning Standards and Guidelines (HKPSG)

- 2.1.7 In accordance with Table 3.1 of Chapter 9 of the HKPSG, the minimum buffer distance is recommended between different types of roads and the active open spaces. The minimum buffer distances requirements for different types of roads are summarized in **Table 2.2** below.

Table 2.2 Required Minimum Buffer Distances between ASRs and Roads

Pollution Source	Type of Road	Buffer Distance	Permitted Uses
Road and Highways	Trunk Road and Primary Distributor	> 20m	Active and passive recreation use
		3 – 20m	Passive recreational use
		< 3m	Amenity areas
	District Distributor	> 10m	Active and passive recreational use
		< 10m	Passive recreational uses
	Local Distributor	> 5m	Active and passive recreational use
		< 5m	Passive recreational use
	Under Flyovers	-	Passive recreational use

- 2.1.8 Chapter 9 of HKPSG also stipulates the minimum buffer distance requirements between ASRs and chimneys. The buffer distances requirements are shown in **Table 2.3** below.

Table 2.3 Required Minimum Buffer Distances between ASRs and Chimneys

Difference in Height between Industrial Chimney Exit and ASR (m)	Minimum Buffer Distance (m)	Permitted Uses
<20	>200	Active and passive recreational uses
	5 – 200	Passive recreational uses
20 – 30	>100	Active and passive recreational uses
	5 – 100	Passive recreational uses
30 – 40	>50	Active and passive recreational uses
	5 – 50	Passive recreational uses
>40	>10	Active and passive recreational uses

2.2 Assessment Area

- 2.2.1 The study area for air quality impact assessment will cover an area of 500m away from the proposed development, which is shown in **Figure 2.1**.

2.3 Ambient Air Quality Levels

- 2.3.1 Background air quality levels of the Study Area has been estimated through a review of EPD's air quality monitoring data collected in Year 2017 to 2021. The nearest EPD air quality monitoring station (AQMS) from the proposed development is the Yuen Long AQMS at Yuen Long District Office, Yuen Long. Its latest 5 years of air quality data are summarised in **Table 2.4** to depict the trend of the local air quality.

Table 2.4 Ambient Air Quality From 2017 to 2021 at Yuen Long AQMS

Pollutant	Avg. Time	Conc. Limits (µg/m³)	Number of exceedances allowed	Concentration (µg/m³)						Remarks
				2017	2018	2019	2020	2021	5-yr Avg.	
Respirable Suspended Particulates (PM ₁₀) [i]	24-hour	100	9	87	75	83	77	73	79	10 th highest conc.
	Annual	50	NA	40	37	37	30	30	35	NA
Fine Suspended Particulates (PM _{2.5}) [i]	24-hour	50	9	47	41	38	33	36	39	19 th highest conc. [ii], [iii]
	Annual	25	NA	22	20	20	16	17	19	NA
Nitrogen Dioxide (NO ₂) [i]	1-hour	200	18	156	150	161	135	148	150	19 th highest conc.
	Annual	40	NA	41	43	44	32	40	40	NA
Sulphur Dioxide (SO ₂) [i]	10-min	500	3	80	52	42	26	24	45	4 th highest conc.
	24-hour	50	3	20	16	11	10	14	14	4 th highest conc.

Pollutant	Avg. Time	Conc. Limits ($\mu\text{g}/\text{m}^3$)	Number of exceedances allowed	Concentration ($\mu\text{g}/\text{m}^3$)						Remarks
				2017	2018	2019	2020	2021	5-yr Avg.	
Ozone (O_3)	8-hour	160	9	175	162	200	154	178	174	10 th highest conc.
Carbon Monoxide (CO)	1-hour	30,000	0	1450	1720	2150	1530	2090	1788	The highest conc.
	8-hour	10,000	0	1324	1574	1903	1279	1591	1534	The highest conc.

2.3.2 The ambient air quality in the vicinity of Site B of the proposed development generally complied with the AQOs criteria, except 8-hr O_3 exceeded its AQO limit in 2017 to 2019 and in 2021, and annual NO_2 exceeded the AQOs limit from 2017 – 2019 but it complied with the AQO criteria in 2020 and 2021. Nevertheless, Ozone is a regional problem in Hong Kong rather than a local issue. Apart from O_3 , most pollutants generally indicated a decreasing trend of their concentrations.

2.4 Identification of Representative Off-site Air Sensitive Receivers

2.4.1 The assessment area for the air quality assessment is defined as 500m away from the proposed development. Based on desktop review and the information from the survey maps, eight representative off-site Air Sensitive Receivers (ASRs) were identified, which would be potentially affected during the construction stage of the project. The identified representative ASRs are listed in **Table 2-5** below and their locations are shown on **Figure 2.2**.

Table 2-5 Representative Air Sensitive Receivers

ID	ASRs	Uses	Shortest Distance from Project Site Boundary of Site B (m)
A1	Kam Ping House, Long Ping Estate	Residential	435
A2	Yuen Long Long Ping Estate Tung Koon Primary School	Institutional	395
A3	Yuk Ping House, Long Ping Estate	Residential	325
A4	Wah Ping House, Long Ping Estate	Residential	243
A5	Tung Wah Group of Hospitals Lo Kan Ting Memorial College	Institutional	220
A6	No. 74 Shui Tin Tsuen	Residential	156
A7	No. 54A Fung Chi Tsuen	Residential	138
A8	No. 113 The Green Hills	Residential	8
A9	Wing Ning Tsuen Village Office	Office	90
A10	Planned School Site	Education	0 ^[1]

Note:

1. A10 is a planned school site. However, its tentative construction and operation programme is not yet available. It is recommended that 5m buffer distance shall be allowed between the road kerb and the air-sensitive uses of the school.

2.4.2 There is a school namely Umah International School identified to the southwest of the Site. As verified by site visit on 21 September 2022, the school was abandoned. Therefore, it is

not considered as ASR. Although some temporary structures near to the proposed new public roads were shown on the Lands Department (LandsD) survey maps, it was verified during site visit that those structures identified to the immediate southwest of the proposed new public road were no longer exist. Photos showing the existing conditions near the proposed new public road are shown on **Appendix 2.2** as reference. Therefore, no sensitive use is identified near to the proposed public road.

2.5 Air Quality Impact During Construction Phase

- 2.5.1 The principal potential source of air quality impact arising from the Project construction stage will be fugitive dust, which will be generated from the excavation, filling and temporary stockpiling of dusty construction materials. Construction work activities including site clearance, site formation and earth works are classified as “notifiable” and “regulatory” work under the Air Pollution Control (Construction Dust) Regulation.
- 2.5.2 Potential fugitive dust emissions would be generated arising from construction activities during site clearance, site formation, earth moving, transferring or handling of dusty materials and wind erosion. Conventional and traditional reinforced concrete (RC) construction method would be adopted for foundation and superstructure works. During the construction stages, foundation construction by bored piling method will be carried out prior to excavation and lateral support (ELS works), and then followed by superstructure construction.
- 2.5.3 Based on preliminary estimation, the total areas required for excavation, and filling works would be about 19,500m² for the entire Wang Chau Phase 1 Development. However, these works would not be carried out for the entire area of the Site at a time. Instead, these would be carried under different phasing and area required for the works would be limited (approximately less than 2,000 m²) during each phase. While the actual area required for excavation and site formation is subject to detailed design, significant dust impact is not anticipated with the excavation and filling works to be carried out in different phases and with the implementation of mitigation measures described in Sections 2.5.10.
- 2.5.4 As revealed from **Table 2-5** above, the separation distances between the offsite ASRs and the project site boundary range from 8m to 435m. Among the identified representative offsite ASRs, A8 is the closest ASR to the project site boundary of Site B, which is about 8m away. However, the proposed building structure Blocks D of Site B near A8 is actually located farther away from the project site boundary of Site B. The actual separation distance between A8 and dusty area is about 18m. With the implementation of some additional mitigation measures for example, erection of hoarding of not less than 2.4m high from ground level along the Site boundary between the dusty construction activities and the location A8, provision of dust screens to enclose the scaffolding, dusty construction activities of building works, enclose stockpiling materials by impervious sheeting/tarpaulin, continued spraying water for enhanced dust suppression measures, regular site inspections, site audits are recommended to be carried out by the contractors during construction stage to ensure that the dust control guidelines and recommended dust control measures could be properly followed and implemented on-site, the contractors shall investigate the causes of the problem immediately and provide mitigation measures as soon as possible, potential fugitive dust impacts to the A8 generated during the construction phase of the Project could be minimised.
- 2.5.5 Fugitive dust would also be generated when construction vehicles travelling at haul roads within the construction site. It is estimated that not more than 7 dump truck or vehicles per hour would be required within the construction site of Wang Chau Phase 1 development. Hence, the estimated numbers of vehicles to be travelled within the Project site boundary would be even less. While the actual number of vehicles travelling within the construction site is subject to detailed design and contractor's proposal, the fugitive impact arising from vehicle movement within the site is anticipated to be limited with the implementation of mitigation measures described in Sections 2.5.9. Furthermore, only NRMM with proper label would be used within the construction sites and exempted NRMM would be avoided as far as practicable according to the Air Pollution (NRMM) (Emission) Regulation, as well as with the use of Ultra Low Sulphur Dioxide (ULSD) diesel-operated construction plants, the emissions

generated from diesel-powered plant and equipment would be properly controlled and the potential construction dust generated during construction site is considered minimal.

- 2.5.6 The Site B of the Proposed Development will be tentative handover from CEDD to HKHA in mid-2023. There are a few concurrent projects located to the close proximity of the Site including CEDD's proposed junction improvement works at junction of Long Ping Road and Fung Chi Road, and drainage works for connecting from Fung Chi Road to Long Ping Sewage Pumping Station, proposed footbridge and associated lifts connected to the existing bus terminus at Long Ping Estate. These concurrent projects are within 500m study area of this project and would be tentatively completed in mid-2024. In this connection, there would be around 1 year overlapping of the construction periods of the Project and that of the concurrent projects of CEDD from 2023 to 2024. Nevertheless, these concurrent projects are considered small-scaled in nature and do not result in major dust impact. With proper implementation of dust suppression measures for concurrent projects and this Project, no adverse air quality impact is anticipated during the construction phase.
- 2.5.7 For the building works of Wang Chau Remaining Phases Public Housing Development located to the north of the Project, which would tentatively commence in 2029 and complete by 2033/34. Since the construction years of Wang Chau Remaining Phases Public Housing Development would be after this Project (i.e. commenced in 2020 and will be completed by 2027/2028), therefore it is not considered as concurrent project.
- 2.5.8 According to the schedule under the regulation, the Contractor shall implement dust suppression measures to control the dust emissions level.

Mitigation Measures – Construction Phase

- 2.5.9 In order to comply with APCO, requirements for dust control stipulated in the Air Pollution Control (Construction Dust) Regulation should be incorporated in the Contract Specification in order to minimise any potential dust nuisance arising from the construction activities of the Project. The levels of potential dust impact and the implementations of watering mitigation would be subject to the actual site condition. On-site electricity supply should also be provided for powered mechanical equipment during construction phase.
- 2.5.10 In addition to the watering, dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation, where applicable, should be implemented. Typical control measures are shown as below.
- The works area for site clearance shall be sprayed with water throughout the operation to maintain the entire surface wet;
 - Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading;
 - All vehicles shall be washed to remove any dusty materials from its wheels before leaving a construction site;
 - All spraying of materials and surfaces should avoid excessive water usage;
 - When a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by mechanical cover;
 - Travelling speeds should be controlled to reduce traffic induced dust dispersion and re-suspension within the Site from the operating trucks;
 - Erection of hoarding of not less than 2.4m high from ground level along the Site boundary and higher hoarding should be adopted at locations close to ASRs;
 - Locate the haul roads away from those ASRs that are located close to the Site;
 - Avoid dusty works to be carried out or placing stockpile near to ASRs;
 - Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides; and

- All dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.
- 2.5.11 With the implementation of dust control measures stipulated in the Air Pollution Control (Construction Dust) Regulation and the good site practices, dust generation could be properly controlled and adverse construction dust is not anticipated.

2.6 Air Quality Impact During Operation Phase

Vehicular Emissions from Off-site Traffic

- 2.6.1 Potential air quality impacts during operation phase would be mainly from vehicular emissions arising from the nearby road networks. Long Ping Road is located immediately South-East and South of the Site, while a new public road is located to the northeast of the Site. With reference to the Annual Traffic Census 2021 published by Transport Department (TD), Long Ping Road is identified as District Distributor (DD). According to the Chapter 9 of HKPSG requirements as tabulated in **Table 2.3**, 10m buffer distances between the air sensitive uses and the road kerbs are required for the Proposed Development. As shown on **Figure 2.3**, the sensitive uses of Site B of the proposed development that facing the Long Ping Road do not fall within the 10m buffer zone. On the other hand, the proposed new public road to the northeast of the Site is identified as Local Distributor (LD) as advised by the traffic engineer. Confirmation from Transport Department (TD) on the road type of this new public road was made and TD has no comment on the assumption of road type as above-mentioned. Confirmation from TD is attached in **Appendix 2.1**. Therefore, at least 5m buffer distance is required between the road kerbs and the sensitive uses of the proposed development. As shown on **Figure 2.3**, no sensitive use of the proposed development facing this new road fall within the required buffer zone. In addition, no existing ASR is identified within the 5m buffer zone from the proposed new public road as demonstrated in **Appendix 2.2**, which shows the existing conditions of Site B. Nevertheless, a planned school site is identified to the immediate south of the proposed new access road. However, its tentative construction and operation programme is not yet available. In addition, there is an unnamed local access road leading to Wing Ning Tsuen, which is located to the westernmost of the project site boundary of Site B and near to the Wing Ning Tsuen Village Office. This road is a local access road mainly used by the villagers or worker from the open storage, the traffic flow of this road is considered minor. The local road is also located more than 40m away from the project site boundary of Site B, which is far more than 5m buffer distance requirement for a local distributor. As sufficient buffer distance is allowed between this local access road and the proposed air-sensitive uses of Site B of the proposed development, adverse impact arising from this road to Site B of the proposed development is considered negligible.
- 2.6.2 According to the layout plans and the design no air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones, therefore no adverse air quality impact on Site B of the proposed development from the vehicular emission is anticipated.

Industrial Emissions

- 2.6.3 According to the desktop study, no existing industrial chimneys were identified within the 200m buffer area as stipulated in the HKPSG. Nevertheless, it is noted that five lots of planned Yuen Long Industrial Estate Extension (YLIEE) is located in the Wang Chau Industrial Estate as shown on **Figure 2.4**, which is more than 350m away from the project site boundary of Site B. King Lion PVC Pipe & Fitting Manufactory Ltd is located to its north and is about 70m away from Site B of the proposed development. A site visit was conducted on 8 July 2022, no odour smell was detected around the King Lion PVC Pipe & Pitting Manufactory Ltd and in nearby areas. In addition, no existing and active industrial chimney was identified within 500m Study Area. Thus, potential adverse industrial emission impacts to Site B of the proposed development are not anticipated.
- 2.6.4 Sufficient buffer distances are provided between the road kerbs of the surrounding roads and the air sensitive uses. Besides, no existing industrial emission impact is identified and no planned industrial chimneys will be located within 200m away from the project site boundary of

Site B, no adverse air quality impacts arising from the surrounding emissions to the proposed sensitive uses is anticipated. Therefore, no further mitigation measure is required during operation phase.

Other potential emission sources

- 2.6.5 Long Ping bus terminus is located to the east of the project site boundary of Site B. The locations of the exhaust outlets of the Long Ping bus terminus are identified and are shown on **Figure 2.4**. The locations of the nearest exhaust outlets to Site B are those installed directly facing to the Yuk Ping House and that facing to Wah Ping House of Long Ping Estate. The distances between the exhaust outlets of the bus terminus facing to Yuk Ping House (i.e. EO1) to the nearest project site boundary near to Block D of Site B is approximately 310m, while that of exhaust outlets that facing to Wah Ping House to the nearest project site boundary to Block D of Site B is approximately 270m. Given the identified sensitive uses in Blocks A to D are located at certain distances away from these exhaust outlets, and the exhaust outlet are not directly facing Site B. Potential adverse impacts arising from the emissions from the exhaust outlets are considered insignificant. Nevertheless, it is recommended that the future air sensitive uses in Site B of the proposed development such as openable windows and fresh air intake points shall be located away from the PTI and its exhaust as far as practicable.
- 2.6.6 There are two existing carparks are identified within 500m Study Area, one of it is located within Long Ping Estate near (CP1) to the Long Ping Community Hall, which is approximately 400m away from Site B of the proposed development. Another open carpark located at Chun Yin Square (CP2) is away from Site B of the proposed development for more than 500m. The existing carpark locations identified are shown on **Figure 2.4**. As these existing carparks are quite far away from the proposed development and the potential emission arising from these carparks would be blocked by some high-rise residential buildings, the potential emissions arising from these carparks to the proposed sensitive uses is considered insignificant.
- 2.6.7 On the other hand, there will be planned carpark located at Site B of the proposed development. Their proposed location of the carpark and their indicative air exhaust outlet locations could be referred to the layout plans shown in **Appendix 1.1** and **Appendix 2.3**, respectively. The locations of the exhaust air outlets will be taken into account in the future design development and will be reviewed and located as far as possible from any nearby air sensitive uses to avoid causing any potential air nuisance. In addition, the design and operation of the car parks shall follow the guidelines stated in EPD's ProPECC PN2/96 on Control of Air Pollution in Car Parks. As such, the potential air quality impacts arising from the carpark could be properly controlled under all conditions according to the guidelines.

3 RAILWAY NOISE IMPACT ASSESSMENT

3.1 Environmental Legislation, Standards and Guidelines

- 3.1.1 The noise criterion for assessing railway noise is controlled under Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM), as shown in **Table 3.1**. It follows the appropriate ANLs for the corresponding Area Sensitivity Ratings.
- 3.1.2 The Area Sensitivity Ratings of NSRs depend on the type of area containing the NSR in accordance with IND-TM. Reference has been made to relevant land use plans in the area and land use characteristics change due to the proposed development. With the proposed housing development in place, the type of area containing the NSR would no longer be rural area or low density residential area. The proposed development by virtue of its size and characteristics also play a major role in determining the type of area within which the NSR would be located.
- 3.1.3 Site B of the proposed development is surrounded by a mixture of conservative area, open spaces and residential area, as referred to Ping Shan OZP (Ref No.: S/YL-PS/20). According to IND-TM, it is located in the "Area other than above". Besides, Long Ping Road is not defined as an influencing factor, as confirmed in Annual Traffic Census 2021 where the annual average daily traffic flow is less than 30,000. Therefore, an Area Sensitivity Rating (ASR) of "B" is assigned to the Site B of the proposed development.

Table 3.1 Acceptable Noise Levels (ANLs) for Railway Noise Impact Assessment

Time Period	ANL, dB(A) Area Sensitivity Rating 'B'
Day (0700 to 1900 hours)	65
Evening (1900 to 2300 hours)	65
Night (2300 to 0700 hours)	55

- 3.1.4 In addition, in accordance with Table 4.1 of Chapter 9 of HKPSG, noise level for 24 hour period (L_{eq} 24 hour) should not exceed 65 dB(A) and that during the period between 11:00pm and 7:00am of the following day should not exceed L_{max} 85 dB(A). All these criteria only apply to NSRs relying on opened windows for ventilation.

3.2 Identification of Noise Source

- 3.2.1 The Tuen Ma Line (TML) is running close to the southern end of the site on a viaduct at about 10m above ground level. Key airborne noise sources including rolling noise and air-conditioning noise. Potential railway noise impacts have been addressed in this noise assessment. Assessment area for noise impact assessment is shown in **Figure 3.1**.
- 3.2.2 Noise consideration has been incorporated into building layout design of Site B. Block A of Site B has adopted a single-aspect design for minimizing noise exposure from TML. Most of the units in Block B, Block C and Block D of Site B are oriented with minimal line of sight to TML. For Block C of Site B, the lower level units shall be benefitted from the noise screening with the podium garden.

3.3 Assessment Methodology

- 3.3.1 Train operator, Mass Transit Railway Corporation Limited (MTRCL), has been approached to collate their latest operational information such as updated noise source term of TML, speed

profiles, headway during different time periods, track form design and the existing and committed noise mitigation measures in the vicinity of the proposed development. According to MTRCL, the future ultimate daily TML train frequency during day and evening time period (0700 – 2300 hours) is about 28 trains per hour per direction. For night-time period (2300 – 0700 hours), reference has been made to latest WRL EP (Ref.: FEP-24/004/1998/J). The ultimate daily train frequency during this period is 20 trains per hour per direction. Correspondence from MTRCL is provided in **Appendix 3.1**.

- 3.3.2 Railway noise impact has been predicted in accordance with “Calculation of Railway Noise (1995)” by the UK Department of Transport. Correction factors and operation details adopted in the railway noise impact assessment have been made reference to other studies/EIAs. A computer software CadnaA 2021 has been adopted to develop a computational model for the assessment.
- 3.3.3 On-site railway noise measurement was conducted to measure the SEL of TML on 21 September 2022. The measurement result is documented in Annex 1 of Appendix 3.2. Correction factors are applied to the measured train noise source term under latest operational parameters. See Table 2.1 and Table 2.2 of Appendix 3.2.
- 3.3.4 **Table 3.2** summarized the model inputs (in terms of Leq (30 mins) and Leq (24 Hours)) to CadnaA 2021 after applying relevant correction factors. For details of the derivation of model inputs, Annex 2 of **Appendix 3.2** shall be referred. It is noted that Leq (30 mins) of 67.7 dB(A) and 66.3 dB(A) are adopted for day and evening time and night-time period respectively. For Leq 24 hour, 63.4 dB(A) shall be adopted.

Table 3.2 Leq (30 mins) and Leq (24 hours) adopted for railway noise assessment

Parameters	Values
Day-time & Evening Leq(30min)	67.7
Night-time Leq(30min)	66.3
Leq(24 Hours)	63.4

- 3.3.5 The formula used in converting SEL (9-car) to Lmax is as follows:

$$SEL (9-Car) = L_{max} + 10\log(L/V) + 10.5 - 10\log[(4D/(4D^2 + 1)) + 2\tan^{-1}(1/2D)]$$

Where

L = train length, m (225m for 9-car train, with 25m for each car)

V = train speed, kph (i.e. 100 kmh)

d = Distance from track, m (reference distance at 25m)

$D = d / L$

$SEL (9-Car) = 83.3 \text{ dB(A)}$

- 3.3.6 From the above formula, the Lmax calculated is 74.3 dB(A). Taking into façade correction (+2.5 dB(A)) and poor track correction (+3 dB(A)), the Lmax at 25m away from the railway will still be less than 80 dB(A). Given that the nearest NSR in the Proposed Development to the rail track is the Integrated Social Welfare Block (ISWB), which is more than 25m away, the predicted Lmax at the noise receivers of ISWB is expected to be less than 80 dB(A). Thus, it is expected that the predicted Lmax at the proposed development shall fully comply to the HKPSG's noise criterion of Lmax at 85 dB(A).

3.4 Noise Sensitive Receivers

- 3.4.1 Noise sensitive receivers within the proposed development with all noise assessment points are identified in **Figure 3.2** and summarized in **Table 3.3**.

Table 3.3 Representative NSRs for Railway Noise Assessment

Location	NSR	No of Storeys with Noise Sensitive Uses ^[1]	Uses ^[2]	Day & Evening/ Night-Time Criterion, L _{eq} 30min, dB(A)	Criterion, L _{eq} 24 hour, dB(A)	Criterion L _{max} , dB(A)
Site B	Block A	38	R	65/55	65	85
	Block B	21 – 38 ^[3]	R	65/55	65	85
	Block C	21 – 38 ^[3]	R	65/55	65	85
	Block D	23 – 38 ^[3]	R	65/55	65	85
	ISWB	5	SWF	65/55	65	85

Note:

[1] The assessment will only include NSRs which rely on opened windows for ventilation.

[2] R – Residential Premises, SWF – Social Welfare Use

[3] Truncated blocks have been adopted for Block B to Block D

3.5 Prediction and Evaluation of Environmental Impact

Base Case Scenario

- 3.5.1 The predicted railway noise level during day and evening time, and night-time at the representative NSRs are presented in **Table 3.4**. The predicted railway noise level under Leq 24 hour is presented in **Table 3.5**. Detailed results are provided in **Appendix 3.3**.

Table 3.4 Predicted Railway Noise Impacts (Base Case Scenario) – Leq 30 mins

NSR	Uses	Day & Evening/ Night-Time Criterion, L _{eq} 30min, dB(A)	Max. Predicted Noise Levels, Leq 30min, dB(A)			
			Day & Evening-time	Exceedance	Night-time	Exceedance
Site B – Block A	R	65/55	55	0	53	0
Site B – Block B	R	65/55	60	0	59	4
Site B – Block C	R	65/55	56	0	55	0
Site B – Block D	R	65/55	59	0	58	3
ISWB	SWF	65/55	59	0	58	3

Table 3.5 Predicted Railway Noise Impacts (Base Case Scenario) – Leq 24 Hour

NSR	Uses	Criterion, L _{eq} 24 Hours, dB(A)	Leq 24 Hours	
			L _{eq} 24 Hour, dB(A)	Exceedance
Site B – Block A	R	65	50	0

NSR	Uses	Criterion, $L_{eq\ 24\ Hours}$, dB(A)	Leq 24 Hours	
			$L_{eq\ 24\ Hour}$, dB(A)	Exceedance
Site B – Block B	R	65	56	0
Site B – Block C	R	65	52	0
Site B – Block D	R	65	55	0
ISWB	SWF	65	55	0

- 3.5.2 As shown in **Table 3.4** and **Table 3.5**, the predicted noise levels at Site B Block B, Site B Block D and ISWB for night-time period would exceed the stipulated criterion ($L_{eq\ 30\ mins}$) (i.e. 55 dB(A)) up to 4 dB(A). Exceedance is not expected under criterion using day and evening time ($L_{eq\ 30\ mins}$) and $L_{eq\ (24\ hours)}$.

Mitigated Scenario

- 3.5.3 To mitigate the railway noise exceedance during night-time period, 1.5m long architectural fins and specially provided glazings are proposed for units with railway noise exceedance in Block B and Block D of Site B as illustrated in **Figure 3.3**. For ISWB of Site B, architectural fins with various length (i.e. 1.5m, 2.0m and 2.2m) will be applied to mitigate railway noise exceedance.
- 3.5.4 It is noted that architectural fins are expected to effectively reduce the angle of view from the noise sensitive use to the railway tracks, thus reducing railway noise impact on the unit with railway noise exceedance. Architectural fins will be applied to Block B, Block D and ISWB in Site B. The architectural fins are applied with adequate spacing to avoid issue of noise reverberance. The architectural fin is also provided at one floor below the lowest exceeding floor to avoid significant noise deflection from underneath the fin. Thus, the effectiveness of architectural fins in reducing railway noise impact is ensured, i.e. the typical noise reduction by fin can achieve 3 dB(A). The extent of fin to be applied is indicated in **Figure 3.3** and **Table 3.6** below.

Table 3.6 Location of Proposed Architectural Fin

Location	Block	Fin Location	Flat Units with Noise Exceedance Mitigated by Fin	Implemented Floor (Length of Fin) ^[1]
Site B	B	SB07b	SB06c, SB07a, SB07b	26/F – 40/F (1.5m)
	B	SB08d	SB08b, SB08c, SB08d	12/F – 24/F (1.5m)
	B	SB09a	SB09a, SB09b, SB09c	13/F – 24/F (1.5m)
Site B	B	SB10b	SB10b, SB10c, SB11a	26/F – 40/F (1.5m)
	D	SD08b	SD08b, SD08c	22/F – 40/F (1.5m)
	ISWB	ISWB_1_12	ISWB_1_12	G/F – 1/F (1.5m)
	ISWB	ISWB_2_7 ISWB_3_7 ISWB_4_7 ISWB_5_7	ISWB_2_7, ISWB_3_7, ISWB_4_7, ISWB_5_7	1/F – 5/F (2.2m)

Location	Block	Fin Location	Flat Units with Noise Exceedance Mitigated by Fin	Implemented Floor (Length of Fin) ^[1]
	ISWB	ISWB_2_8 ISWB_3_8	ISWB_2_13, ISWB_3_13	1/F – 3/F (1.5m)
	ISWB	ISWB_2_14 ISWB_3_14 ISWB_4_13	ISWB_2_14, ISWB_3_14, ISWB_4_13, ISWB_4_14	1/F – 4/F (2.0m)
	ISWB	ISWB_2_6 ISWB_3_6 ISWB_4_6 ISWB_5_6	ISWB_3_6, ISWB_4_6, ISWB_5_6	2/F – 5/F (2.0m)

Note:

[1] To ensure effectiveness of fin, the fin is applied at one floor lower than the lowest exceeding floor.

- 3.5.5 Specially Provided Glazing is constructed of 6mm thick window-pane and provide better insulation to railway noise transmission. Specially Provided Glazing will be applied to side windows with noise exceedance at Block B and Block D in Site B. It is noted that Specially Provided Glazing are not for ventilation purpose and are only openable for maintenance/cleansing purpose. Special key lock device such as allen key shall be provided for maintenance/cleansing use. The intention of Specially Provided Glazing and special key lock device shall be stated clearly in the Decoration Handbook/Deed of Mutual Covenant (DMC) and sales brochure (subject to housing type) in order to properly inform future occupants on the purpose of such provision. The location of provision of specially provided glazing is presented in **Table 3.7** below.

Table 3.7 Location of Specially Provided Glazing for Mitigation of Railway Noise Exceedance

Location	Block	Use	NAP	Floor
Site B	B	R	SB07c	26/F – 40/F
	B	R	SB10a	26/F – 40/F
	D	R	SD08a	14/F – 40/F

- 3.5.6 The predicted railway noise levels under mitigated scenario at the representative NSRs are presented in **Table 3.8**. Detailed results are provided in **Appendix 3.4**.

Table 3.8 Predicted Railway Noise Impacts at Site B (Mitigated Scenario)

Block	Uses	Night-Time Criterion, L_{eq} 30min, dB(A)	Max. Predicted Noise Levels, L_{eq} 30min, dB(A)	
			Night-time	Compliance Rate
B	R	55	55	100%
D	R	55	55	100%
ISWB	SWF	55	55	100%

- 3.5.7 As shown in **Table 3.8**, the predicted noise levels under mitigated scenario would comply with both day & evening time and night-time period. Thus, with implementation of mitigation measures, potential railway noise impact is anticipated to be insignificant.

4 ROAD TRAFFIC NOISE IMPACT ASSESSMENT

4.1 Environmental Standards and Guidelines

4.1.1 Standards, Guidelines and Criteria relevant to the consideration of planning against possible road traffic noise impact under this assessment include the following:

- Chapter 9 of the Hong Kong Planning Standards and Guidelines (HKPSG)

4.1.2 The noise criteria for evaluating noise impact of planning development with respect to road traffic noise are based on the HKPSG. The summary of noise criteria is given in **Table 4.1** below.

Table 4.1 Relevant Road Traffic Noise Standards for Planning Purposes

Uses	Road Traffic Noise Peak Hour Traffic L_{10} (1 Hour), dB(A)
All domestic premises including temporary housing accommodation, offices	70
Educational institutions including kindergartens, child-care centres (CCC) and all other where unaided voice communication is required	65
Hospitals, clinics, Convalescences and residential care homes for the elderly - Diagnostic rooms - Wards	55

Notes:

- (i) The above standards apply to uses which rely on opened windows for ventilation.
(ii) The above standards should be viewed as the maximum permissible noise levels assessed at the external façade.

4.2 Identification of Noise Source

4.2.1 Road traffic noise from the nearby road network is anticipated. An area within 300m from the site boundary is proposed for noise impact assessment in this study. **Figure 3.1** shows the nearby road network within the 300m Assessment Area. Long Ping Road is identified to be the dominant source of road traffic noise as they are close to the proposed development with large traffic volume. The extent of low noise road surface at Long Ping Road is referenced from the Final PER (Wang Chau) IDC undertaken by CEDD. Please refer to Appendix 4.1 for the extent of LNRS.

4.2.2 Noise consideration has been incorporated into the design consideration of Site B of the proposed development. Block A to Block D of Site B are located further away from Long Ping Road to minimize traffic noise impact. The lower units of Block A to Block D will be subject to less traffic noise impact due to screening by the podium structure. For ISWB of Site B, it is oriented in such a way where view angle to Long Ping Road is minimized.

4.3 Assessment Methodology

4.3.1 The peak hour road traffic noise levels at the proposed development have been predicted based on calculation method in accordance with the "Calculation of Road Traffic Noise" (CRTN) issued by the UK Department of Transport. The existing roads within 300m from the proposed development have been included in the assessment.

- 4.3.2 Representative noise assessment points of the NSRs, building structures with noise screening effect, topographical contours and road segments with traffic flow data were input into the traffic noise model in evaluating the potential traffic noise impacts. Traffic data included traffic flow, percentage of heavy vehicles and speeds.
- 4.3.3 The assessment year adopted in this EAS was determined based on the maximum traffic projection within 15 years upon occupation of proposed development. Therefore, the traffic forecast for Year 2044 was adopted in the assessment. (i.e. the operation year 2029 + 15 years) The traffic data adopted for this study had been checked and confirmed by competent party (i.e. the Traffic Consultant, WSP (Asia) Ltd). Given that the AM peak hour flow is more severe than that of the PM peak hour flow, AM peak hour flow is adopted in our road traffic noise assessment. The traffic forecast data in Year 2044 and traffic flow diagram adopted for this study are presented in **Appendix 4.1**. Endorsement from Transport Department is being sought currently and will be provided once it is available.

4.4 Evaluation and Assessment of Noise Impacts

- 4.4.1 Based on the given development scheme, noise sensitive uses which rely on openable windows for ventilation have been assigned with the noise assessment points at the proposed residential developments in Site B (see **Figure 3.2**). Predicted peak hourly road traffic noise levels at representative noise sensitive receivers are summarized in **Table 4.2**. Detailed breakdown of the road traffic noise results in base scenario is shown in **Appendix 4.2**.

Table 4.2 Summary of Predicted Road Traffic Noise Result for the Proposed Residential Blocks in Site A and Site B (Base Case Scenario)

Location	Block	Noise Criterion L ₁₀ (1 Hour) dB(A)	Total No. of Flats	Predicted Maximum L ₁₀ (Peak Hour), dB(A)	No. of Dwellings with Noise Exceedance	Compliance Rate (%)
Site B	A	70	456	68	0	100
	B		550	68	0	100
	C		377	68	0	100
	D		507	70	0	100

- 4.4.2 It is noted that noise exceedance is not found in any blocks in Site B.
- 4.4.3 All noise sensitive uses which rely on openable windows for ventilation have been assigned with the noise assessment points at ISWB of the proposed development (see **Figure 3.1**). Predicted peak hourly road traffic noise levels at ISWB are summarized in **Table 4.3**. Detailed breakdown of the road traffic noise results in base scenario is shown in **Appendix 4.2**.

Table 4.3 Summary of Predicted Road Traffic Noise Result for the Proposed Development in ISWB (Base Case Scenario)

Floor	Type	Room	NAP	Purpose/Use as stipulated in HKPSG	Noise Criterion L ₁₀ (1 Hour) dB(A)	Predicted Maximum L ₁₀ (1 Hour), dB(A)	Exceedance (Y/N)
1/F	Child Care Centre (CCC)	Dormitory	ISWB_1_1 to ISWB_1_3	Domestic use within CCC where unaided voice communication is expected.	65	64	N
		Play Cum Dining Area	ISWB_1_4 to ISWB_1_5	This area is considered to be a general area within CCC where unaided voice communication is expected.	65	63	N
		Office/Staff Room	ISWB_1_11 to ISWB_1_12	General office use within CCC where unaided voice communication is expected.	65	62	N
		Small Group Tuition Room	ISWB_1_13	This room will not be used as domestic purpose or medical purpose with diagnostic use. Tuition class is expected to be organized in this room. Thus, it is considered to be an education use.	65	61	N
		Assistant Supervisor's Room	ISWB_1_14	Office use for assistant supervisor within CCC where unaided voice communication is expected.	65	59	N
		Supervisor's Room	ISWB_1_15 to ISWB_1_16	Office use for assistant supervisor within CCC where unaided voice communication is expected.	65	60	N
		Medical/Isolation Room	ISWB_1_17	Medical room for occupants in CCC. For conservative consideration, diagnostic purpose is assumed. 55 dB(A) is adopted as noise criterion.	55	52	N
	Day Activity Centre (DAC)	Dining/Multi- Purpose/ Social Training	ISWB_1_6 to ISWB_1_7	This room will not be used for any medical purpose with diagnostic use. For social training, it is considered to be education use. Thus, for conservative consideration, this room is considered to be education use.	65	53	N
		General Office/Staff Room	ISWB_1_8	Office	70	52	N
		Office in Charge	ISWB_1_9	Office	70	52	N
		Sick Bay/Nurse Duty Room	ISWB_1_10	Medical room for occupants in DAC. For conservative consideration, diagnostic purpose is assumed. 55 dB(A) is adopted as noise criterion.	55	53	N

Floor	Type	Room	NAP	Purpose/Use as stipulated in HKPSG	Noise Criterion L ₁₀ (1 Hour) dB(A)	Predicted Maximum L ₁₀ (1 Hour), dB(A)	Exceedance (Y/N)
2/F	Hostel for Moderately Mentally Handicapped Persons (HMMH)	Dormitory	ISWB_2_1 to ISWB_2_7; ISWB_2_16	Domestic use in hostel	70	66	N
		TV/Common Room for Residents	ISWB_2_8 to ISWB_2_9	Room where occupants gather around for domestic purpose	70	53	N
		Dining/Multi- Purpose Room	ISWB_2_10	For multi-purpose use, it will not be used as education purpose, medical purpose with diagnostic use and office use. It is mainly used for activities where occupants gather around for domestic purpose. Thus, it is considered to be domestic use.	70	53	N
		Isolation Room	ISWB_2_11	Medical room for occupants in HMMH. For conservative consideration, diagnostic purpose is assumed. 55 dB(A) is adopted as noise criterion.	55	53	N
		Sick Bay/Nurse Station	ISWB_2_12	Medical room for occupants in HMMH. For conservative consideration, diagnostic purpose is assumed. 55 dB(A) is adopted as noise criterion.	55	54	N
		Small Group Room	ISWB_2_13	This room will not be used as domestic purpose or medical purpose with diagnostic use or office purpose. It will be used for providing trainings to occupants in a small group context. Thus, it is considered to be an education use.	65	55	N
		General Office	ISWB_2_14	Office	70	61	N
		Warden's Office	ISWB_2_15	Office	70	60	N
3/F	Hostel for Severely Mentally Handicapped Persons (HSMH)	Dormitory	ISWB_3_1 to ISWB_3_7; ISWB_3_16	Domestic use in hostel	70	67	N
		TV/Common Room for Residents	ISWB_3_8 to ISWB_3_9	Room for occupants to gather around for domestic manner	70	53	N
		Dining/Multi- Purpose Room	ISWB_3_10	For multi-purpose use, it will not be used as education purpose, medical purpose with diagnostic use and office use. It is mainly used for activities where occupants gather around in a domestic	70	53	N

Floor	Type	Room	NAP	Purpose/Use as stipulated in HKPSG	Noise Criterion L ₁₀ (1 Hour) dB(A)	Predicted Maximum L ₁₀ (1 Hour), dB(A)	Exceedance (Y/N)
				manner. Thus, it is considered to be domestic use.			
		Sick Bay/Nurse Duty Room	ISWB_3_11	Medical room for occupants in HSMH. For conservative consideration, diagnostic purpose is assumed. 55 dB(A) is adopted as noise criterion.	55	53	N
		Small Group Room	ISWB_3_12	This room will not be used as domestic premises/medical room with diagnostic use or office purpose. It will be used for providing trainings to occupants in a small group context. Thus, it is considered to be an education use.	65	54	N
		General Office	ISWB_3_13 to ISWB_3_14	Office	70	61	N
		Warden's Office	ISWB_3_15	Office	70	59	N
4/F	Residential Care Homes for the Elderly (RCHE)	Dormitory	ISWB_4_1 to ISWB_4_7; ISWB_4_15	Domestic use in RCHEs	70	67	N
		Dining/Multi-Purpose Room 1	ISWB_4_8 to ISWB_4_10	For multi-purpose use, it will not be used as education purpose, medical purpose with diagnostic use and office use. It is mainly used for activities where occupants gather around in a domestic manner. Thus, it is considered to be domestic use.	70	53	N
		Sick Bay/Isolation Quiet Room	ISWB_4_11	Medical room for elderly in RCHEs. For conservative consideration, diagnostic use is assumed.	55	53	N
		Nurse Station	ISWB_4_12	This room is considered to be a resting/napping area for nurses on duty. It is considered to be domestic use.	70	53	N
		General Office	ISWB_4_13	Office	70	61	N
		Super-Intendent's Office	ISWB_4_14	Office	70	59	N
5/F		Dormitory	ISWB_5_1 to ISWB_5_7; ISWB_5_13	Domestic use in RCHEs	70	68	N

Floor	Type	Room	NAP	Purpose/Use as stipulated in HKPSG	Noise Criterion L ₁₀ (1 Hour) dB(A)	Predicted Maximum L ₁₀ (1 Hour), dB(A)	Exceedance (Y/N)
		Dining/Multi-Purpose Room 2	ISWB_5_8 to ISWB_5_10	For multi-purpose use, it will not be used as education purpose, medical purpose with diagnostic use and office use. It is mainly used for activities where occupants gather around in a domestic purpose. Thus, it is considered to be domestic use.	70	53	N
		End of Care Room/Sick Bay	ISWB_5_11	Medical room for seriously ill elderly in RCHEs. For conservative consideration, diagnostic use is assumed	55	53	N
		Sick/Isolation/Quarantine Room	ISWB_5_12	Medical room for Elderly in RCHEs. For conservative consideration, diagnostic use is assumed	55	53	N

Notes:

- Noise sensitive use that rely on openable window for ventilation is not expected at other floors. For noise criterion adopted for different types of use, **Table 4.1** is referred.

- 4.4.4 It is noted that noise exceedance is not expected at ISWB with respect to the L10 (1 Hour) noise criterion as stipulated in HKPSG.

5 FIXED NOISE IMPACT ASSESSMENT

5.1 Environmental Legislation, Standards and Guidelines

- 5.1.1 Fixed noise source impact arising from existing noise sources is controlled under the NCO and shall comply with the ANLs laid down in the Table 2 of the IND-TM. For a given Area Sensitivity Rating (ASR), the ANL, in dB(A), is given by **Table 5.1**.

Table 5.1 Acceptable Noise Level for Fixed Plant Noise

Time Period	Area Sensitivity Rating		
	A	B	C
Day time (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)	60	65	70
Night-time (2300 to 0700 hours)	50	55	60

Notes:

- (i) The above standards apply to uses which rely on opened windows for ventilation
 - (ii) The above standards should be viewed as the maximum permissible noise levels assessed at 1m from the external facade
- 5.1.2 As stated in Section 3.1.3, ASR of “B” is adopted for the Proposed Development. The ANL in $L_{eq(30min)}$ dB(A) regarding to the ASR for both daytime, evening and night-time are shown in **Table 5.2** below.

Table 5.2 Noise Criteria for Fixed Noise Impact Assessment

Area Sensitivity Rating	Time Period	ANL, $L_{eq(30min)}$, dB(A)
B	Day and evening time (0700 – 2300 hours)	65
B	Night-time (2300 – 0700 hours)	55

5.2 Identification of Noise Source

- 5.2.1 With reference to previous HKHA’s Study on “Planning and Engineering Study for the Public Housing Site and Yuen Long Industrial Estate Extension at Wang Chau”, potential fixed noise sources within 300m noise assessment area were identified on the rooftop of Long Ping Commercial Complex (LP_01 & LP_02) and King Lion P.V.C. Pipes & Fittings Manufactory Limited (KL_01 & KL_02), as shown in **Table 5.3**. Site inspections and on-site noise measurements were conducted on 19 June 2020 to verify the previous findings. Another fixed noise source was identified on the rooftop of Long Ping Commercial Complex (LP_03).
- 5.2.2 Recent site visit was conducted on 21 September 2022. It is noted that tonality and impulsiveness from existing fixed noise sources on the rooftop of Long Ping Commercial Complex are not observed along the study boundary in Long Ping Road.
- 5.2.3 There are some existing workshops with open car-parking area along Fuk Hi Street identified. These workshops are usually car-servicing workshops. Noticeable fixed noise impact is not identified. Consider that these workshops are not close to the noise sensitive uses within the proposed development, they are not included in the following quantitative fixed noise assessment.

- 5.2.4 The sound power levels (SWLs) of fixed noise sources adopted were based on the results of on-site noise measurements, which are documented in **Appendix 5.1**. The identified fixed noise sources are shown in **Figure 5.1** and summarized in **Table 5.3**.

Table 5.3 Summary of Fixed Noise Sources Operating during Day and Evening Time

ID	Types of Equipment/Industrial Activities	Location	Operation Mode	SWL/SPL
LP_01	Chillers	Long Ping Commercial Complex (Rooftop)	Based on the interview with management office, the fixed noise sources do not operate during night-time period	97.8
LP_02	Cooling Towers/Chillers			94.0
LP_03	Water Pump			77.5 ^[2]
KL_01	Production of PVC Pipes	King Lion P.V.C. Pipes & Fittings Manufactory Limited ^[1]	Based on site visit during night-time period, no noisy industrial activities were observed.	101.5
KL_02				101.5

Notes:

[1] The accessibility was constrained during the site visit in June 2020. Locations of fixed noise sources were identified based on previous HKHA's study. On-site noise measurement was conducted near the entrance of the factory.

[2] For LP_03, 77.5 dB(A) is the sound pressure level (SPL) at 1m from the source.

- 5.2.5 For the assessment of fixed noise impact, ANL of 65 dB(A) for day and evening time was adopted.

5.3 Assessment Methodology

- 5.3.1 With reference to "Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites" (IND-TM), the following equation is used for predicting the Sound Pressure Level (SPL) of the identified fixed noise sources at the representative Noise Sensitive Receivers (NSRs):

$$\text{SPL} = \text{SWL} + \text{DC} + \text{BC} + \text{TC} + \text{FC}$$

Where *SPL*: Sound Pressure Level in dB(A) at NSR

SWL: Sound Power Level of equipment in dB(A)

Distance Correction in dB(A): $-(20\log D + 8)$ dB(A), with *D* being the shortest distance between the noise source point and the NSR.

Barrier Correction: -10 dB(A) if the concerned fixed noise source is totally screened by building structures or other barrier structures.

Tonal Correction: 0 dB(A), as tonality is not observed.

Impulsiveness Correction: 0 dB(A), as impulsiveness is not observed

Intermittency Correction: 0 dB(A), not applicable.

Facade Correction: +3 dB(A), in account of acoustic reflection by the façades of the premises.

- 5.3.2 Noise impact from the identified fixed noise sources was determined based on standard acoustical principle and practice. The identified noise sources were assumed as point sources for the purpose of determining attenuation due to distance separation from the nearest NSR.

5.4 Fixed Noise Impact Assessment

- 5.4.1 Site B Block A have the shortest distance to King Lion P.V.C. Pipes & Fittings Manufactory Limited where fixed noise sources are located. To access the worst case scenario, unit SA03 of Site B are selected for the assessment due to their proximity to the fixed noise sources with a direct line of sight. It is noted that King Lion P.V.C. Pipes & Fittings Manufactory Limited is not expected to operate during night-time. As such, only day/evening scenario was considered in this preliminary assessment.
- 5.4.2 Predicted noise level at the representative NAPs under worst case scenarios are summarised in **Table 5.4** below. Calculations are presented in **Appendix 5.2**.

Table 5.4 Results of Fixed Noise Impact on Proposed Development (Day/Evening Scenario)

Location	Unit	NAP	Predicted Noise Level, dB(A)	ANL (Day/Evening), dB(A)	Compliance
Site B Block A	SA03	SA03a	61	65	Yes

- 5.4.3 Based on the assessment results, the predicted fixed noise levels at the representative NAPs would comply with the daytime/evening noise criteria.
- 5.4.4 Based on the assessment results, the predicted fixed noise level is not expected to exceed 61 dB(A), which would comply with the daytime/evening noise criteria of 65 dB(A). Thus, no specific noise mitigation measures are required for the proposed development.

6 CONCLUSION

6.1 Air Quality

- 6.1.1 With the implementation of control measures as specified in accordance with Air Pollution Control (Construction Dust) Regulation and the good site practices as mentioned in Section 2.5, adverse air quality impacts arising during the construction phase of the Project is not anticipated.
- 6.1.2 During operation phase, no existing and planned industrial emission is identified within 200m Study Area, hence adverse air quality impacts arising from industrial emissions is not anticipated. On the other hand, the buffer distances between the road kerbs of nearby roads around the Site and the sensitive uses of the proposed development could comply with the relevant HKSPG requirements, potential impacts from vehicular emissions generated by the nearby road networks to the sensitive uses will be insignificant.

6.2 Railway Noise

- 6.2.1 Railway noise impacts have been assessed. Exceedance of noise criterion under NCO is expected at Block B, Block D and ISWB of Site B during night-time operation up to 4 dB(A). The night-time exceedance could be mitigated by the provision of specially provided glazing and 1.5m – 2.2m architectural fins.

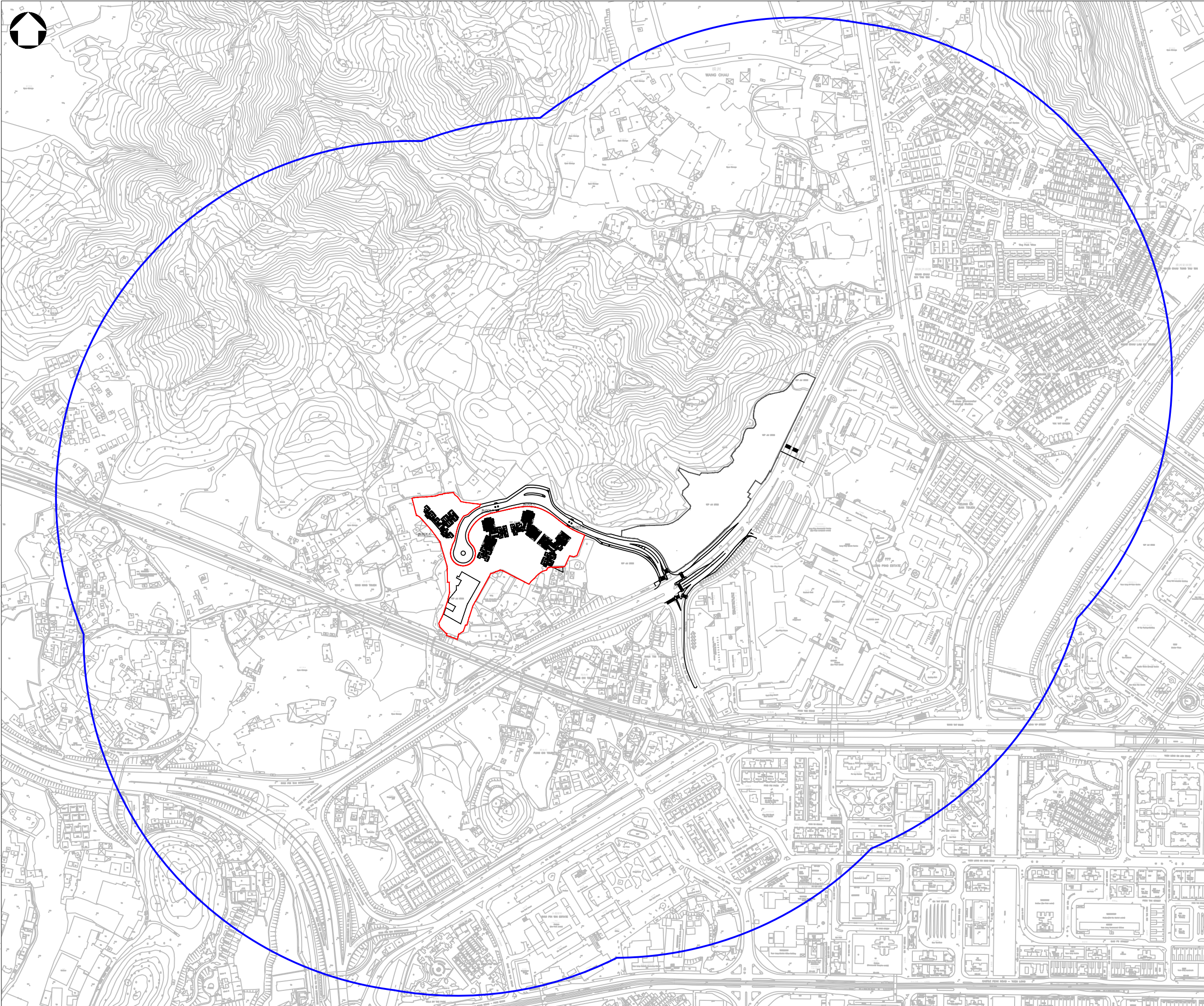
6.3 Road Traffic Noise

- 6.3.1 Road traffic noise impacts have been assessed for Site B. Based on the result for Base Case Scenario, road traffic noise exceedance is not expected at Site B of the proposed development.

6.4 Fixed Noise Sources

- 6.4.1 Potential fixed noise sources were identified on the rooftop of Long Ping Commercial Complex and King Lion P.V.C. Pipes & Fittings Manufactory Limited. On-site noise measurement was conducted in June 2020. Tonality and impulsiveness were not observed. The result of the assessment showed that the maximum predicted noise levels associated with the day & evening time operation of fixed noise sources are 61 dB(A), which would comply with the ANL of 65 dB(A).

FIGURE




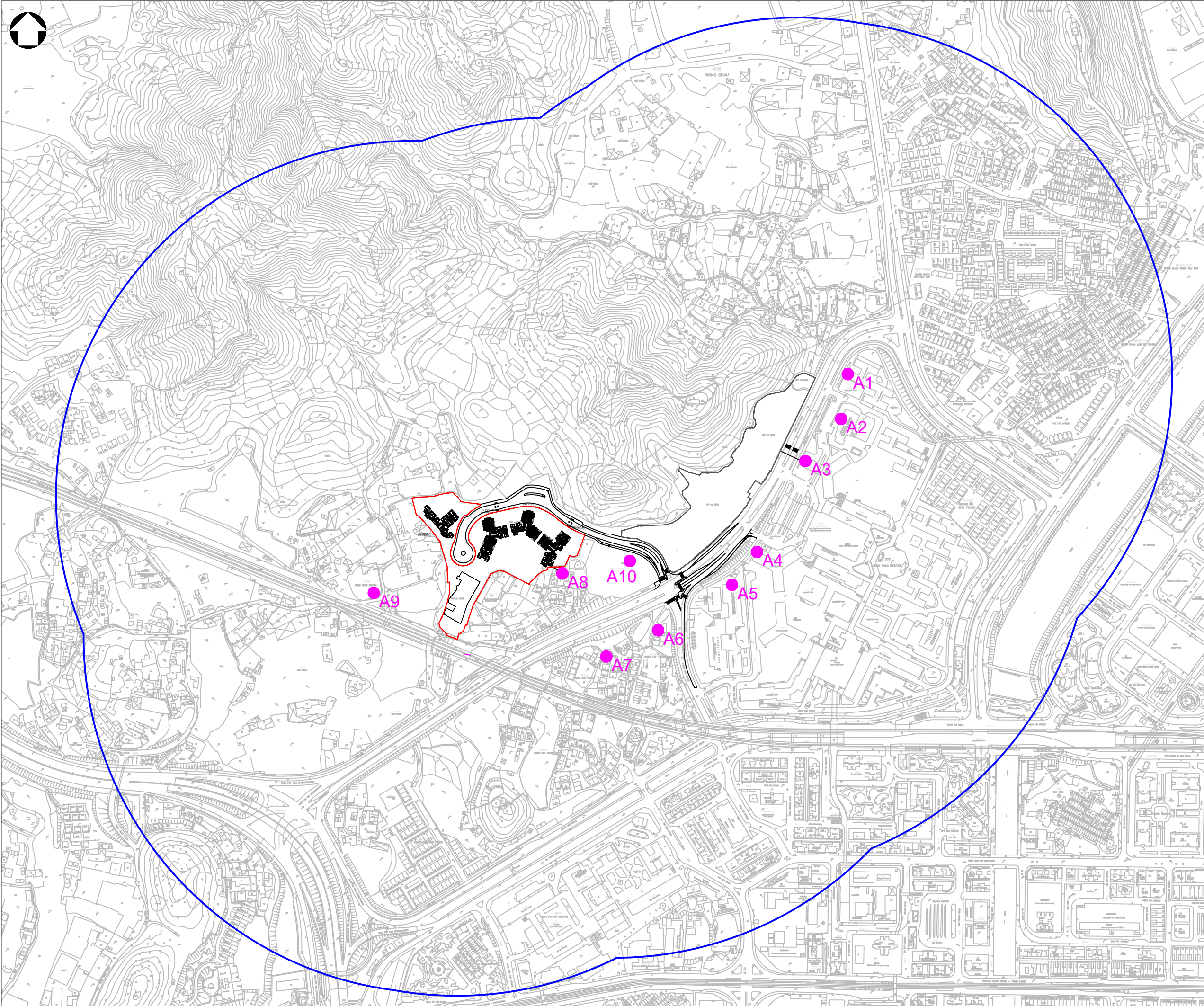
NOTES :

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES (M) AND RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD).

LEGEND :

- 500M AIR QUALITY ASSESSMENT AREA
- PROJECT SITE BOUNDARY

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
500M AIR QUALITY IMPACT ASSESSMENT STUDY AREA			
Drawing no.		Rev.	
FIGURE2.1		1	
Drawn	Date	Checked	Approved
LW	DEC2022	CY	BC
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NOTES :

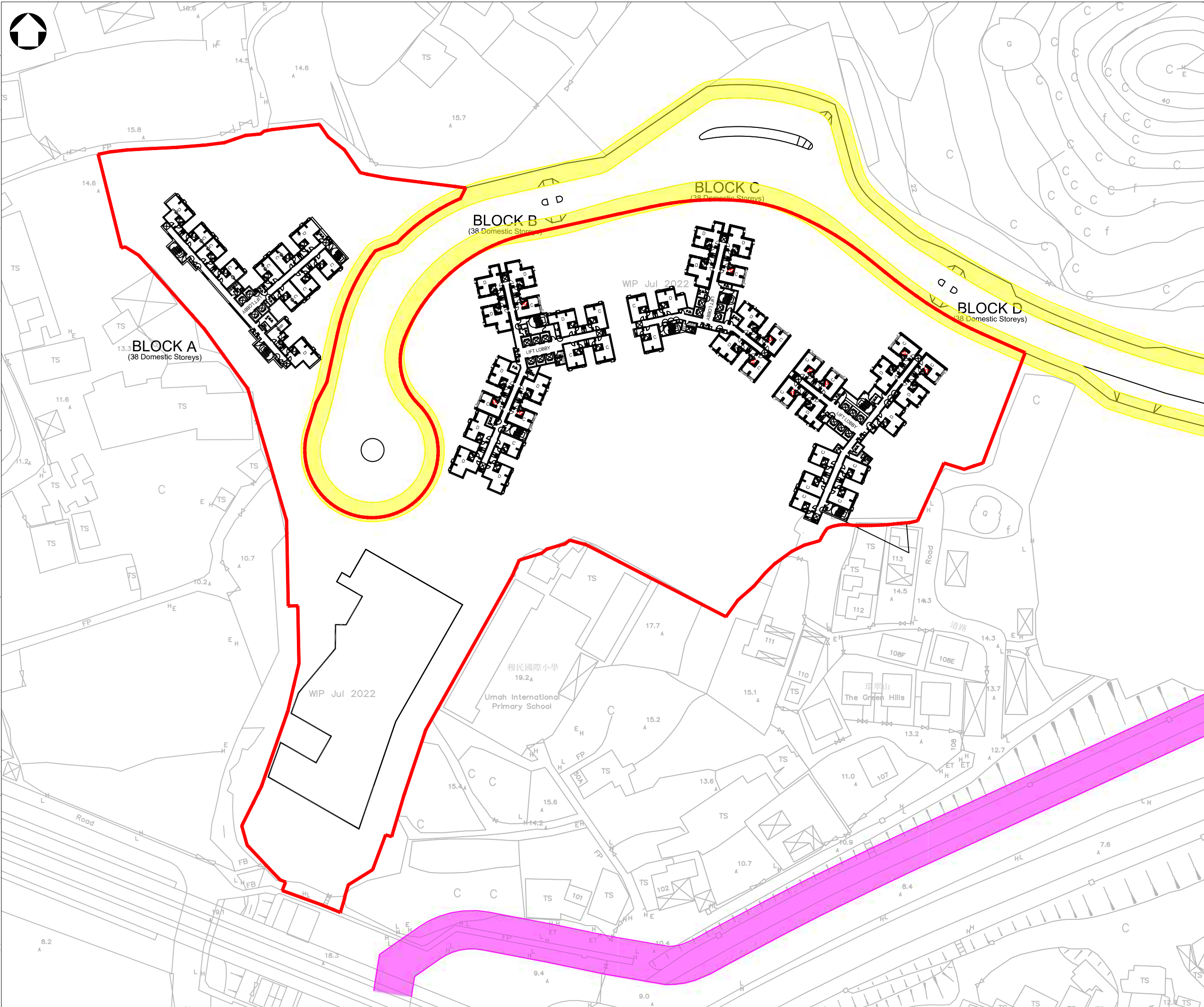
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LEGEND :

- 500M AIR QUALITY ASSESSMENT AREA
- PROJECT SITE BOUNDARY
- AIR SENSITIVE RECEIVER

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS			
Drawing no.		Rev.	
FIGURE2.2		1	
Drawn	Date	Checked	Approved
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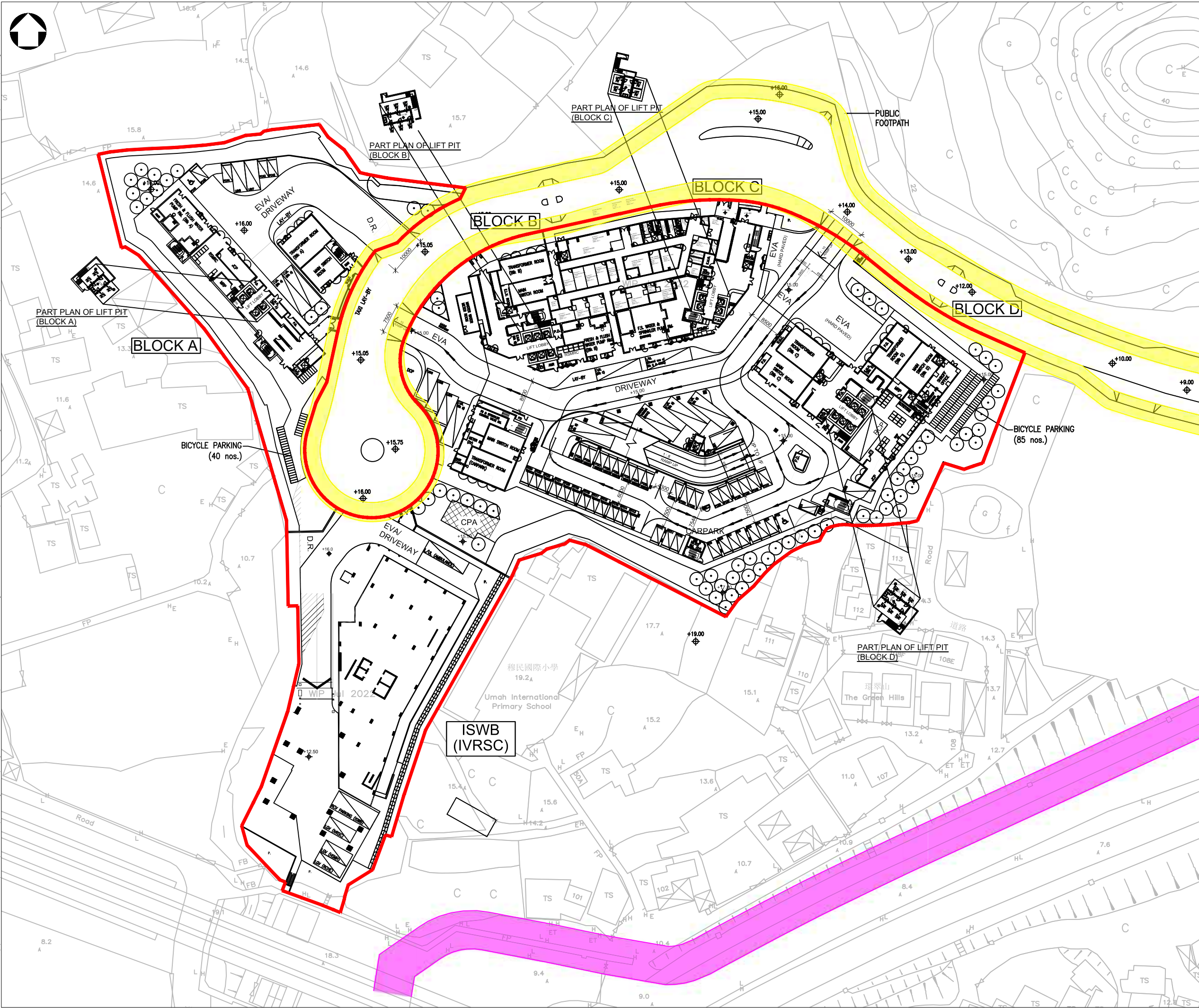
LEGEND :

- SITE BOUNDARY
- 5M AIR BUFFER ZONE
- 10M AIR BUFFER ZONE

Remarks: No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Rev	Description	By	Date
Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
BUFFER ZONE FOR SITE B BLOCK A-D & ISWB (TYPICAL FLOOR)			
Drawing no.		Rev.	
FIGURE2.3A		1	
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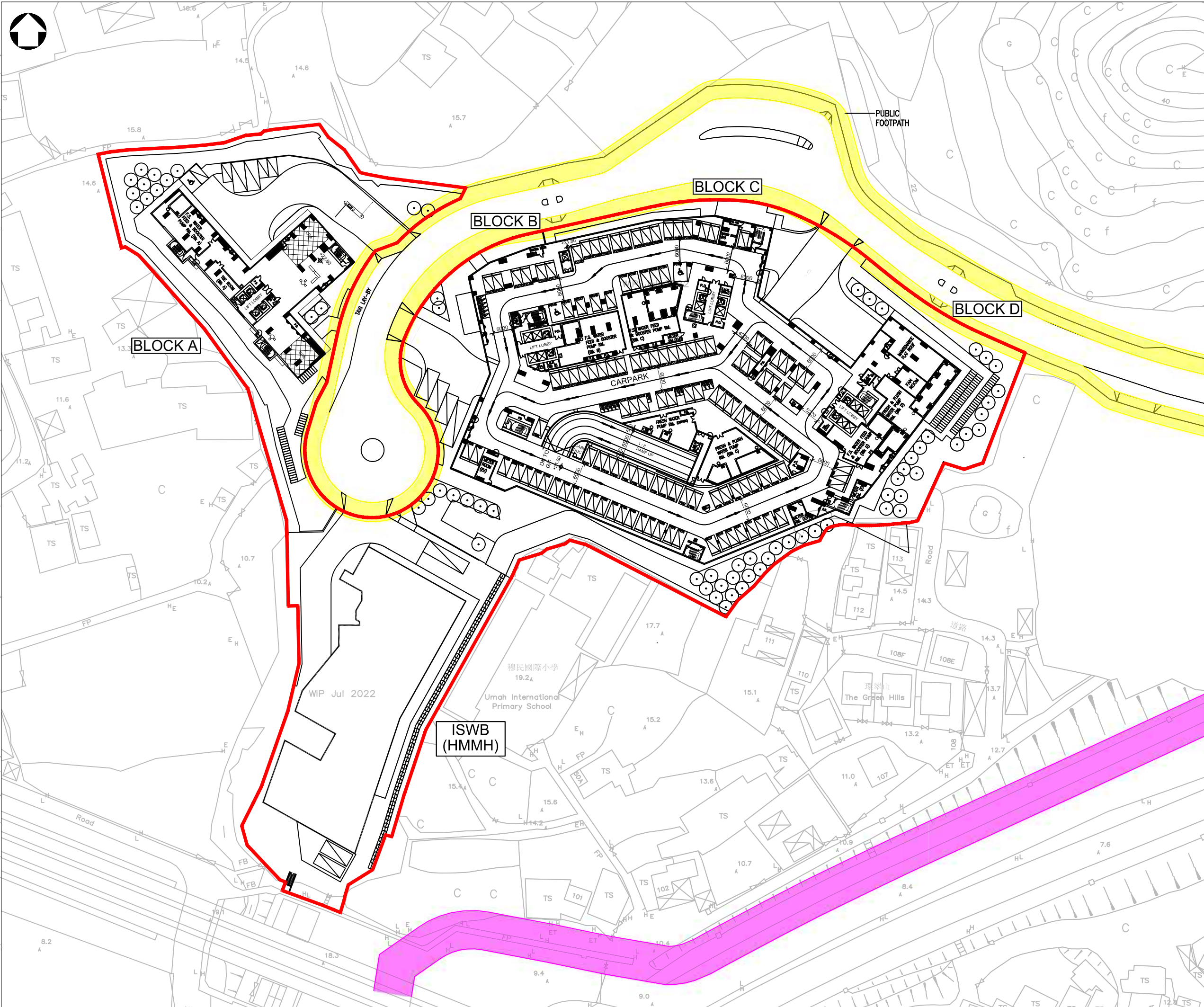
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LEGEND :

- SITE BOUNDARY
- 5M AIR BUFFER ZONE
- 10M AIR BUFFER ZONE

Remarks: No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
BUFFER ZONE FOR SITE B BLOCK A-D & ISWB (G/F)			
Drawing no.		Rev.	
FIGURE2.3B		1	
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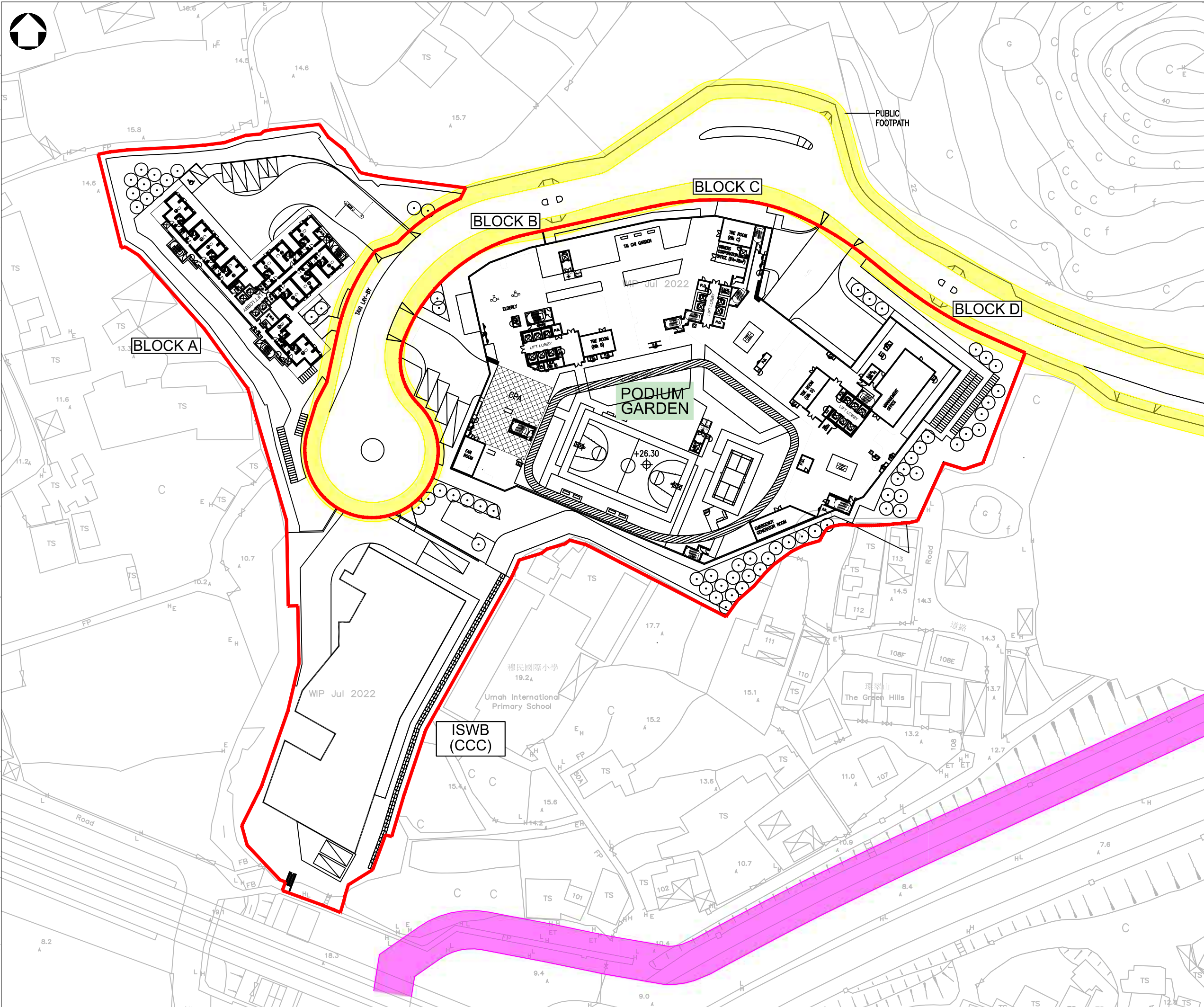
LEGEND :

- SITE BOUNDARY
- 5M AIR BUFFER ZONE
- 10M AIR BUFFER ZONE

Remarks: No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
BUFFER ZONE FOR SITE B BLOCK A-D & ISWB (1/F)			
Drawing no.		Rev.	
FIGURE2.3C		1	
Drawn	Date	Checked	Approved
LW	DEC2022	CY	BC
Scale	Status		
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Filename : \\hkkn200dat16\SD\ENV=ENV=7: Projects\Project_H321_ENV\HKHA T&E Consultancy Service 2019-2021\2535566A - Wang Chau Phase 1\4. Deliverable\6. Final EAS_V3\WCP1 Air buffer_20221024 (S16 EAS).dwg




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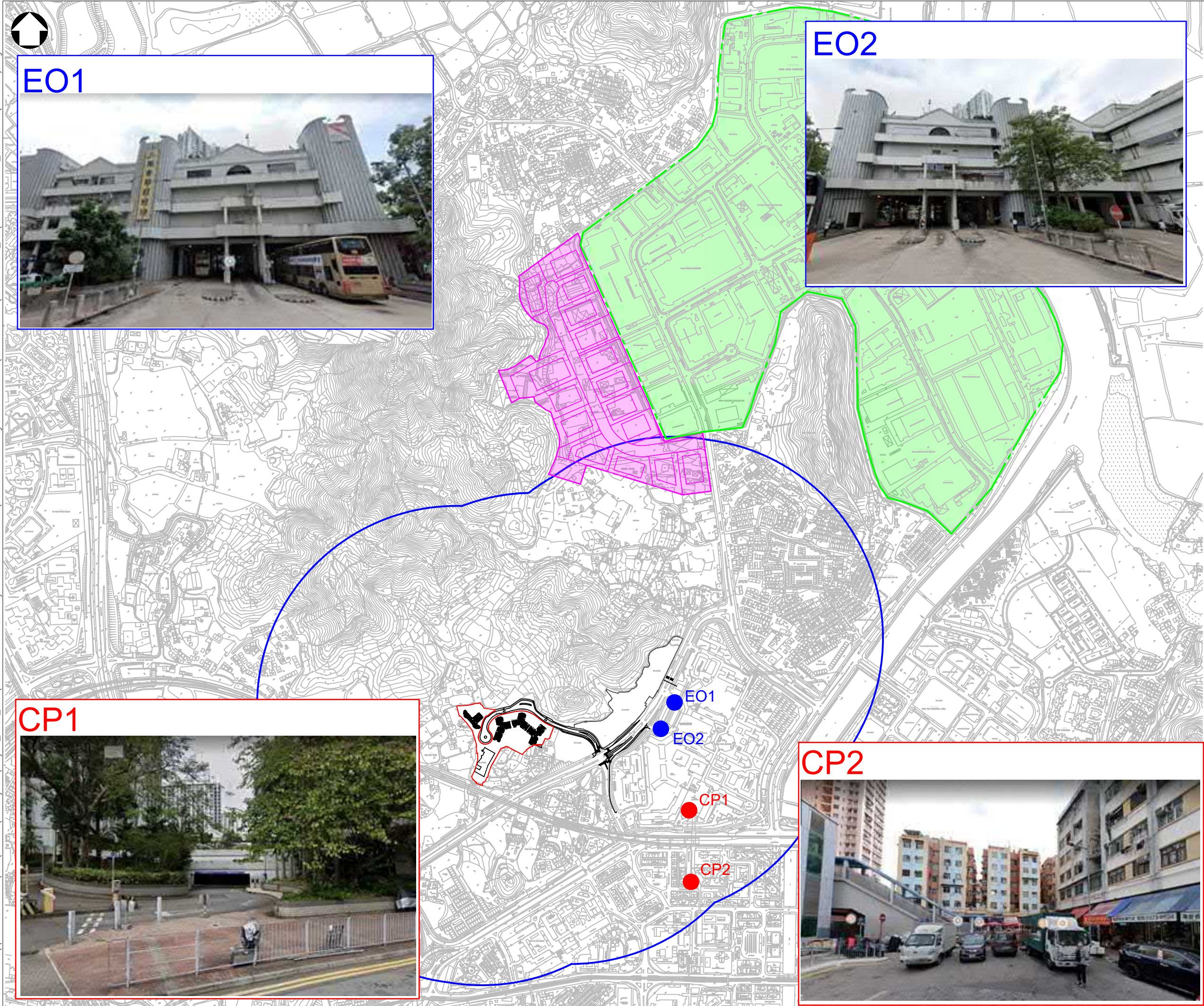
LEGEND :

- SITE BOUNDARY
- 5M AIR BUFFER ZONE
- 10M AIR BUFFER ZONE

Remarks: No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)			
Drawing title			
BUFFER ZONE FOR SITE B BLOCK A-D & ISWB (2/F)			
Drawing no.		Rev.	
FIGURE2.3D		1	
Drawn LW	Date DEC2022	Checked CY	Approved BC
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Filename : \\hkwn200dat16\SDC\ENV\7. Projects\Project_H321_ENV\HKHA T&E Consultancy Service 2019-2021\2535566A - Wang Chau Phase 1\4. Deliverable\6. Final EAS_V3\WCP1 Air buffer_20221024 (S16 EAS).dwg



NOTES :

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LEGEND :

- 500M AIR QUALITY ASSESSMENT AREA
- PROJECT SITE BOUNDARY
- EXTENSION OF YUEN LONG INDUSTRIAL ESTATE
- EXISTING YUEN LONG INDUSTRIAL ESTATE
- EXHAUST OUTLETS OF LONG PING BUS TERMINUS
- EXISTING CARPARK

E01 – EXHAUST OUTLETS AT THE NORTH NEAR YUK PING HOUSE

E02 – EXHAUST OUTLETS AT THE SOUTH NEAR WAH PING HOUSE

CP1 – CARPARK AT LONG PING ESTATE

CP2 – CARPARK AT CHUN YIN SQUARE

Rev	Description	By	Date

Consultant

wsp

Project title

ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT IN WANG CHAU (PHASE 1)

Drawing title

OTHER POTENTIAL EMISSION SOURCES IDENTIFIED WITHIN 500M STUDY AREA



Drawing no.		Rev.	
FIGURE2.4		1	
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LONG PING ROAD

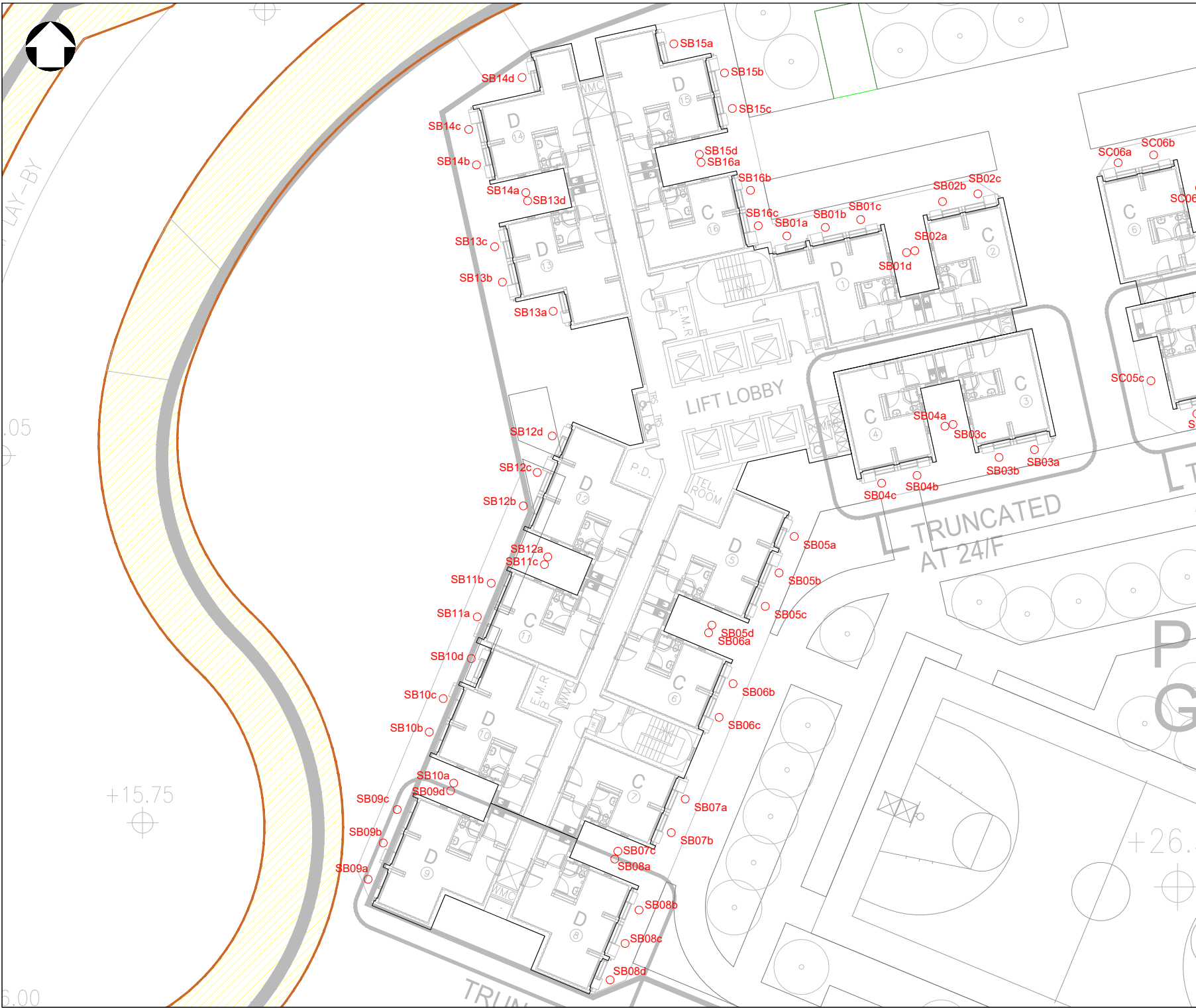
LONG PING ESTATE

 PROJECT SITE BOUNDARY
 300M NOISE ASSESSMENT AREA

Rev	Description	By	Date
Consultant 			
Project title ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title 300m NOISE ASSESSMENT AREA			
Drawing no.		Rev.	
FIGURE 3.1		0	
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 NOISE ASSESSMENT POINT

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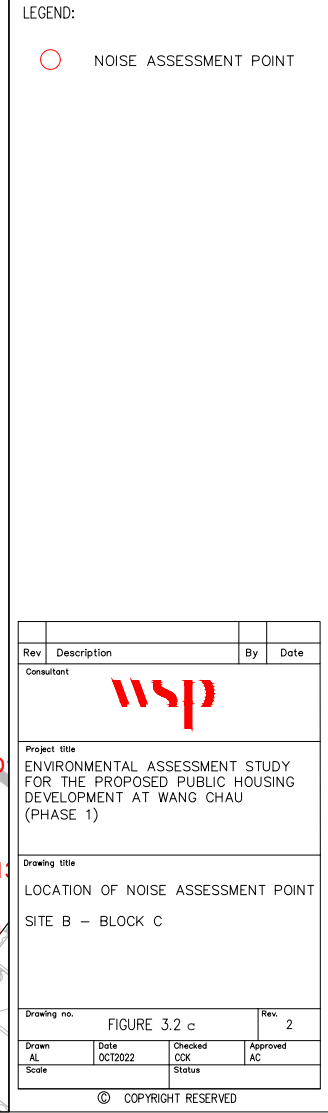
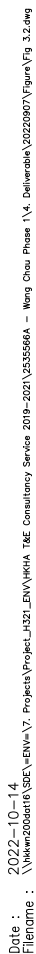


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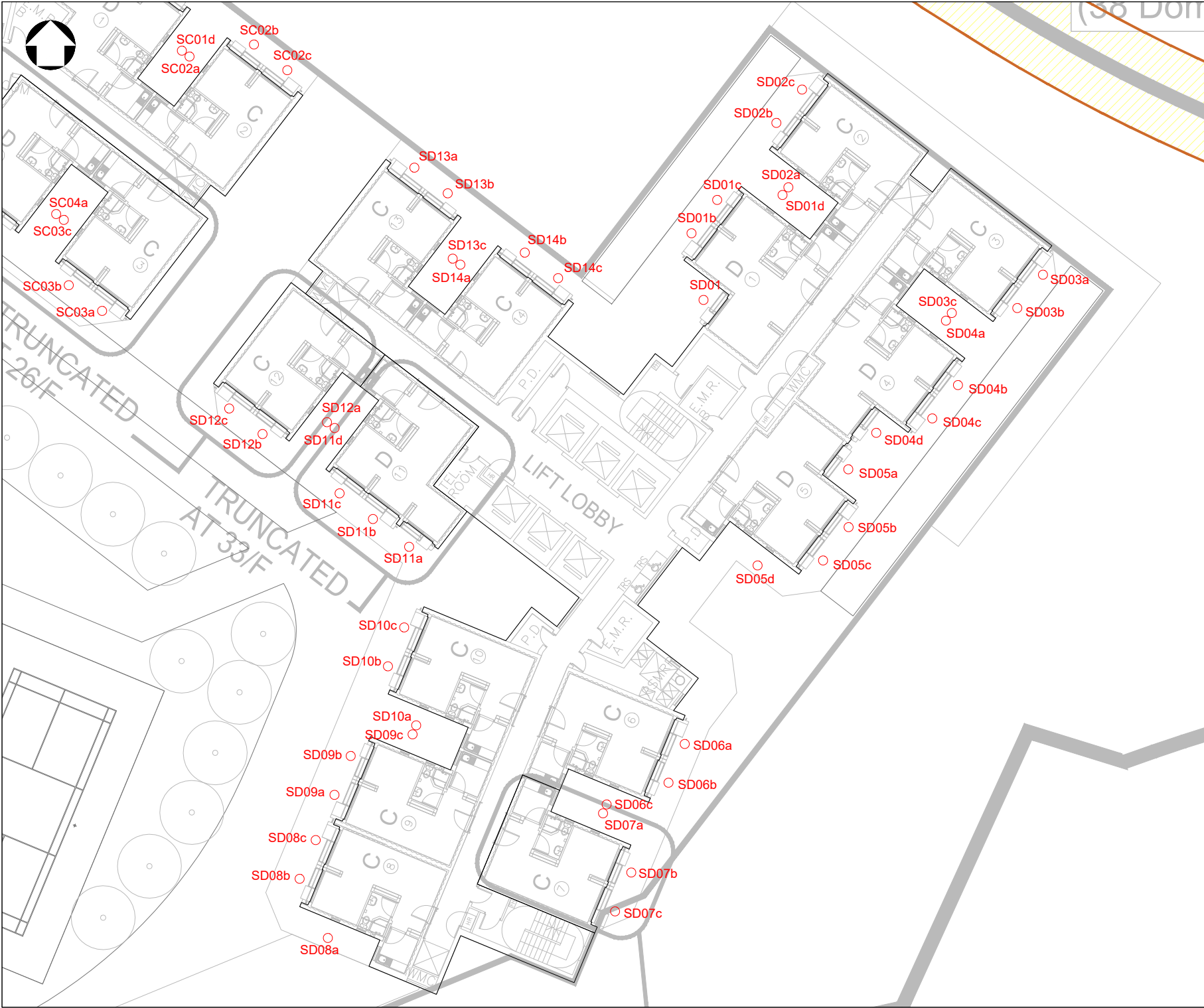
○ NOISE ASSESSMENT POINT

Rev	Description	By	Date
Consultant			
Project title	ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)		
Drawing title	LOCATION OF NOISE ASSESSMENT POINT SITE B - BLOCK B		
Drawing no.	FIGURE 3.2 b		Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale	Status		

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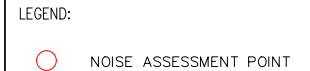
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○ NOISE ASSESSMENT POINT

Rev	Description	By	Date
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Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
LOCATION OF NOISE ASSESSMENT POINT SITE B - BLOCK D			
Drawing no.			Rev.
FIGURE 3.2 d			2
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Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
LOCATION OF NOISE ASSESSMENT POINT ISWB - 2/F			
Drawing no. FIGURE 3.2 E			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	

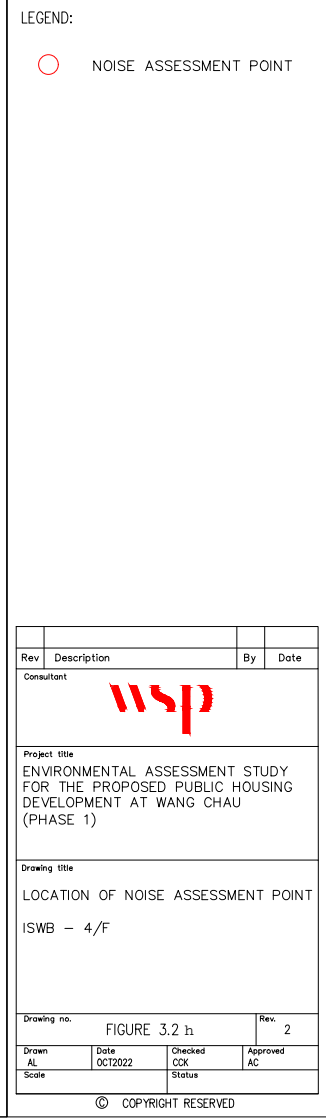
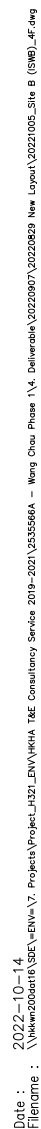
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Filename : \\hkm2008010 (S6)\\EN\\V\\7 Project\\Project_H321_ENV\\V\\6\\A T&E Consultancy Service 2019-2021\\335566A - Wang Chau Phase 1\\4. Deliverable\\20220807_20220829 New Layout\\2021005_Site B (ISWB)_3F.dwg



LEGEND:

○ NOISE ASSESSMENT POINT

Rev	Description	By	Date
Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
LOCATION OF NOISE ASSESSMENT POINT			
ISWB - 3/F			
Drawing no.			Rev.
FIGURE 3.2 g			2
Drawn	Date	Checked	Approved
AL	OCT2022	CKK	AC
Scale	Status		

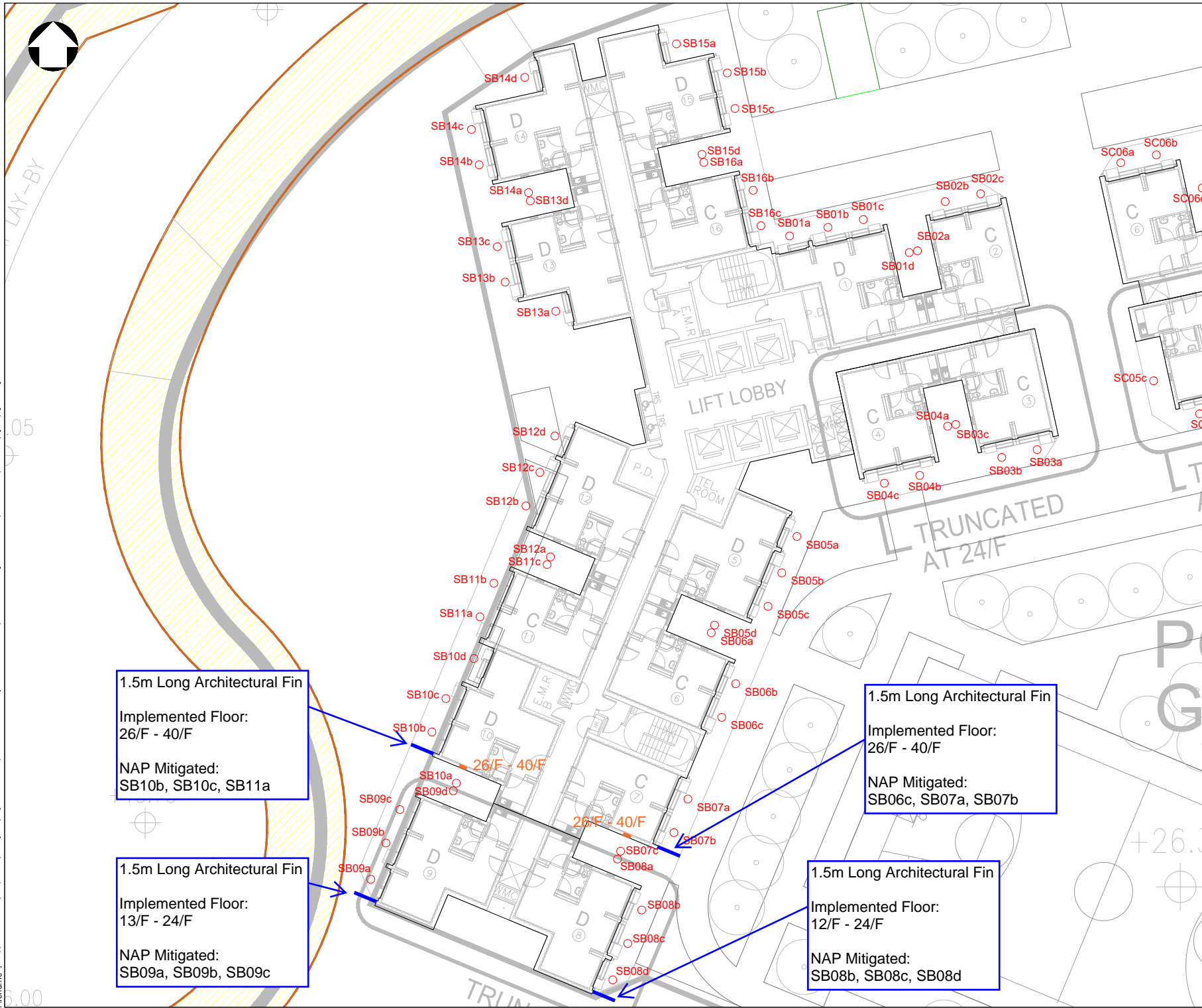




LEGEND:

○ NOISE ASSESSMENT POINT

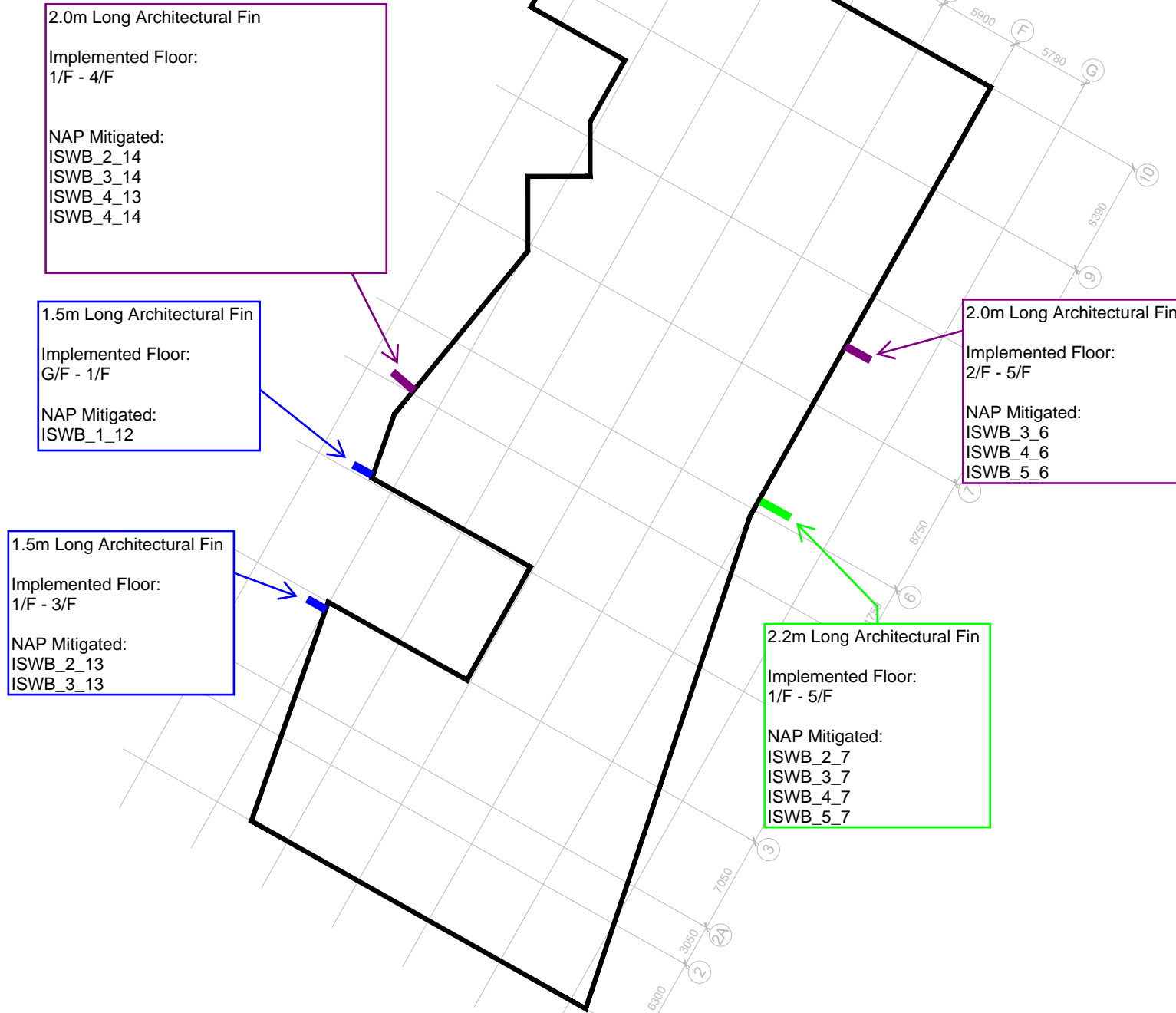
Rev	Description	By	Date
Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
LOCATION OF NOISE ASSESSMENT POINT ISWB - 5/F			
Drawing no. FIGURE 3.2 i			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	



LEGEND:

- NOISE ASSESSMENT POINT
- SPECIALLY PROVIDED GLAZING
- 1.5M LONG ARCHITECTURAL FIN

Rev	Description	By	Date
Consultant			
wsp			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE			
SITE B BLOCK B			
Drawing no.		Rev.	
FIGURE 3.3a		2	
Drawn	Date	Checked	Approved
AL	OCT2022	COK	AC
Scale	Status		




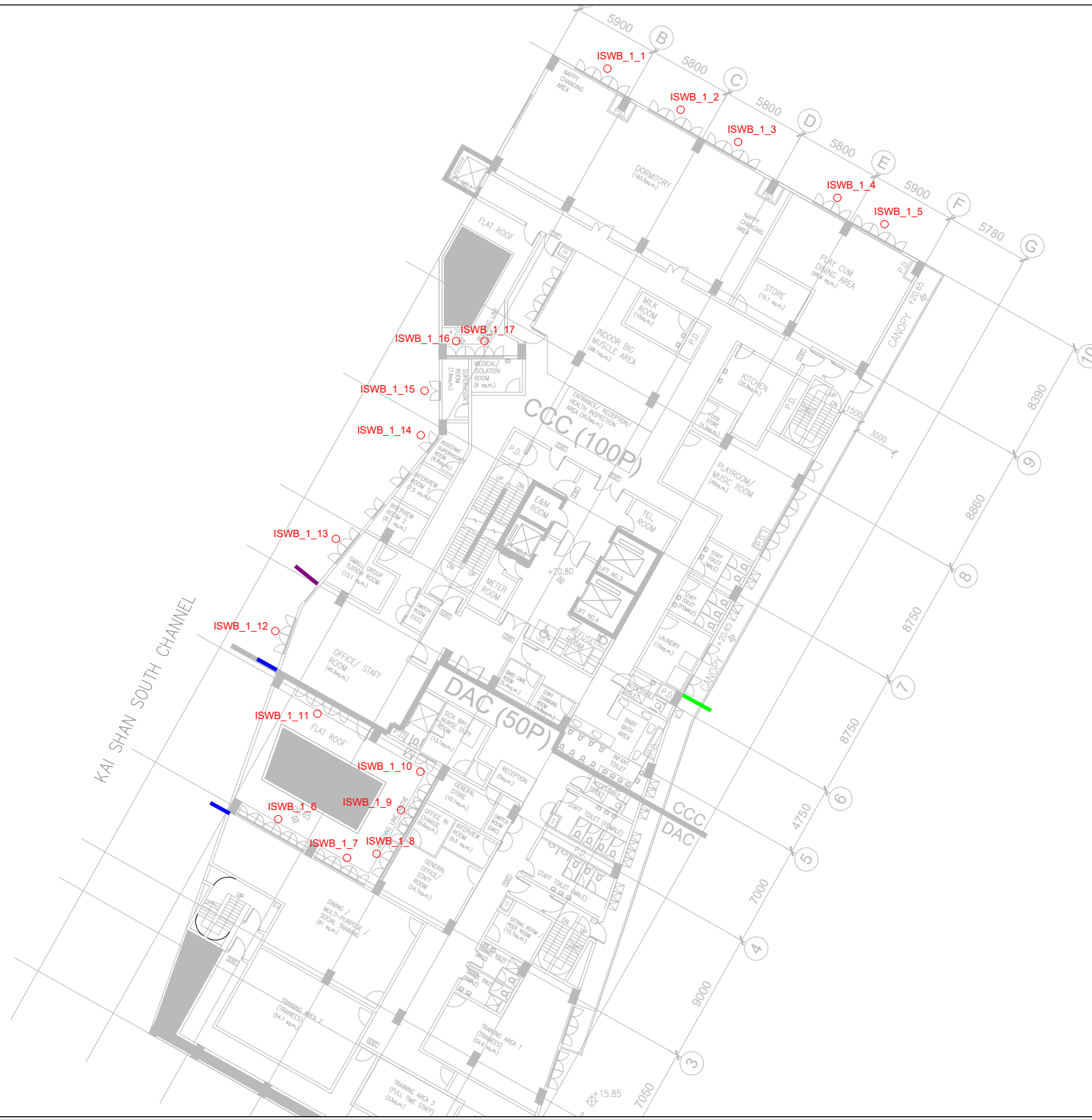
LEGEND:

- 1.5M LONG ARCHITECTURAL FIN
- 2.0M LONG ARCHITECTURAL FIN
- 2.2M LONG ARCHITECTURAL FIN

Remarks:


Fin is applied one floor below the lowest exceeding floor to ensure the effectiveness of fin

Rev	Description	By	Date
Consultant			
Project title ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE ISWB (OVERVIEW)			
Drawing no. FIGURE 3.3c			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	








LEGEND:

- NOISE ASSESSMENT POINT
- 1.5M LONG ARCHITECTURAL FIN
- 2.0M LONG ARCHITECTURAL FIN
- 2.2M LONG ARCHITECTURAL FIN

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE			
ISWB - 1/F			
Drawing no. FIGURE 3.3d			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	



 NOISE ASSESSMENT POINT
 1.5M LONG ARCHITECTURAL FIN
 2.0M LONG ARCHITECTURAL FIN
 2.2M LONG ARCHITECTURAL FIN

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASUR FOR RAILWAY NOISE EXCEEDANCE			
ISWB - 2/F			
Drawing no.		FIGURE 3.3e	Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	

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Date : 2022-10-14
Filename : \\wam2008r01\SEC\ENV\7-Project\Project_H321_ENV\WKA T&E Consultancy Service 2019-2021\335566A - Wang Chau Phase 1\4. Deliverable\20220807\20220829 New Layout\2021005_Site B (ISWB)_3F.dwg



LEGEND:

- NOISE ASSESSMENT POINT
- 1.5M LONG ARCHITECTURAL FIN
- 2.0M LONG ARCHITECTURAL FIN
- 2.2M LONG ARCHITECTURAL FIN

Rev	Description	By	Date
Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE			
ISWB - 3/F			
Drawing no. FIGURE 3.3f			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale	Status		



LEGEND:

- NOISE ASSESSMENT POINT
- 2.0M LONG ARCHITECTURAL FIN
- 2.2M LONG ARCHITECTURAL FIN

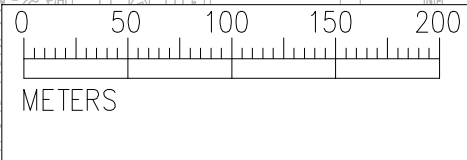
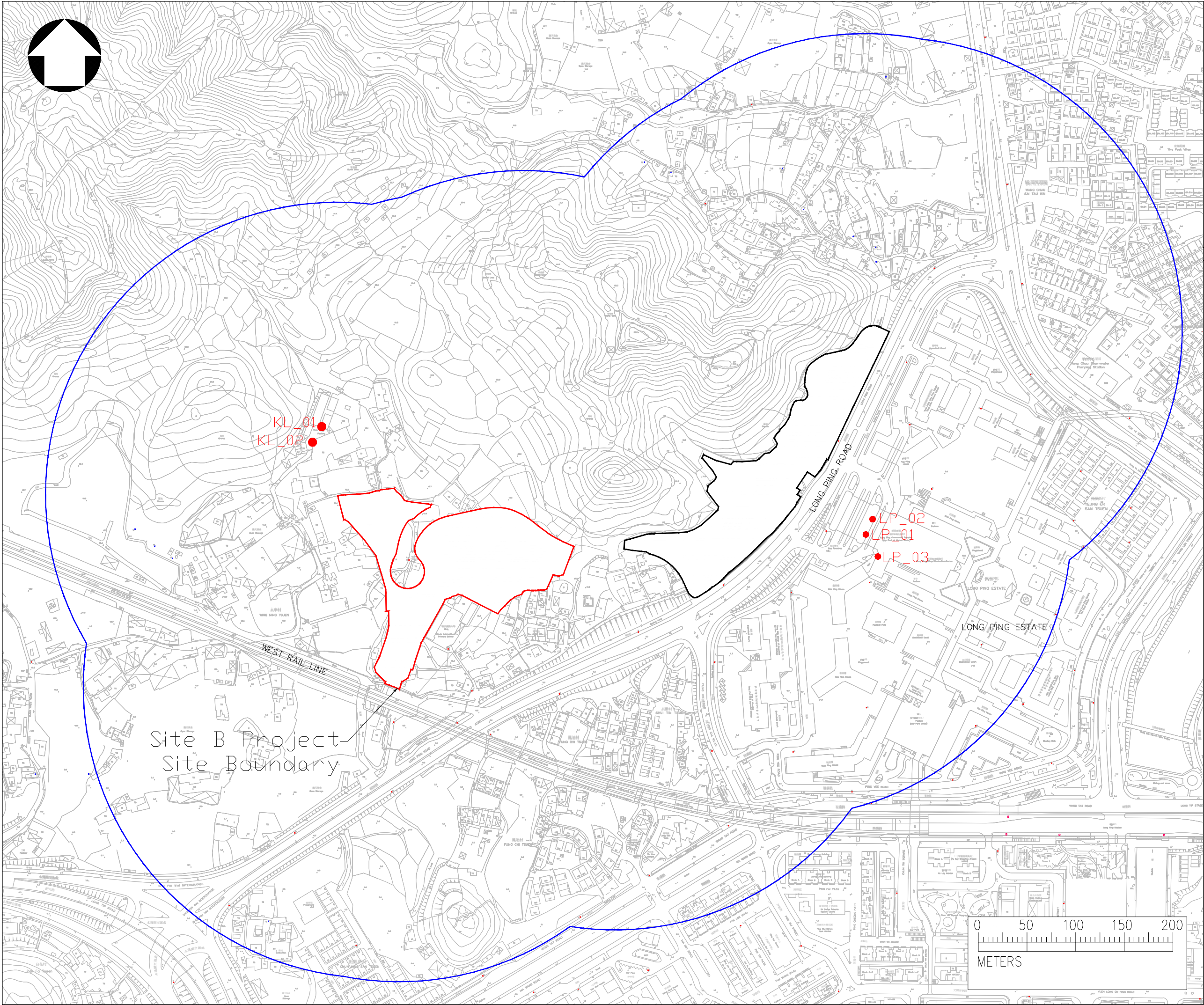
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Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE			
ISWB - 4/F			
Drawing no. FIGURE 3.3g			Rev. 2
Drawn AL	Date OCT2022	Checked CCK	Approved AC
Scale		Status	




- LEGEND:
- NOISE ASSESSMENT POINT
 - 2.0M LONG ARCHITECTURAL FIN
 - 2.2M LONG ARCHITECTURAL FIN

Rev	Description	By	Date
Consultant			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
PROPOSED NOISE MITIGATION MEASURE FOR RAILWAY NOISE EXCEEDANCE			
ISWB - 5/F			
Drawing no.		Rev.	
FIGURE 3.3h		2	
Drawn	Date	Checked	Approved
AL	OCT2022	COK	AC
Scale	Status		

Date : 2021-12-15
Filename : \\hkms200data6\SD\ENV\7. Projects\Project_H321_ENV\HKHA T&E Consultancy Service 2019-2021\2535566A - Wang Chau Phase 1\4. Deliverable\Final EAS_Rev 1 (20220727)\Figures\CAD\Fig 5.1 Fixed Noise_V2.dwg



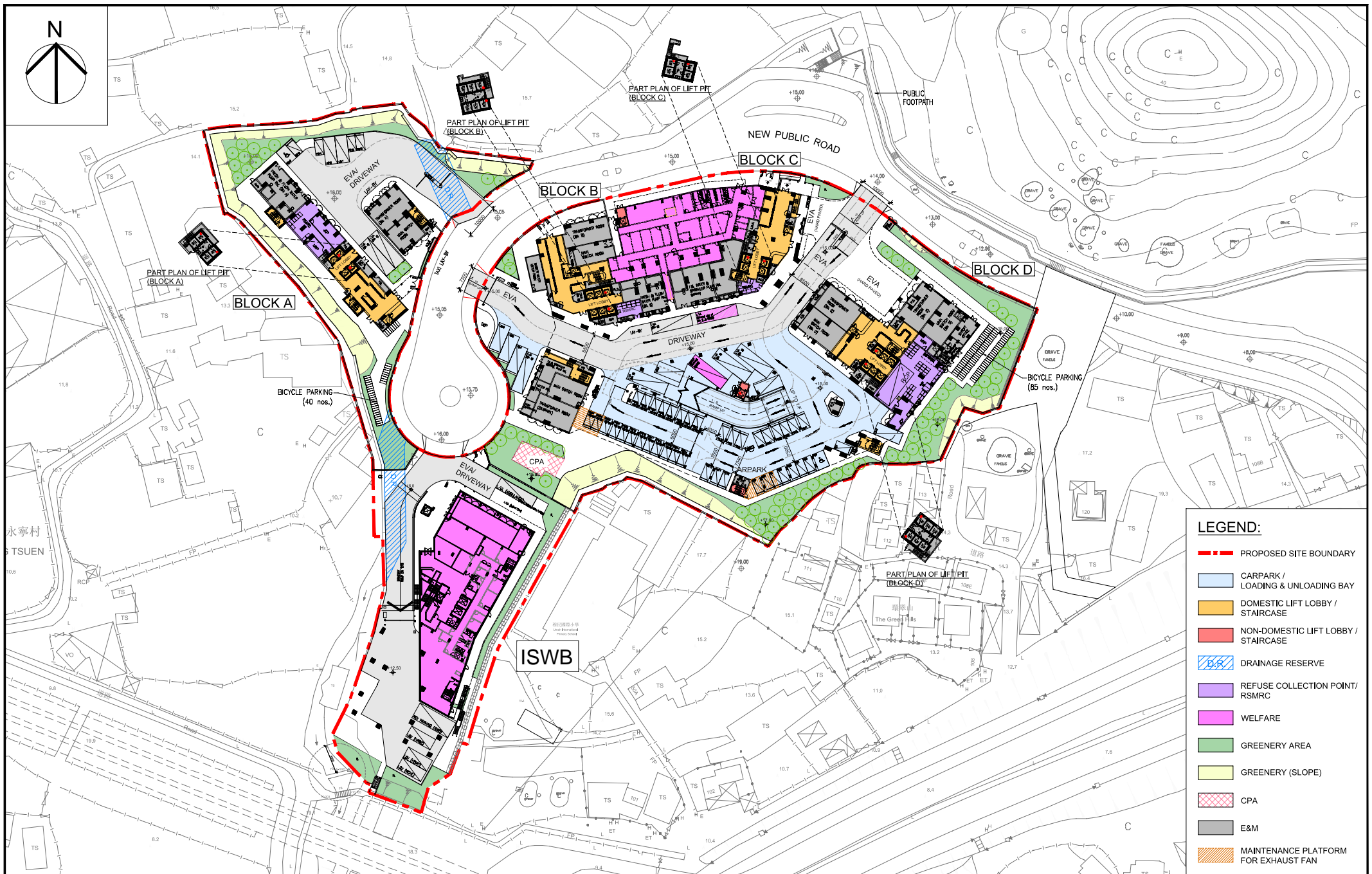
- LEGEND:
- FIXED NOISE SOURCE
 - PROJECT SITE BOUNDARY
 - 300M NOISE ASSESSMENT AREA

Rev	Description	By	Date
Consultant			
			
Project title			
ENVIRONMENTAL ASSESSMENT STUDY FOR THE PROPOSED PUBLIC HOUSING DEVELOPMENT AT WANG CHAU (PHASE 1)			
Drawing title			
LOCATION OF FIXED NOISE SOURCES			
Drawing no.			Rev.
FIGURE 5.1			0
Drawn AL	Date DEC2022	Checked CH	Approved DL
Scale AS SHOWN		Status	
© COPYRIGHT RESERVED			

APPENDICES

APPENDIX 1.1

LAYOUT PLAN OF THE PROPOSED DEVELOPMENT



PROJECT TITLE

PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B

DRAWING TITLE

SITE LAYOUT PLAN - PODIUM G/F (LEV. +15.00)

SCALE 1:1000 (A3)



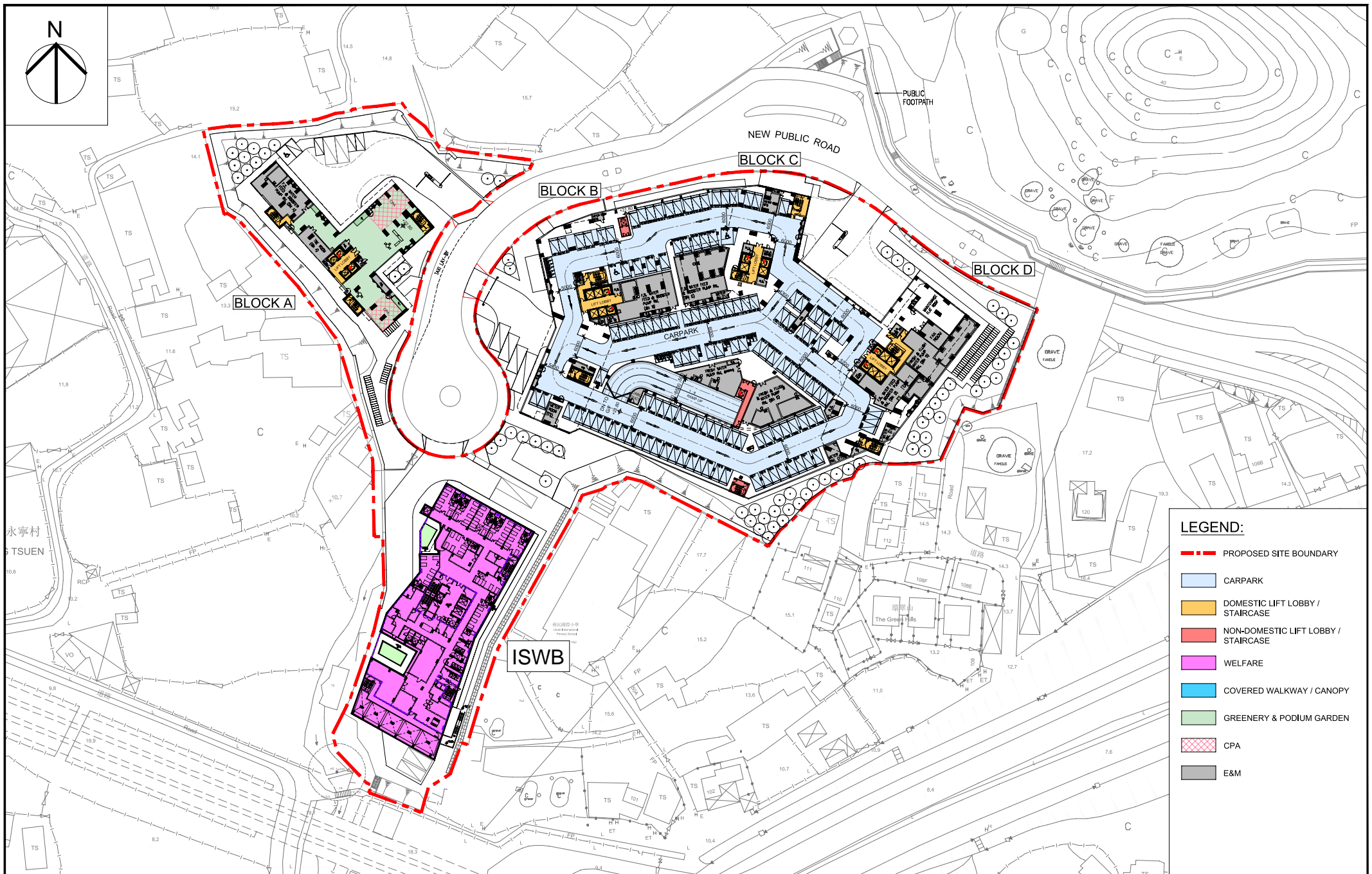
房屋署
HOUSING DEPARTMENT

DRAWING NO.

YL51NH/SCH11/SITE/A/SK-03

DATE

26 AUG 2022



LEGEND:

- PROPOSED SITE BOUNDARY
- CARPARK
- DOMESTIC LIFT LOBBY / STAIRCASE
- NON-DOMESTIC LIFT LOBBY / STAIRCASE
- WELFARE
- COVERED WALKWAY / CANOPY
- GREENERY & PODIUM GARDEN
- CPA
- E&M

PROJECT TITLE

PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B

DRAWING TITLE

SITE LAYOUT PLAN - PODIUM 1/F (LEV. +21.80)



房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/SCH11/SITE/A/SK-04

DATE
26 AUG 2022

SCALE 1:1000 (A3)



- LEGEND:**
- PROPOSED SITE BOUNDARY
 - DOMESTIC LIFT LOBBY / STAIRCASE
 - NON-DOMESTIC LIFT LOBBY / STAIRCASE
 - HA OFFICE
 - JOGGING TRACKS
 - WELFARE
 - GREENERY & PODIUM GARDEN
 - CPA
 - E&M

PROJECT TITLE
PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B

DRAWING TITLE
SITE LAYOUT PLAN - PODIUM 2/F (LEV. +26.30)

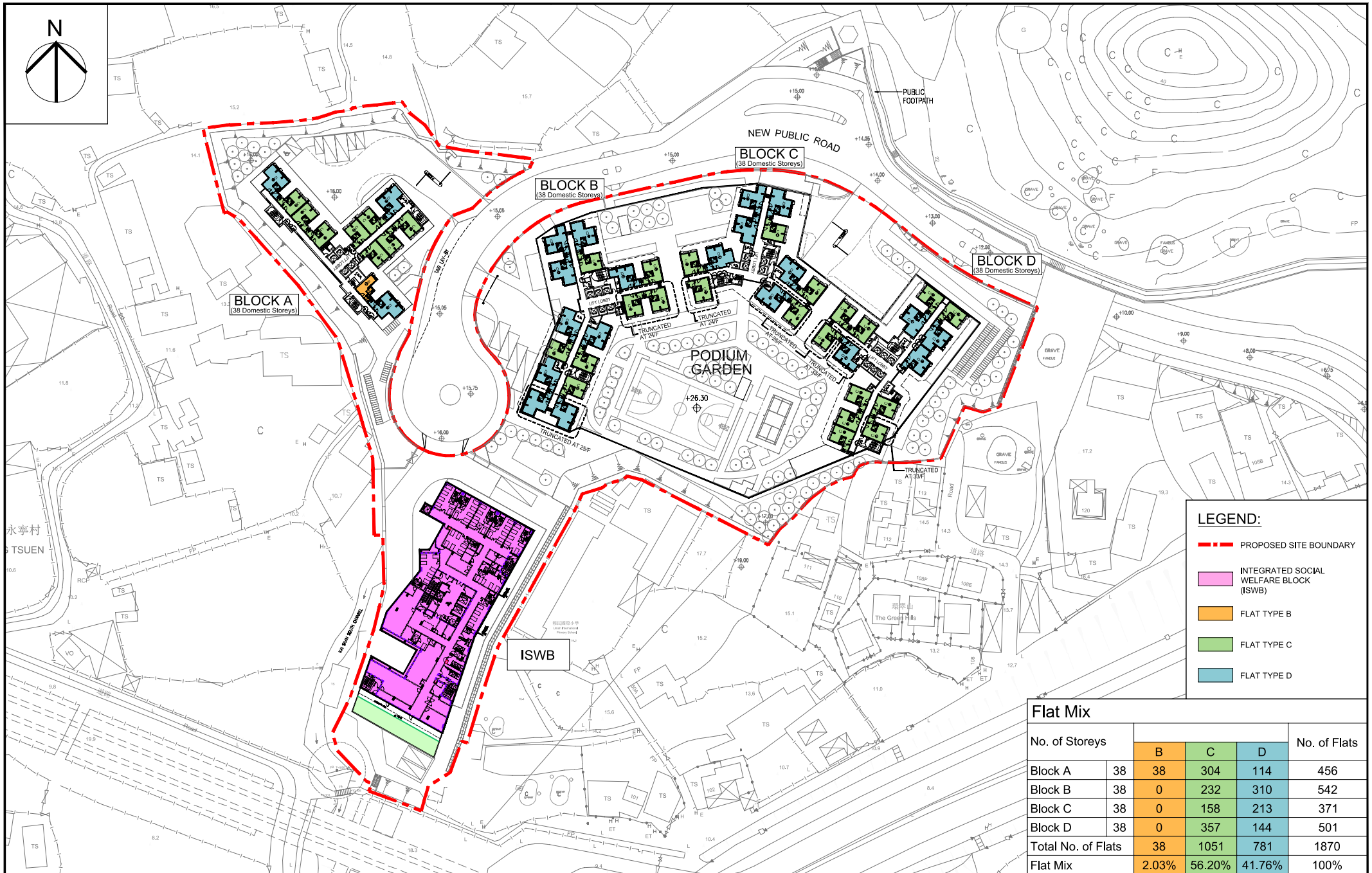
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房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/SCH11/SITE/A/SK-05

DATE
26 AUG 2022



PROJECT TITLE

PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B

DRAWING TITLE

SITE LAYOUT PLAN - TYPICAL FLOOR LEVEL

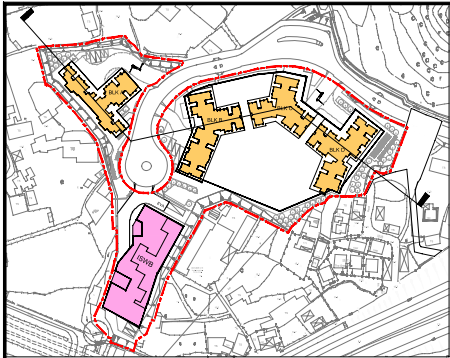
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房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/SCH11/SITE/A/SK-02

DATE
26 AUG 2022



BLOCK A
(38 domestic storeys)

BLOCK B
(38 domestic storeys)

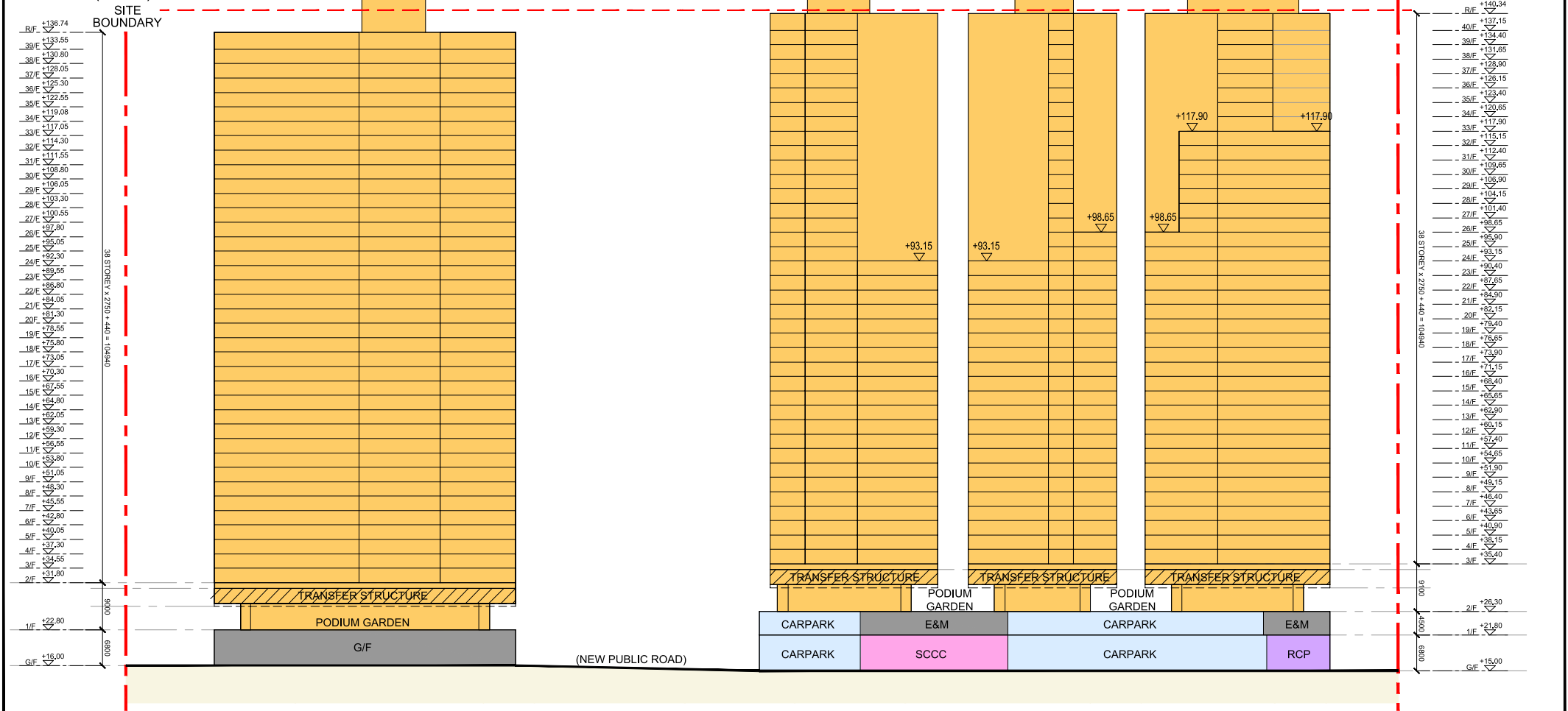
BLOCK C
(38 domestic storeys)

BLOCK D
(38 domestic storeys)

LEGEND:

- PROPOSED SITE BOUNDARY
- BHR BUILDING HEIGHT RESTRICTION
- DOMESTIC BLOCK
- E&M
- CARPARK
- REFUSE COLLECTION POINT
- WELFARE

KEY PLAN (N.T.S.)



PROJECT TITLE
**PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B**

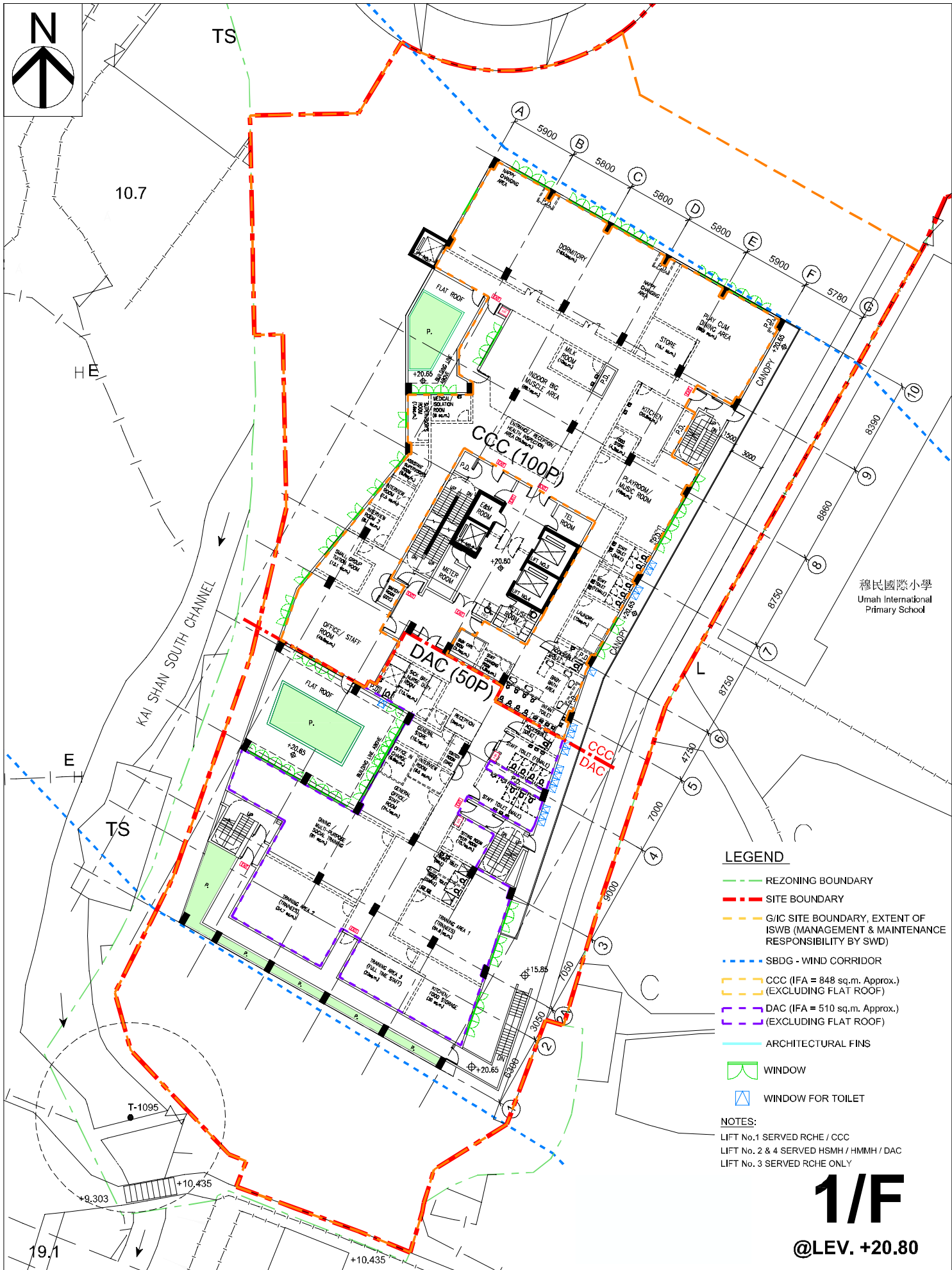
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SITE SECTION

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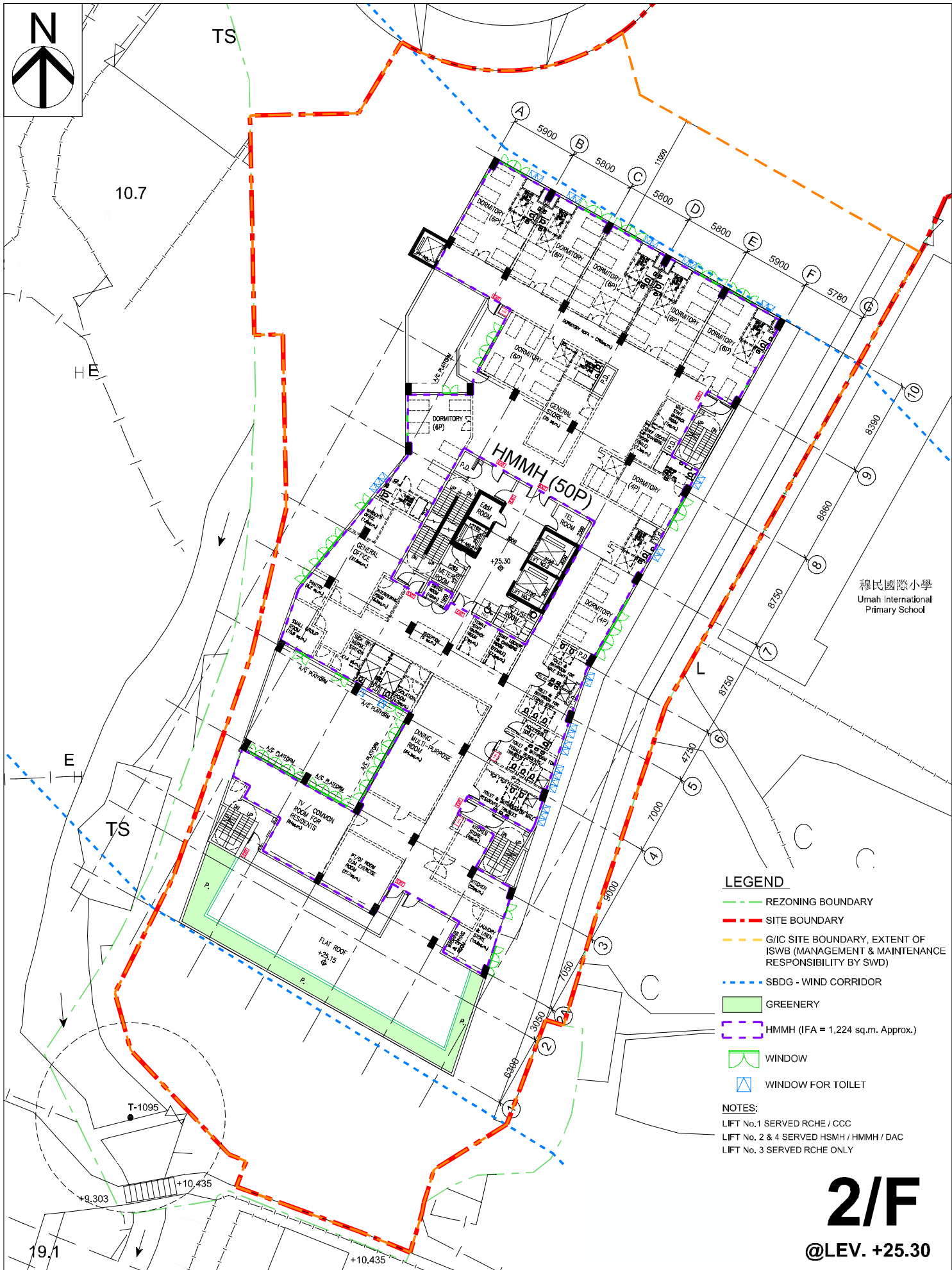
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HOUSING DEPARTMENT**


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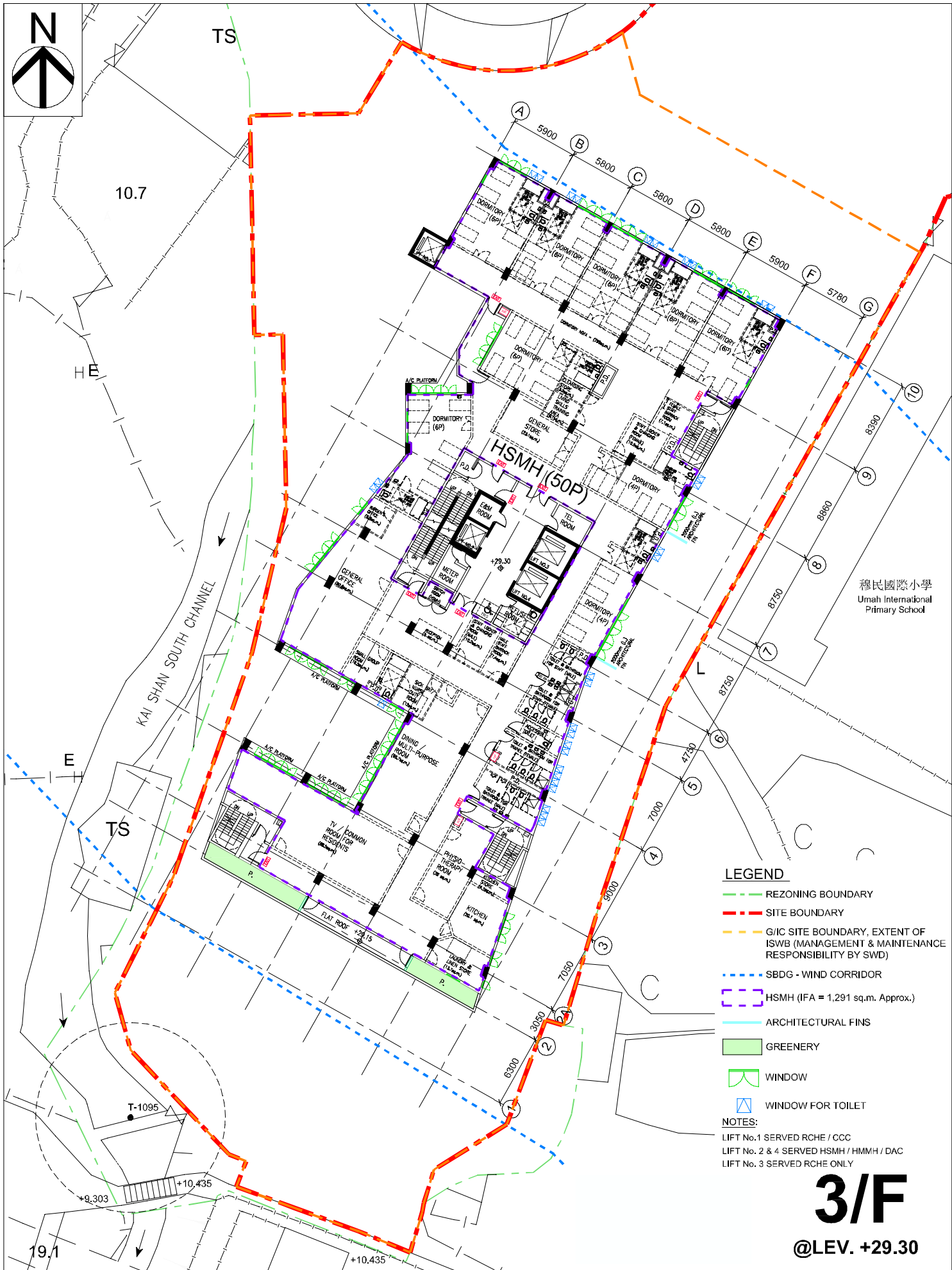
DATE
29 SEP 2022




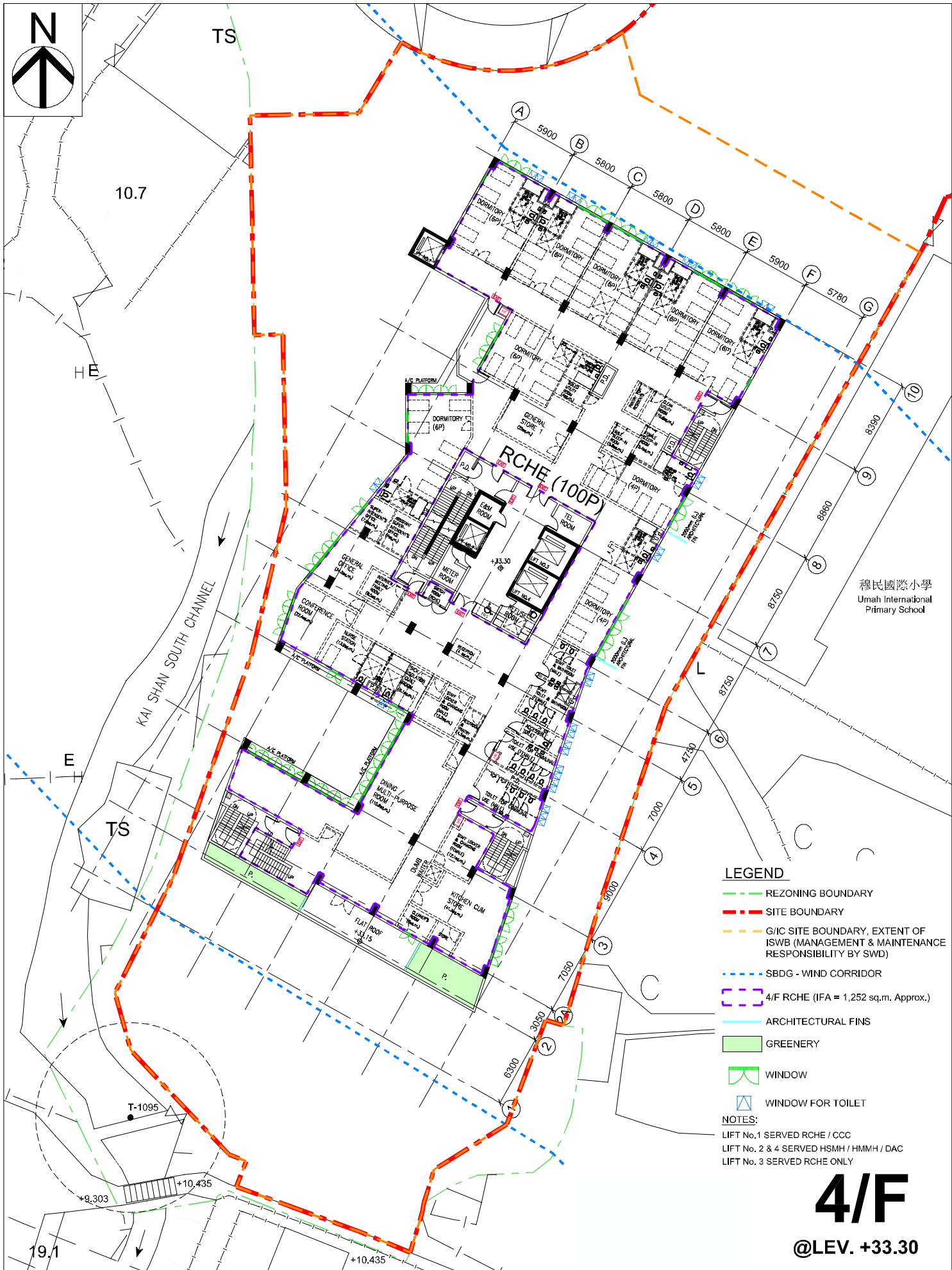
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		ICU NO.		CHECKED		
		SCALE 1:300 (A3)		DRAWN		




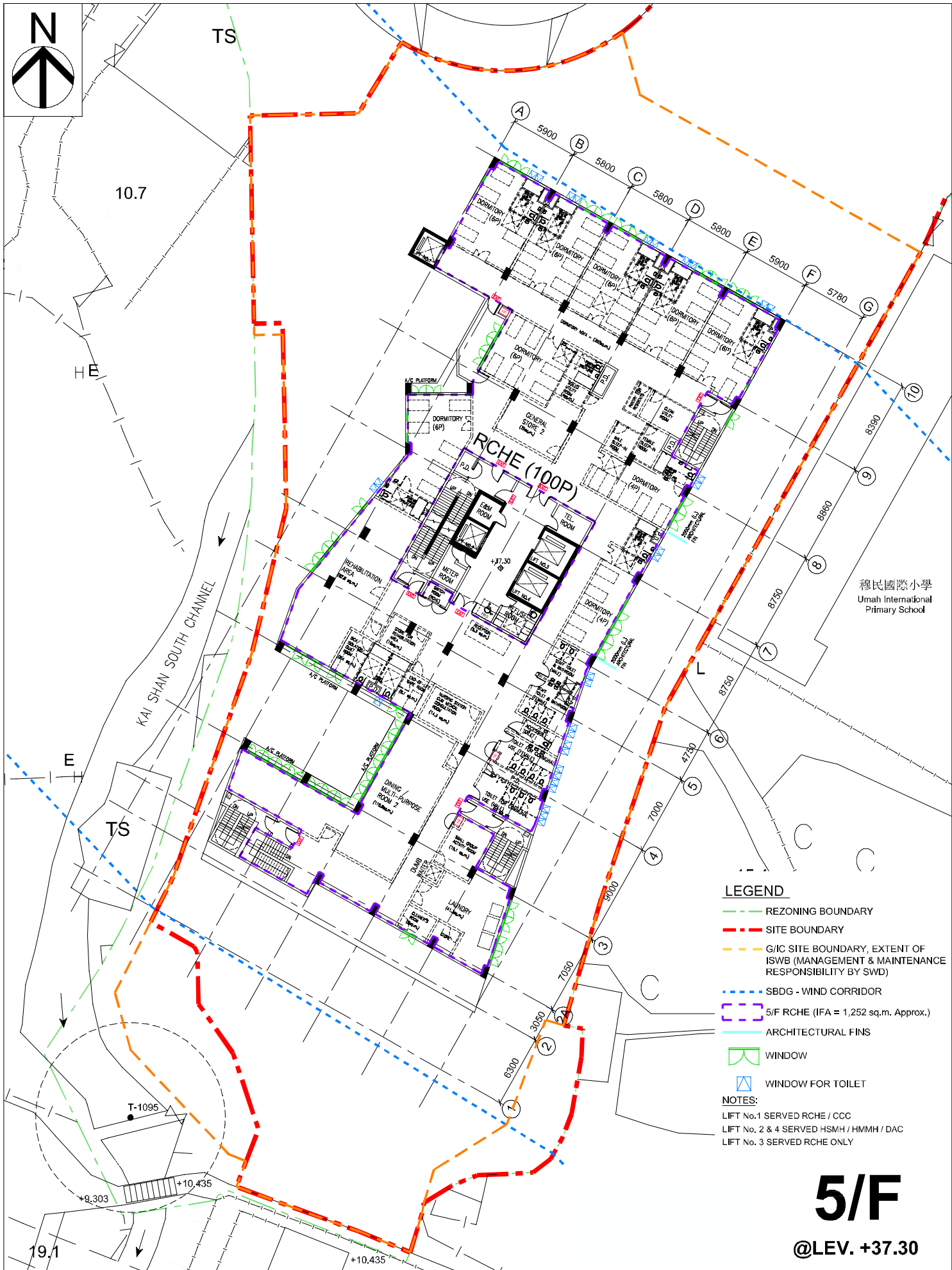
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			SOURCE	AUTHORISED	---			
	ICU NO.	CHECKED		RICKY LAU A-86				
				ERIC FUNG STO(A)/79		28.09.2022		
				WILSON CHAN TO(A)/34		28.09.2022		
	SCALE 1:300 (A3)			DRAWN				
	DRAWING TITLE Wang Chau - SITE B ISWB 1ST FLOOR PLAN							




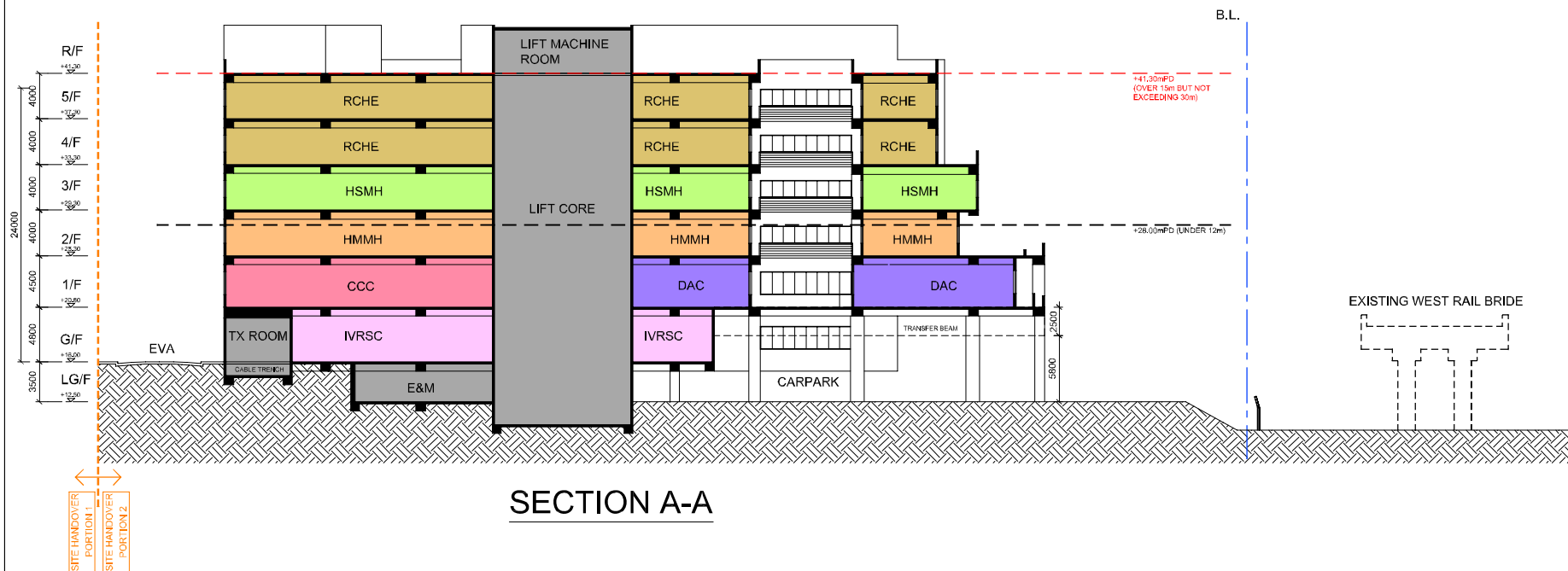
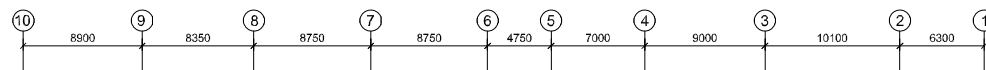
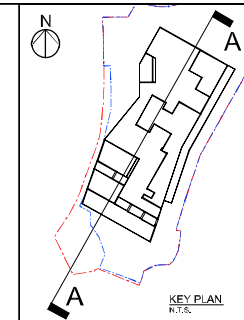
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		SOURCE 		AUTHORISED		
		ICU NO. 		CHECKED		
		SCALE 1:300 (A3)		DRAWN		



 HOUSING DEPARTMENT	PROJECT Wang Chau Phase 1, Public Housing Development	DRAWING NO. WCP1/SITE/ISWB/SCH03D/A/LO-06		NAME AND DESIGNATION	INITIAL	DATE	
			AUTHORISED	---			
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		ICU NO.		CHECKED	RICKY LAU A-86 ERIC FUNG STO(A)/70		28.09.2022
		SCALE 1:300 (A3)		DRAWN	WILSON CHAN TO(A)/34		28.09.2022



 HOUSING DEPARTMENT	PROJECT Wang Chau Phase 1, Public Housing Development		DRAWING NO. WCP1/SITE/ISWB/SCH03D/A/LO-08		NAME AND DESIGNATION AUTHORIZED	INITIAL ***	DATE ***
	DRAWING TITLE Wang Chau - SITE B ISWB 6TH FLOOR PLAN		SOURCE ***	CHECKED RICKY LAU A-38 ERIC FUNG STO(A)/79 WILSON CHAN TO(A)/34	DATE 20.09.2022 28.09.2022	INITIAL ***	DATE ***
			SCALE 1:300 (A3)				



	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED	---		
CHECKED	RICKY LAU A085		28/08/2022
	DENNIS LO STOIA/64		28/08/2022
DRAWN	WILSON CHAN TO(A)/34		28/08/2022

PROJECT
Wang Chau Phase 1,
Public Housing Development

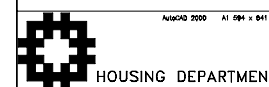
DRAWING TITLE
Wang Chau - SITE B
SECTION A

SCALE 1:400 (A3)

DRAWING NO.
WCP1/SITE/ISWB/SCH03d/SEC/LO-01

SOURCE

ICU NO.



APPENDIX 2.1

TRANSPORT DEPARTMENT'S REPLY ON ROAD TYPE OF NEW PUBLIC ROAD

Yip, Cleo

From: Ping LI <pingli@td.gov.hk>
Sent: 2022年8月25日星期四 14:50
To: Lau, Paul Fong-Kit
Cc: Yip, Cleo; Raymond Tak Chi LEUNG
Subject: Re: FW: Wang Chau Site A and B - EAS assessment and Technical Studies: Road Type of New Public Road
Attachments: WC_NEW PUBLIC ROAD.pdf; CEDD_WC_plan.pdf

Dear Mr. LAU,

I refer to your email below on 3 August 2022.

Please be advised that I have no comments on your assumption of the road type of the new public road connecting Wang Chau Phase 1 Public Housing Development and Long Ping Road as "Local Distributor".

You are suggested to seek comments/confirmation on the road type from CEDD under Agreement No. CE 64/2014 (CE).

Thanks.
Kind Regards,
Libby, LI Ping
E/SD2, TE/NTW
Transport Department
Tel.:2399 2427

From: "Lau, Paul Fong-Kit" <Paul.Lau@wsp.com>
To: "pingli@td.gov.hk" <pingli@td.gov.hk>
Cc: "Yip, Cleo" <Cleo.Yip@wsp.com>
Date: 08/24/2022 08:19 PM
Subject: FW: Wang Chau Site A and B - EAS assessment and Technical Studies: Road Type of New Public Road

Dear Ms Li,

Since your reply is essential for the comment from EPD on the EAS.

It is much appreciated if your department could reply our enquiry on the road type in the previous email.

Thank you for your attention.

Regards,



Paul Lau

D+ 852 2963-7699
T +852 2579-8899

F +852 2856-9902

wsp.com

From: Lau, Paul Fong-Kit
Sent: Wednesday, August 3, 2022 4:41 PM
To: pingli@td.gov.hk
Cc: Yip, Cleo <Cleo.Yip@wsp.com>
Subject: FW: Wang Chau Site A and B - EAS assessment and Technical Studies: Road Type of New Public Road

Dear Ms Li,

We are the consultant commissioned by the Housing Authority for the captioned project.

As required by EPD, they would like to have a confirmation from your department on the road type of the new public road where is currently formatting by CEDD(as shown in the attached drawings).

As the new public road is only serving to future public housing and connect to Long Ping Road (which is Distirct Distributor). In view of the above and with reference to TPDM Vol 2 Ch 3.2, the new public road can be classified as Local Distributor.

It would be grateful if you could provide your department's view on our assumption for the assessment.

Should you have any queries, please kindly contact the undersign

Thanks.

Regards,



Paul Lau

D+ 852 2963-7699
T +852 2579-8899
F +852 2856-9902

wsp.com

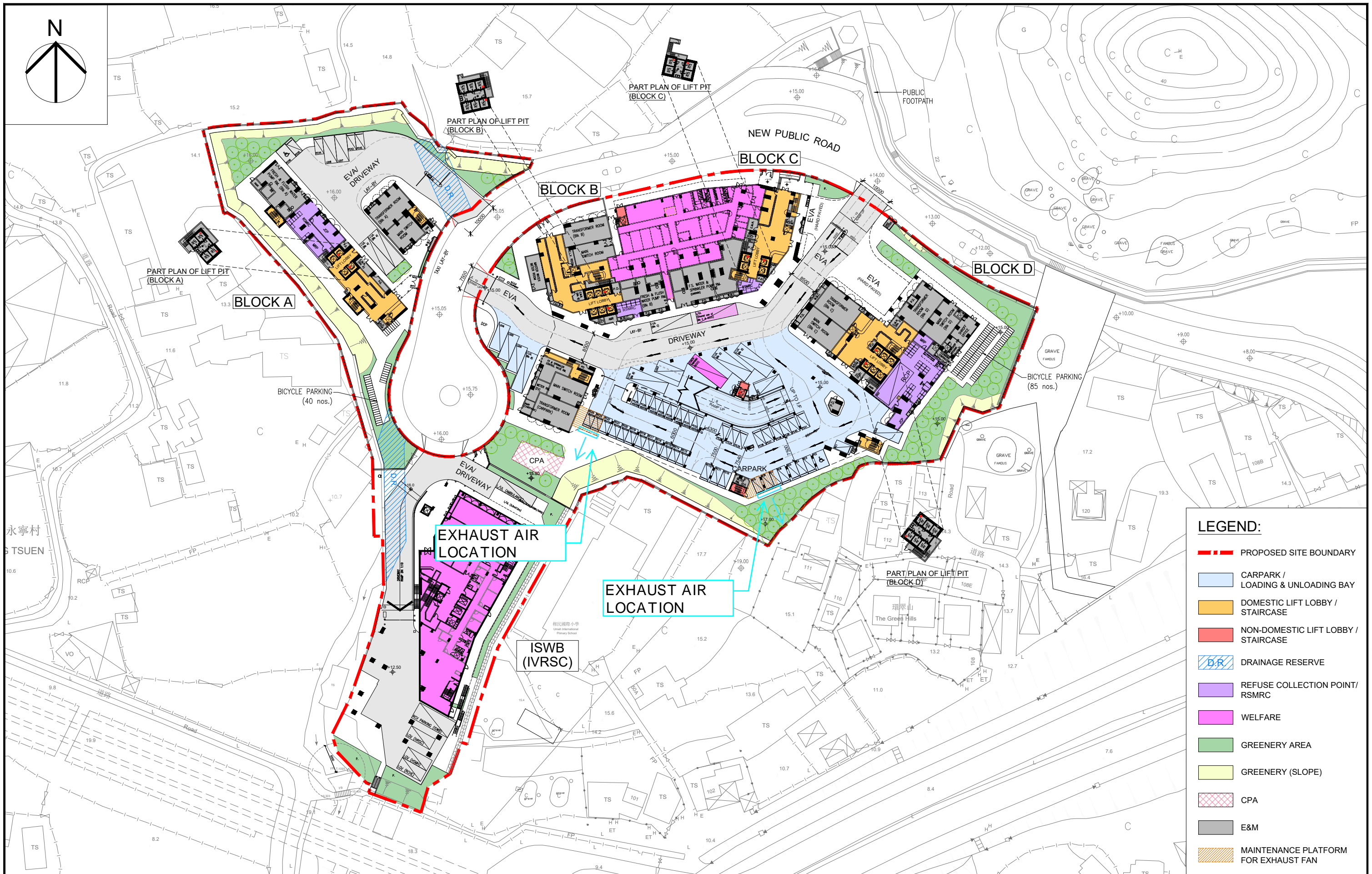
APPENDIX 2.2

PHOTOS SHOWING THE EXISTING CONDITION OF THE PROJECT SITE



APPENDIX 2.3

SITE B CARPARK EXHAUST OUTLETS



PROJECT TITLE
PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU SITE B

DRAWING TITLE
SITE LAYOUT PLAN - PODIUM G/F (LEV. +15.00)

SCALE 1:1000 (A3)



房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/SCH11/SITE/A/SK-03

DATE
26 AUG 2022

APPENDIX 3.1

CORRESPONDENCE FROM MTRCL ON OPERATIONAL INFORMATION OF WRL

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk



WSP (Asia) Limited
7/F One Kowloon,
1 Wang Yuen Street,
Kowloon Bay, Hong Kong

Our ref: T&ESD/E&IC/ES/EnvE/L1125

Date: - 6 MAY 2022

Attention: Dr. Alex Cheung

By Post and Fax
(Fax no.: 2856 9902)

Dear Dr. Cheung,

Re: Environmental Assessment Study for Proposed Public Housing Development at Wang Chau (Phase 1)

Request for Information of Tuen Ma Line for the Section between the Stations: Long Ping Station and Tin Shui Wai Station

We refer to your letter (ref.: 2535566A-EN-08063/22) dated 28 March 2022 (received on 14 April 2022) requesting operational information regarding Tuen Ma Line (TML).

Operational Information

- The current daily peak operating train frequency at the section between Long Ping Station and Tin Shui Wai Station during the period of 07:00-23:00 hours and 23:00-07:00 hours are about 22 trains per hour per direction and 18 trains per hour per direction respectively.
- There is currently about 250 train trips per direction in one-day operation between Long Ping Station and Tin Shui Wai Station.
- The future ultimate daily peak operating train frequency during the period of 07:00-23:00 hours is about 28 trains per hour per direction. For the future ultimate daily peak operating train frequency during the period of 23:00-07:00 hours, please refer to the latest EP for West Rail available via EPD website.
- TML is currently stocked with two types of trains. Please note that there are currently 8 cars per train for the operating condition of the TML. However, according to the latest Environmental Permit (EP) for West Rail, the ultimate maximum train cars would be 9 cars.

Noise Mitigation Measures

There are no trackside noise barriers or enclosures along the concerned track section of TML. Also, the Corporation does not have any plan on providing additional trackside noise barriers or enclosures along the concerned track sections of TML.

Speed Profile

The current maximum train speed for the track section between Long Ping Station and Tin Shui Wai Station is about 95km/h for up-track and 100km/h for down-track.

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk



Our ref: T&ESD/E&IC/ES/EnvE/L1125
Date: - 6 MAY 2022

Datum Level, Parapet Dimensions and Locations of Rail Crossing and Joint

We suggest that your organisation contact us to arrange the checking of the respective drawings on the requested information suitable for your study. Please note that there are no rail crossing or rail joint along the concerned track section of TML.

Trackform

The concerned track section of TML is in floating slab trackform.

Wheel Type and Wheelbase Dimensions

We regret to advise that wheel information is considered as internal information and will not be provided to external parties. For the purposes of your assessment, you may want to consider allowing appropriate additional correction factors within your calculations based on your organization's professional judgement to cater for any possible rail condition variations.

Train Noise Data

We suggest that your organization conduct its own survey or noise measurements to collect specific and representative on-site noise source data to suit the individual needs of your study.

Please be reminded that any information that may come to your knowledge or come into your possession from MTR Corporation Limited shall only be used solely as reference for this captioned project. Further distribution and/or publication of the above information for purposes not connected with the captioned project are strictly prohibited without the prior consent of MTR Corporation Limited. Please also note that any such information is subject to change without prior notification.

Should you have any additional enquiries, please feel free to contact our Acting Lead Environmental Manager, Ms. Catherine Leung at 2993 4127.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A Chan'.

HK Chan
General Manager – Engineering & Innovation Centre

APPENDIX 3.2

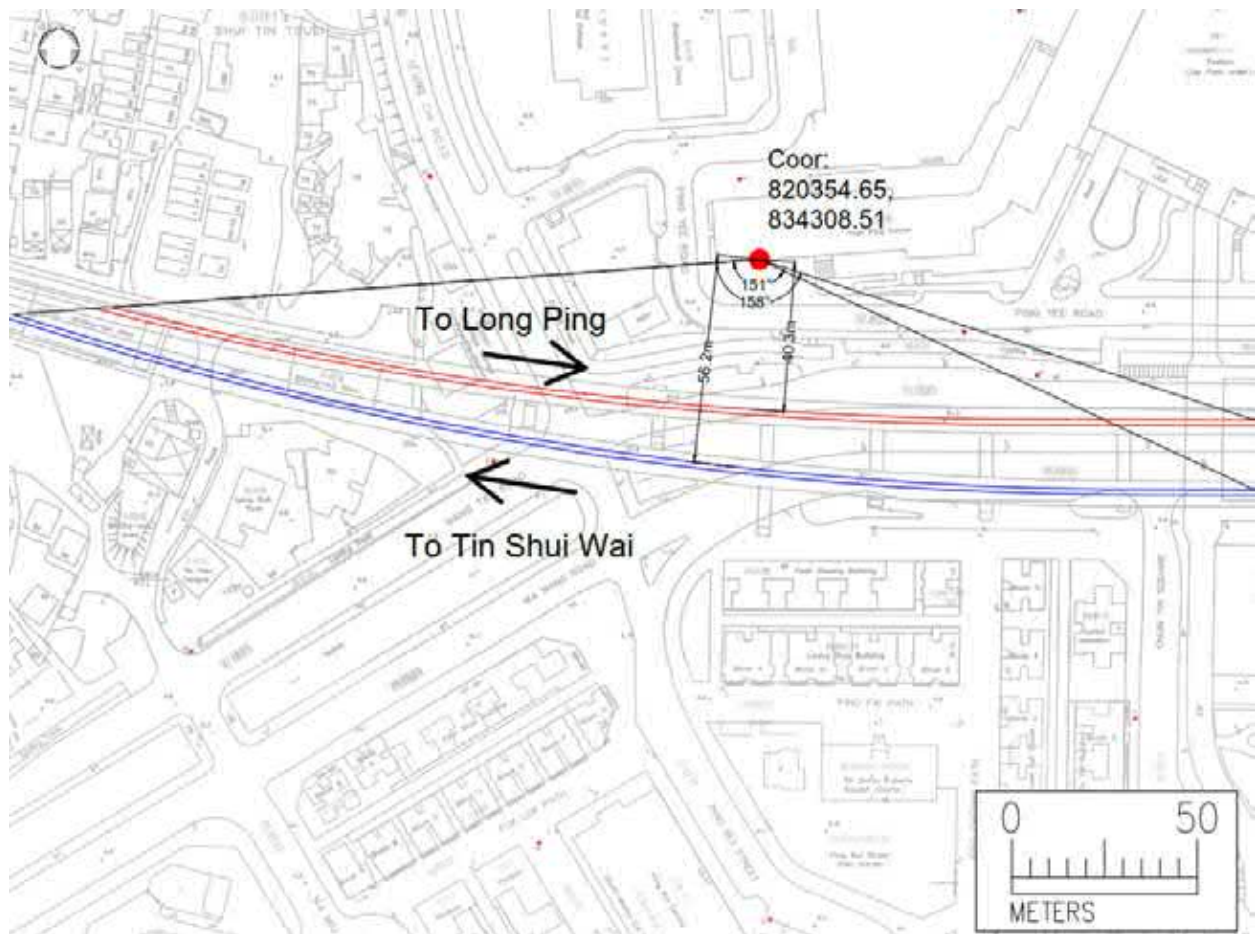
RAILWAY NOISE MEASUREMENT REPORT (TML)

Appendix 3.2

Noise Measurement for Tuen Ma Line (TML)

- 1 On-Site Railway Noise Measurement
- 1.1 On-site railway noise measurement has been conducted on 21 September 2022 in order to determine the SEL of Tuen Ma Line (TML) between Long Ping Station and Tin Shui Wai Station under the latest operation conditions.
- 1.2 For TML, the location of railway noise measurement and photo records are illustrated in Figure 1.1 below. According to previous HKHA's Study on "Planning and Engineering Study for the Public Housing Site and Yuen Long Industrial Estate Extension at Wang Chau", noise measurement had been conducted at southern façade of Yuet Ping House to establish the in-situ noise source term of West Rail Line (WRL) train units running on viaduct. During the previous noise measurement at Yuet Ping House, the highest directivity was observed at 19/F.
- 1.3 To revise the latest train noise source term under the operation of TML, the noise measurement is conducted at the same location (i.e. southern façade of Yuet Ping House at 19/F). The selected rail section for noise measurement is a viaduct between Long Ping Station and Tin Shui Wai Station.
- 1.4 The conditions during on-site railway noise measurement are as follows:
 - Date: 21 September 2022
 - Time: 14:43 – 15:06
 - Weather Condition: Sunny
 - Windspeed: 4km/h
 - Measurement Equipment: Bruel & Kjaer Type 2250 (Calibrated)
 - Calibrator: Bruel & Kjaer Type 4231
 - Measurement Condition: Facade
 - Track Condition: Floating slab trackform

Figure 1.1 Noise Measurement Location at Yuet Ping House for TML



Note – Red Dot Represents the Location of Noise Measurement Point



Noise Measurement Setup Facing
Directly to TML at 19/F of Yuet Ping
House



View angle to the right at the measurement point.
(Note: There is a façade to the left. Thus, view angle to the left is blocked.)

- 1.5 In accordance with the correspondence from MTRCL in Appendix 3.1, the current maximum train speed for the track section between Long Ping Station and Tin Shui Wai Station is about 95 km/h for up-track and 100 km/h for down track. For conservative consideration, it is assumed that the train speed of TML at both tracks within the 300m noise assessment boundary is 100km/h.
- 1.6 The detailed result of on-site noise measurement for TML is recorded in Annex 1. Three train events are measured for each direction, with all trains measured being 8-Car train. According to the latest West Rail Environmental Permit (Ref.: FEP-24/004/1998/J), the maximum number of cars is 9. The measured SEL for all train events is then corrected in accordance with the following conditions:
- 25m from rail track,
 - 100 km/h running speed,
 - 180 degree angle of view, and
 - 9-Car
- 1.7 Of all the six measured train events as shown in Annex 1, the maximum SEL corrected for 9-Car train @100km/h @180 degree angle of view and @25m from track is 83.3 dB(A).
- 1.8 With respect to previous HKHA's Study on "Planning and Engineering Study for the Public Housing Site and Yuen Long Industrial Estate Extension at Wang Chau", the highest corrected SEL of WRL was 76.1 dB(A) at the conditions of 1 Car, 25m from track and speed of 130 km/h. After speed correction from 130kmh to 100kmh (i.e. $20 \times \log(100/130)$) and correction from 1 Car to 9 Car (i.e. $10 \times \log(9)$), the corrected SEL of WRL at the conditions of 9-Car, 25m from track, 180 degree angle of view and speed of 100 km/h, is 83.4 dB(A), which is only 0.1 dB(A) larger than the revised SEL for 9-Car train under the operation of TML. Thus, it is believed that the corrected SEL (i.e. 83.3 dB(A)) from our measurement result is valid and justified to be adopted in the railway noise assessment.
- 2 Noise Source Term (Leq 30 mins and Leq 24 hours) for Railway Noise Model (CadnaA)
- 2.1 Noise impact has been assessed in accordance with "Calculation of Railway Noise (1995)" by the UK Department of Transport. A summary of correction factors that have been considered in the rail noise prediction model is given in Table 2.1 below.

Table 2.1 Summary of Correction Factors Considered

Parameters	Assumptions	Remarks
Rail deterioration	+3 dB(A)	For conservative assessment.
Correction to Number of Car	$10\log(N/N_1)$	N1 is the referenced number of car. N is the number of car to be corrected.
Train speed	Change of SEL with speed $20 \log(V/V_{ref})$ dB(A)	V and V_{ref} are the average train speeds

Parameters	Assumptions	Remarks
Distance	Change of L_{eq} with distance $= 10 \log (d_1 / 25) \text{ dB(A)}$	d_1 is the distance between track and receiver
Barrier Effects	As per Chart 6(a) of CRN	
Joint/ Crossovers	7 dB(A)	
Air absorption	0.2 – 0.008d	Not applicable.
Train Frequency	$10\log(N_1)$ $10\log(N_2)$	N_1 is the train frequency in 30 minutes, N_2 is the number of trains in 24 hours.
View Angle	$10 \log (\pi\theta / 180 - \cos^2 \alpha \sin \theta) - 5 \text{ dB(A)}$	α is the acute angle between a line drawn through the receiver point, parallel to the track and the line bisecting the angle view θ . θ is the view angle.
Façade Reflection	2.5 dB(A)	
To $L_{eq, 30\text{min}}$	$10 \log (1/1800)$	
To $L_{eq, 24 \text{ Hours}}$	$10 \log (1/86400)$	

2.2 CadnaA 2021 has been adopted to conduct quantitative railway noise assessment. The input of noise source term to CadnaA in terms of L_{eq} 30 minutes and L_{eq} 24 Hours is based on the train frequency and train speed shown in **Table 2.2** below.

Table 2.2 Train Frequency for TML

	TML
Train Speed (km/h) [1]	100
Number of Event	
Day & Evening Time [2]	14 per direction
Night-Time [2]	10 per direction
Whole Day [3]	250 per direction

Note:

[1] The train speed for TML is suggested by MTRCL. For conservative consideration, 100km/h is assumed to be the railway speed for both tracks.

[2] The train frequency for day & evening time period of TML is referenced from Correspondence from MTRCL as documented in Appendix 3.1. For TML's train frequency during night-time period, Environmental Permit of West Rail Line (Ref.: FEP-24/004/1998/J) is referenced.

[3] The full day train frequency of TML is referenced from Correspondence from MTRCL as documented in Appendix 3.1.

- 2.3 After applying all necessary correction factors, Table 2.3 below shows the input of railway noise source term for CadnaA 2021 in terms of Leq 30 minutes and Leq 24 Hours. The detail breakdown on deriving the train noise source term for CadnaA input (i.e. Leq 30 minutes and Leq 24 Hours) from the corrected SEL is presented in Annex 2.

Table 2.3 Railway Noise Source Term for CadnaA Input

Noise Source Term	TML
Leq 30 minutes – Day & Evening Period	67.7
Leq 30 minutes – Night Period	66.3
Leq 24 Hours	63.4

Appendix 3.2 (Annex 1)

Project: Proposed Public Housing Development at Wang Chau Phase 1 Development, Yuen Long
Title: Measured SEL

Date: 21-09-2022

Time: 14:43 - 15:06

Weather Condition: Sunny

Wind Speed: 5km/h

Measurement Equipment: Bruel & Kjaer Type 2250 (Calibrated)

Calibrator: Bruel & Kjaer Type 4231

Measurement Condition: Façade

Event	Measurement Data										Source Term Calculation									
	Direction	Start Time	End Time	Measured LAE/SEL, dB(A) [1]	Measurement Conditions						Future Condition				Correction for SEL, dB(A)					SEL for 9 Car @100km/h @180 degree @25m from Track, less facade [11]
					Car Length (m) [2]	Time (s) [3]	Speed (km/h) [3]	Horizontal Distance to Track, m	Angle of View, θ	No. of Cars	Speed (km/h) [4]	Horizontal Distance to Track, m	Angle of View, θ	No. of Cars [5]	Speed [6]	Distance [7]	Angle of View [8]	Car [9]	Façade [10]	
1	To TSW	14:43:01	14:43:15	76.3	200	11.5	62.6	56.2	151	8	100	25	180	9	4.07	3.52	0.77	0.51	2.50	82.6
2	To LP	14:45:20	14:45:32	78.5	200	11.5	62.6	40.3	158	8	100	25	180	9	4.07	2.07	0.57	0.51	2.50	83.2
3	To TSW	14:51:51	14:52:05	77.3	200	11	65.5	56.2	151	8	100	25	180	9	3.68	3.52	0.77	0.51	2.50	83.3
4	To TSW	14:57:08	14:57:23	77.7	200	10.5	68.6	56.2	151	8	100	25	180	9	3.28	3.52	0.77	0.51	2.50	83.3
5	To LP	15:04:14	15:04:26	78.7	200	11	65.5	40.3	158	8	100	25	180	9	3.68	2.07	0.57	0.51	2.50	83.1
6	To LP	15:06:33	15:06:44	78.3	200	11	65.5	40.3	158	8	100	25	180	9	3.68	2.07	0.57	0.51	2.50	82.6
Maximum SEL for All Train Event Above																			83.3	

Note:

[1] Sound Exposure Level (SEL) measured at measurement location as shown in Figure 1.1. As stated in the operation manual of B&K Type 2250, "SEL" is expressed as "LAE", which has the same definition to "SEL". The measured SEL is therefore equivalent to the measured LAE without further conversion. The measurement is affected by background noise.

[2] Each car has a length of approximately 25m. Thus, 8-Car train has a total length of 200m.

[3] Time Recorded for speed calculation for each train event at the measurement location, i.e. Speed = Car Length/Time

[4] As indicated in MTRCL's correspondence in Appendix 3.1, the maximum train speed is 100km/h for down track and 95km/h for uptrack between Long Ping Station and Tin Shui Wai Station. For conservative consideration, it is assumed that both track have maximum speed of 100km/h.

[5] While the existing operation parameters of TME is 8-Car train, as suggested in Latest West Rail Environmental Permit (Ref.: FEP-24/004/1998/J), the ultimate maximum train car will be 9 cars.

[6] Speed Correction: $20 \log (\text{Future Speed} / \text{Measured Speed})$, reference from Calculation of Railway Noise (CRN) 1995.

[7] A distance correction of $10 \log (\text{Measured Distance} / 25)$ is applied, standard acoustic principle.

[8] View angle correction: $10 \log (180 / \text{Measured Angle of View})$

[9] Car Correction: $10 \log (\text{Future No. of Cars} / \text{Measured No. of Cars})$, standard acoustic principle.

[10] The measurement is conducted in front of the building façade.

[11] SEL for 9 Car Train, running at 100km/h, 180 degree view angle and 25m from track, = [1]+[6]+[7]+[8]+[9]-[10]

Appendix 3.2 - Annex 2 CadnaA Input for TML			
Parameters:	Corrected SEL , dB(A) - 9-Car - 100km/h - 180 degree angle of view - 25m from track	Up	Down
		83.3	83.3
Leq 24 hour [1]	Total number of events	250	250
	Corr for no. of event, 10log(N) [2]	24.0	24.0
	Correction for screening/ absorption	0.0	0.0
	Corr for sound energy spread over 24 hr [3]	-49.4	-49.4
	Façade [4]	2.5	2.5
	Rail Deterioration [5]	3.0	3.0
	Leq 24hr [6]	63.4	63.4
Leq 30 mins Day and Evening	Total number of events	14	14
	Corr for no. of event, 10log(N) [2]	11.5	11.5
	Correction for screening/ absorption	0.0	0.0
	Corr for sound energy spread over 0.5hr [3]	-32.6	-32.6
	Façade [4]	2.5	2.5
	Rail Deterioration [5]	3.0	3.0
	Leq 0.5hr [6]	67.7	67.7
Leq 30 mins Night Time	Total number of events	10	10
	Corr for no. of event, 10log(N) [2]	10	10
	Correction for screening/ absorption	0.0	0.0
	Corr for sound energy spread over 0.5hr [3]	-32.6	-32.6
	Façade [4]	2.5	2.5
	Rail Deterioration [5]	3.0	3.0
	Leq 0.5hr [6]	66.3	66.3

Note:

[1] In accordance with Appendix 3.1, the daily number of train trip per direction is 250.

[6] = Corrected SEL+[2]+[3]+[4]+[5]

[7] = [6]+7

APPENDIX 3.3

RAILWAY NOISE IMPACT ASSESSMENT (BASE CASE SCENARIO)

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block A (Base Case)

Appendix 3.3

Day and Evening Time Leq 30 mins (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SA01a	SA01b	SA02a	SA02b	SA02c	SA02d	SA03a	SA03b	SA03c	SA03d	SA04b	SA04c	SA05a	SA05b	SA05c	SA06a	SA06b	SA06c	SA04a	SA07a	SA07b	SA07c	SA08a	SA08b	SA08c	SA09a	SA09b	SA09c	SA09d	SA10a	SA10b	SA10c	SA11a	SA11b	SA11c	SA12a	SA12b	SA12c
39	134.8	45	39	40	48	49	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	55	55	53	51	54	53	51	49	46	
38	132.0	45	40	40	47	49	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	55	55	53	51	54	53	51	49	45	
37	129.3	45	40	40	47	49	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	55	54	53	51	53	53	51	49	45	
36	126.5	45	40	40	47	49	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	55	54	53	51	53	52	51	49	45	
35	123.8	45	40	40	47	48	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	55	54	53	51	53	52	51	49	45	
34	121.0	44	40	40	47	48	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	54	54	53	51	53	52	51	49	45	
33	118.3	44	40	40	47	48	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	54	54	53	51	53	52	51	49	45	
32	115.5	44	40	40	46	48	53	39	39	39	39	39	39	39	39	39	40	39	40	39	40	39	39	39	39	39	39	39	39	54	53	52	50	53	52	51	49	44	
31	112.8	44	40	40	46	48	53	39	39	39	39	39	39	39	39	39	40	40	40	39	40	39	39	39	39	39	39	39	39	53	53	52	50	53	52	50	48	44	
30	110.0	44	40	40	46	48	52	39	39	39	39	39	39	39	39	39	40	40	40	39	40	40	39	39	39	39	39	39	39	53	53	52	50	53	52	50	48	44	
29	107.3	43	40	40	46	48	52	39	39	39	39	39	39	39	39	40	40	40	40	39	40	40	39	39	39	39	39	39	39	53	53	52	50	52	52	50	48	43	
28	104.5	43	40	40	45	47	52	39	39	39	39	39	39	40	40	40	40	40	40	39	40	40	40	39	39	39	39	39	39	53	52	52	50	52	52	50	48	43	
27	101.8	42	40	40	45	47	52	39	39	39	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	39	39	39	53	52	52	50	52	51	50	47	43	
26	99.0	42	40	40	45	47	52	39	39	39	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	39	39	52	52	52	49	52	51	50	47	43	
25	96.3	42	40	40	45	47	52	39	39	39	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	52	52	51	49	52	51	50	47	42
24	93.5	42	40	40	45	47	52	39	39	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	52	52	51	49	52	51	50	47	42	
23	90.8	42	40	40	45	46	52	39	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	52	52	51	49	52	51	49	47	42	
22	88.0	42	40	40	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	52	51	51	49	51	51	49	47	42	
21	85.3	42	40	40	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	39	52	51	51	49	51	51	49	47	42	
20	82.5	42	40	40	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	51	51	51	49	51	51	49	47	42		
19	79.8	42	40	40	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	51	51	50	49	51	51	49	47	42		
18	77.0	41	40	40	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	51	51	50	49	51	51	49	47	42		
17	74.3	41	40	41	44	46	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	51	50	50	49	50	50	49	46	41		
16	71.5	41	40	41	44	45	51	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	51	50	50	49	50	50	49	46	41		
15	68.8	41	41	41	44	45	50	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	50	50	49	48	50	50	48	46	41		
14	66.0	41	41	41	43	45	50	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	50	49	49	48	49	49	48	46	41		
13	63.3	41	41	41	43	45	50	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	50	49	48	48	49	49	49	48	46	41		
12	60.5	41	41	41	43	45	49	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	49	48	48	47	48	48	48	46	41		
11	57.8	41	41	41	43	45	48	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	48	47	47	47	47	47	47	46	41		
10	55.0	41	41	41	43	45	48	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	48	47	46	46	47	46	46	45	41		
9	52.3	41	41	41	43	45	46	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	47	46	46	46	46	46	46	45	41		
8	49.5	41	41	41	43	45	46	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	47	46	45	45	46	45	45	44	41		
7	46.8	41	41	41	43	44	45	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	47	46	45	45	45	45	45	44	41		
6	44.0	41	41	41	43	44	45	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	47	46	45	45	45	45	45	44	41		
5	41.3	41	41	41	43	44	44	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	47	45	45	45	45	45	45	44	41		
4	38.5	41	41	41	43	44	44	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	46	45	44	44	45	45	44	44	41		
3	35.8	41	41	41	42	44	44	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	46	45	44	44	45	44	44	44	41		
2	33.0	41	41	41	42	44	44	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	46	45	44	44	44	44	44	43	41		

Night Time Leq 30 mins (Criterion: 55 dB(A))

FLOOR	Assessment point level (mPD)	SA01a	SA01b	SA02a	SA02b	SA02c	SA02d	SA03a	SA03b	SA03c	SA03d	SA04b	SA04c	SA05a	SA05b	SA05c	SA06a	SA06b	SA06c	SA04a	SA07a	SA07b	SA07c	SA08a	SA08b	SA08c	SA09a	SA09b	SA09c	SA09d	SA10a	SA10b	SA10c	SA11a	SA11b	SA11c	SA12a	SA12b	SA12c
39	134.8	44	38	38	46	48	52	37	37	37	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	37	37	53	53	52	50	52	51	50	48	44
38	132.0	44	38	38	46	47	52	37	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	37	37	53	53	52	50	52	51	50	48	44
37	129.3	44	38	38	46	47	52	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	37	37	53	53	52	49	52	51	50	48	44
36	126.5	43	38	38	46	47	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	37	53	53	51	49	52	51	50	48	44
35	123.8	43	38	38	46	47	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	37	53	53	51	49	52	51	50	48	44	
34	121.0	43	38	38	45	47	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	53	53	51	49	52	51	49	47	43	
33	118.3	43	38	38	45	47	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	53	52	51	49	52	51	49	47	43	
32	115.5	43	38	38	45	47	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	52	52	51	49	52	51	49	47	43	
31	112.8	42	38	39	45	46	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	52	52	51	49	52	51	49	47	43	
30	110.0	42	39	39	45	46	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	52	51	51	48	51	50	49	47	42	
29	107.3	42	39	39	44	46	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	51	51	48	51	50	49	46	42	
28	104.5	41	39	39	44	46	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	51	50	48	51	50	48	46	41	
27	101.8	41	39	39	44	45	51	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	51	50	48	51	50	48	46	41	
26	99.0	41	39	39	44	45	50	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	51	50	48	51	50	48	46	41	
25	96.3	41	39	39	43	45	50	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	50	50	48	50	50	48	46	41	
24	93.5	41	39	39	43	45	50	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	51	50	50	48	50	50	48	46	41	
23	90.8	41	39	39	43	45	50	38	38	38	38	38	38	38	38	38	38	38	38	38	39	38	38	38	38	38	38	38	38	51	50	50	48	50	50	48	46	41	
22	88.0	40	39	39	43	45	50	38	38	38	38	38	38	38	38	39	39	38	39	38	38	38	38	38	38	38	38	38	38	50	50	50	48	50	50	48	46	41	
21	85.3	40	39	39	43	45	50	38	38	38	38	38	38	38	38	39	39	39	39	38	39	38	38	38	38	38	38	38	38	50	50	49	48	50	50	48	46	40	
20	82.5	40	39	39	43	45	50	38	38	38	38	38	38	38	38	39	39	39	39	38	39	39	38	38	38	38	38	38	38	50	50	49	48	50	49	48	45	40	
19	79.8	40	39	39	43	44	50	38	38	38	38	38	38	38	38	39	39	39	39	38	39	39	38	38	38	38	38	38	38	50	49	49	47	49	49	48	45	40	
18	77.0	40	39	39	42	44	50	38	38	38	38	38	38	38	38	39	39	39	39	38	39	39	39	38	38	38	38	38	38	50	49	49	47	49	49	47	45	40	
17	74.3	40	39	39	42	44	49	38	38	38	38	38	38	38	39	39	39	39	38	39	39	39	38	38	38	38	38	38	38	49	49	49	47	49	49	47	45	40	
16	71.5	40	39	39	42	44	49	38	38	38	38	38	38	38	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	49	49	48	47	49	49	47	45	40	
15	68.8	40	39	39	42	44	49	38	38	38	38	38	38	38	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	49	48	48	47	48	48	47	45	40	
14	66.0	40	39	39	42	44	49	38	38	38	38	38	38	38	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	49	48	48	47	47	48	48	47	45	40
13	63.3	40	39	39	42	44	48	38	38	38	38	38	38	38	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	48	47	47	47	47	47	47	47	45	40
12	60.5	40	39	39	42	44	48	38	38	38	38	38	38	38	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	48	47	46	46	47	47	46	44	40	
11	57.8	40	39	39	42	43	47	38	38	38	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	47	46	45	45	46	46	46	44	40	
10	55.0	40	39	39	42	43	46	38	38	38	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	46	45	45	45	45	45	45	44	40	
9	52.3	40	39	39	42	43	45	38	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	46	45	44	44	44	44	44	43	40	
8	49.5	40	39	39	42	43	44	38	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	46	45	44	44	44	44	44	43	40	
7	46.8	40	39	39	41	43	44	38	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	46	44	44	44	44	44	44	43	40	
6	44.0	40	39	39	41	43	43	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	45	44	43	43	44	44	43	43	40	
5	41.3	40	39	39	41	43	43	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	45	44	43	43	44	43	43	43	40	
4	38.5	40	39	39	41	43	43	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	45	44	43	43	43	43	43	42	40	
3	35.8	40	39	39	41	42	43	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	45	44	43	43	43	43	42	42	40	
2	33.0	40	39	39	41	42	42	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	45	43	43	43	43	43	42	42	40	

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block A (Base Case)

Appendix 3.3

Leq 24 (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SA01a	SA01b	SA02a	SA02b	SA02c	SA02d	SA03a	SA03b	SA03c	SA03d	SA04b	SA04c	SA05a	SA05b	SA05c	SA06a	SA06b	SA06c	SA04a	SA07a	SA07b	SA07c	SA08a	SA08b	SA08c	SA09a	SA09b	SA09c	SA09d	SA10a	SA10b	SA10c	SA11a	SA11b	SA11c	SA12a	SA12b	SA12c
39	134.8	41	35	35	43	45	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	50	50	49	47	49	48	47	45	41		
38	132.0	41	35	35	43	45	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	49	47	49	48	47	45	41		
37	129.3	41	35	35	43	44	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	49	47	49	48	47	45	41		
36	126.5	40	35	35	43	44	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	49	47	49	48	47	45	41		
35	123.8	40	35	35	43	44	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	48	46	49	48	47	45	41		
34	121.0	40	35	35	42	44	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	48	46	49	48	47	45	40		
33	118.3	40	35	36	42	44	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	50	50	48	46	49	48	46	44	40		
32	115.5	40	36	36	42	44	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	49	49	48	46	49	48	46	44	40		
31	112.8	40	36	36	42	44	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	49	49	48	46	49	48	46	44	40		
30	110.0	39	36	36	42	43	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	49	48	48	45	48	48	46	44	40		
29	107.3	39	36	36	42	43	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	49	48	48	45	48	47	46	44	39		
28	104.5	38	36	36	41	43	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	48	48	47	45	48	47	46	43	39		
27	101.8	38	36	36	41	43	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	48	48	47	45	48	47	45	43	38		
26	99.0	38	36	36	41	42	48	35	35	35	35	35	35	35	35	35	35	35	35	36	35	35	35	35	35	35	35	35	48	48	47	45	48	47	45	43	38		
25	96.3	38	36	36	41	42	47	35	35	35	35	35	35	35	35	35	36	35	36	35	36	35	35	35	35	35	35	35	48	48	47	45	48	47	45	43	38		
24	93.5	38	36	36	40	42	47	35	35	35	35	35	35	35	35	36	36	36	36	35	36	35	35	35	35	35	35	35	48	47	47	45	47	47	45	43	38		
23	90.8	38	36	36	40	42	47	35	35	35	35	35	35	35	35	36	36	36	36	35	36	36	35	35	35	35	35	35	48	47	47	45	47	47	45	43	38		
22	88.0	38	36	36	40	42	47	35	35	35	35	35	35	35	35	36	36	36	36	35	36	36	35	35	35	35	35	35	48	47	47	45	47	47	45	43	38		
21	85.3	37	36	36	40	42	47	35	35	35	35	35	35	35	36	36	36	36	36	35	36	36	36	35	35	35	35	35	47	47	47	45	47	47	45	43	38		
20	82.5	37	36	36	40	42	47	35	35	35	35	35	35	36	36	36	36	36	36	35	36	36	36	35	35	35	35	35	47	47	46	45	47	47	45	42	37		
19	79.8	37	36	36	40	42	47	35	35	35	36	35	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	35	47	46	46	45	47	46	45	42	37		
18	77.0	37	36	36	40	41	47	35	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	35	47	46	46	44	46	46	45	42	37		
17	74.3	37	36	36	39	41	47	35	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	47	46	46	44	46	46	44	42	37		
16	71.5	37	36	36	39	41	46	35	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	35	46	46	45	44	46	46	44	42	37		
15	68.8	37	36	36	39	41	46	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	46	45	45	44	45	45	44	42	37		
14	66.0	37	36	36	39	41	46	35	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	46	45	45	44	45	45	44	42	37		
13	63.3	37	36	36	39	41	45	35	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	45	44	44	44	44	44	44	42	37		
12	60.5	37	36	36	39	41	45	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	45	44	43	43	44	44	43	42	37		
11	57.8	37	36	36	39	41	44	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	44	43	43	42	43	43	43	41	37		
10	55.0	37	36	36	39	40	43	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	44	42	42	42	42	42	42	42	41	37	
9	52.3	37	36	36	39	40	42	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	43	42	41	41	41	42	42	41	40	37	
8	49.5	37	36	36	39	40	41	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	43	42	41	41	41	41	41	41	40	37	
7	46.8	37	36	36	39	40	41	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	35	43	41	41	41	41	41	41	40	40	37	
6	44.0	37	36	37	38	40	40	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	43	41	41	41	41	41	40	40	37		
5	41.3	37	36	37	38	40	40	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	42	41	40	40	40	40	40	40	37		
4	38.5	37	36	37	38	40	40	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	42	41	40	40	40	40	40	39	37		
3	35.8	37	36	37	38	40	40	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	42	41	40	40	40	40	40	39	37		
2	33.0	37	36	37	38	39	40	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	35	42	40	40	40	40	40	39	39	37		

Day and Evening Time Leq 30 mins (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SB01a	SB01b	SB01c	SB01d	SB02a	SB02b	SB02c	SB03a	SB03b	SB03c	SB04a	SB04b	SB04c	SB05a	SB05b	SB05c	SB05d	SB06a	SB06b	SB06c	SB07a	SB07b	SB07c	SB08a	SB08b	SB08c	SB08d	SB09a	SB09b	SB09c	SB09d	SB10a	SB10b	SB10c	SB10d	SB11a	SB11b	SB11c	SB12a	SB12b	SB12c	SB12d	SB13a	SB13b	SB13c	SB13d	SB14a	SB14b	SB14c	SB14d	SB15a	SB15b	SB15c	SB15d	SB16a	SB16b	SB16c	
40	138.4	39	39	39	39	39	39	39							56	56	57	48	44	57	57	58	58	60									60	58	58	57	57	57	40	47	57	56	56	56	57	56	50	52	56	56	40	38	38	39	39	39	39	39	
39	135.6	39	39	39	39	39	39	39							56	56	57	48	44	57	57	58	58	60									60	58	58	57	57	57	40	47	57	56	56	56	57	56	50	52	56	56	40	39	39	39	39	39	39	39	39
38	132.9	39	39	39	39	39	39	39							56	56	57	47	44	57	57	58	58	60									60	58	58	57	57	57	40	47	57	56	56	56	56	56	50	52	56	56	40	39	39	39	39	39	39	39	39
37	130.1	39	39	39	39	39	39	39							56	56	57	47	44	57	57	58	58	60									60	58	58	57	57	57	40	47	57	56	56	56	56	56	50	52	56	56	40	39	39	39	39	39	39	39	39
36	127.4	39	39	39	39	39	39	39							56	56	56	47	44	57	57	58	59	60									60	58	58	57	57	57	40	47	57	56	56	56	56	56	50	52	56	56	40	39	39	39	39	39	39	39	39
35	124.6	39	39	39	39	39	39	39							56	56	56	47	44	57	57	58	59	60									60	58	58	57	57	57	40	47	57	56	56	56	56	56	50	52	56	56	40	39	39	39	39	39	39	39	39
34	121.9	39	39	39	39	39	39	39							56	56	56	47	43	57	57	58	59	60									60	58	58	57	57	57	40	47	56	56	56	56	56	56	50	52	56	56	40	39	39	39	39	39	39	39	39
33	119.1	39	39	39	39	39	39	39							56	56	56	46	43	57	57	58	59	60									60	58	58	57	57	57	40	47	56	56	56	56	56	56	50	52	55	55	40	39	39	39	39	39	39	39	39
32	116.4	39	39	39	39	39	39	39							56	56	56	46	43	57	57	58	58	60									60	58	58	57	57	57	40	47	56	56	56	56	56	56	50	52	55	55	40	39	39	39	39	39	39	39	39
31	113.6	39	39	39	39	39	39	39							56	56	56	46	43	57	57	57	58	60									60	58	58	57	57	57	40	47	56	56	56	55	56	55	50	52	55	55	40	39	39	39	39	39	39	39	39
30	110.9	39	39	39	39	39	39	39							56	56	56	46	43	57	57	57	58	60									60	58	58	57	57	57	40	47	56	56	56	55	55	50	52	55	55	40	39	39	39	39	39	39	39	39	
29	108.1	39	39	39	39	39	39	39							56	56	56	45	43	56	57	57	58	60									60	58	57	56	57	56	40	46	56	56	56	55	55	50	52	55	55	40	39	39	39	39	39	39	39	39	
28	105.4	39	39	39	39	39	39	39							56	56	56	45	43	56	56	57	58	60									60	58	57	56	56	56	40	46	56	56	55	55	50	52	55	55	40	39	39	39	39	39	39	39	39		
27	102.6	39	39	39	39	39	39	39							56	56	56	45	43	56	56	57	57	60									60	58	57	56	56	56	40	46	56	56	55	55	50	52	55	54	40	39	39	39	39	39	39	39	39		
26	99.9	39	39	39	39	39	39	39							56	56	56	45	42	56	56	57	57	57									57	57	57	56	56	56	40	46	55	55	55	55	50	52	55	54	40	39	39	39	39	39	39	39	39		
25	97.1	39	39	39	39	39	39	39							56	56	56	45	42	56	56	56	57	52									52	57	56	56	56	56	40	46	55	55	55	55	50	52	54	54	40	39	39	39	39	39	39	39	39		
24	94.4	39	39	39	39	39	39	39							55	56	56	45	42	56	56	56	57	46	43	57	57	59	59	59	58	57	44	47	56	56	56	56	56	40	46	55	55	55	55	50	52	54	54	40	39	39	39	39	39	39	39		
23	91.6	39	39	39	39	39	39	39	55	55	55	54	55	55	55	56	56	44	42	56	56	56	56	45	43	57	57	59	58	57	56	43	47	56	56	56	56	56	40	46	55	55	55	55	50	52	54	54	40	39	39	39	39	39	39	39			
22	88.9	39	39	39	39	39	39	39	55	55	55	53	55	55	55	56	56	44	42	56	56	56	56	45	43	57	57	59	58	57	56	43	47	56	56	56	56	56	40	46	55	55	55	54	55	54	49	51	54	54	40	39	39	39	39	39	39	39	
21	86.1	39	39	39	39	39	39	39	55	55	55	53	55	55	55	55	55	44	42	56	56	56	56	45	43	57	57	58	58	57	56	43	47	56	56	56	55	55	40	46	55	55	55	54	54	54	49	51	54	54	40	39	39	39	39	39	39	39	
20	83.4	39	39	39	39	39	39	39	55	55	55	53	55	55	55	55	55	44	42	56	56	56	56	45	43	57	57	58	58	57	56	43	47	56	56	55	55	40	46	55	55	55	54	54	54	49	51	54	54	40	39	39	39	39	39	39	39		
19	80.6	39	39	39	39	39	39	39	55	55	55	54	53	55	55	55	55	43	42	56	56	56	56	44	42	57	57	58	58	56	56	43	47	56	56	55	55	55	40	46	55	55	55	54	54	54	49	51	54	54	40	39	39	39	39	39	39	39	
18	77.9	40	39	39	39	39	39	39	55	55	54	53	55	55	55	55	55	43	42	55	56	56	56	44	42	56	57	58	58	56	56	43	46	56	55	55	55	40	45	55	55	54	54	54	49	51	54	53	40	39	39	39	39	39	39	39	40		
17	75.1	40	39	39	39	39	39	39	55	55	54	53	55	55	55	55	55	43	42	55	55	56	56	44	42	56	56	58	58	56	56	43	46	55	55	55	55	40	45	54	54	54	54	49	51	53	53	40	39	39	39	39	39	39	39	40			
16	72.4	40	40	39	40	40	39	39	54	54	54	53	54	54	55	55	55	43	41	55	55	56	56	44	42	56	56	58	57	56	56	43	46	55	55	55	55	40	45	54	54	54	54	49	51	53	53	40	39	39	39	39	39	39	39	40			
15	69.6	40	40	40	40	40	39	39	54	54	54	53	54	54	55	55	55	43	41	55	55	56	56	44	42	56	56	58	57	56	55	43	46	55	55	55	55	40	45	54	54	54	54	49	51	53	53	40	39	39	39	39	39	39	39	40			
14	66.9	40	40	40	40	40	39	39	54	54	54	53	54	54	54	55	55	43	41	55	55	55	56	43	42	56	56	57	57	55	55	43	46	55	55	55	54	54	41	45	54	54	54	53	54	53	49	51	53	53	40	39	39	39	40	40	40	40	
13	64.1	40	40	40	40	40	39	39	54	54	54	52	54	54	54	55	55	43	42	55	55	55	55	43	42	56	56	57	57	55	55	43	46	55	55	54	54	41	45	54	54	54	53	53	49	51	53	53	40	39	39	39	40	40	40	40			
12	61.4	40	40	40	40	40	39	39	54	54	54	52	54	54	54	54	54	42	41	55	55	55	55	43	42	56	56	57	57	55	55	43	46	55	54	54	41	45	54	54	54	53	53	48	51	53	53	40	39	39	39	40	40	40	40				
11	58.6	40	40	40	40	40	40	39	54	54	54	52	54	54	54	54	54	42	41	55	55	55	55	43	42	56	56	57	56	55	55	43	46	54	54																								

Appendix 3.3

Shq 24 (Criterion: 65 dBA)																																																											
FLOOR	Assessment point level (mPD)	SB01a	SB01b	SB01c	SB01d	SB02a	SB02b	SB02c	SB03a	SB03b	SB03c	SB04a	SB04b	SB04c	SB05a	SB05b	SB05c	SB05d	SB06a	SB06b	SB06c	SB07a	SB07b	SB07c	SB08a	SB08b	SB08c	SB08d	SB09a	SB09b	SB09c	SB09d	SB10a	SB10b	SB10c	SB10d	SB11a	SB11b	SB11c	SB12a	SB12b	SB12c	SB12d	SB13a	SB13b	SB13c	SB13d	SB14a	SB14b	SB14c	SB14d	SB15a	SB15b	SB15c	SB15d	SB16a	SB16b	SB16c	
40	138.4	34	34	34	34	34	34	34							52	52	52	44	40	53	53	53	54	56									56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
39	135.6	34	34	34	34	34	34	34							52	52	52	43	40	53	53	53	54	56									56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
38	132.9	34	34	34	34	34	34	34							52	52	52	43	40	53	53	53	54	56									56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
37	130.1	35	35	34	35	34	34	34							52	52	52	43	40	53	53	53	54	56									56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
36	127.4	35	35	35	35	35	34	34							52	52	52	43	39	53	53	54	56										56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
35	124.6	35	35	35	35	35	34	34							52	52	52	43	39	53	53	54	56										56	54	53	52	53	53	36	43	52	52	52	52	52	52	46	48	52	52	36	34	34	34					
34	121.9	35	35	35	35	35	35	34							52	52	52	42	39	52	53	53	54	56									56	54	53	52	53	52	36	43	52	52	52	52	52	52	46	48	51	51	36	34	34	34					
33	119.1	35	35	35	35	35	35	35							52	52	52	42	39	52	53	53	54	56									56	54	53	52	53	52	36	42	52	52	52	52	52	52	46	48	51	51	36	34	34	35					
32	116.4	35	35	35	35	35	35	35							52	52	52	42	39	52	53	53	54	56									56	54	53	52	53	52	36	42	52	52	52	51	52	51	46	48	51	51	36	35	35	35					
31	113.6	35	35	35	35	35	35	35							52	52	52	42	39	52	53	53	54	56									56	54	53	52	53	52	36	42	52	52	52	51	51	51	46	48	51	50	36	35	35	35					
30	110.9	35	35	35	35	35	35	35							52	52	52	41	39	52	52	53	54	56									56	54	53	52	52	52	36	42	52	52	52	51	51	51	46	48	51	50	36	35	35	35					
29	108.1	35	35	35	35	35	35	35							51	52	52	41	39	52	52	53	54	56									56	54	53	52	52	52	36	42	52	52	51	51	51	51	46	48	50	36	35	35	35						
28	105.4	35	35	35	35	35	35	35							51	51	52	41	38	52	52	53	54	56									56	54	53	52	52	52	36	42	52	51	51	51	51	51	46	48	50	36	35	35	35						
27	102.6	35	35	35	35	35	35	35							51	51	51	41	38	52	52	52	53	55									55	53	53	52	52	52	36	42	51	51	51	51	51	51	46	48	50	36	35	35	35						
26	99.9	35	35	35	35	35	35	35							51	51	51	41	38	52	52	52	53	55									55	53	52	52	52	52	36	42	51	51	51	51	51	51	45	46	50	36	35	35	35						
25	97.1	35	35	35	35	35	35	35							51	51	51	40	38	52	52	52	52	47									48	52	52	52	52	51	36	42	51	51	51	51	51	51	50	45	47	50	36	35	35	35					
24	94.4	35	35	35	35	35	35	35							51	51	51	40	38	52	52	52	52	41									49	53	53	55	55	53	53	39	43	52	52	51	51	51	50	50	45	47	50	36	35	35	35	35			
23	91.6	35	35	35	35	35	35	35	51	51	51	49	51	51	51	51	51	40	38	52	52	52	52	41	39	53	53	55	55	54	53	52	39	43	52	52	51	51	51	36	42	51	51	51	50	50	45	47	50	36	35	35	35	35	35	35	35		
22	88.9	35	35	35	35	35	35	35	51	51	51	50	49	51	51	51	51	40	38	52	52	52	52	41	38	52	53	54	54	53	52	39	43	52	52	51	51	51	36	42	51	51	51	50	50	45	47	50	36	35	35	35	35	35	35	35	35		
21	86.1	35	35	35	35	35	35	35	51	51	51	50	49	51	51	51	51	40	38	51	52	52	52	41	38	52	53	54	54	52	39	43	52	51	51	51	51	36	41	51	51	51	50	50	45	47	50	36	35	35	35	35	35	35	35	35	35		
20	83.4	35	35	35	35	35	35	35	51	51	51	50	49	51	51	51	51	39	37	51	51	52	52	40	38	52	53	54	54	52	39	42	51	51	51	51	51	36	41	51	51	50	50	50	45	47	50	36	35	35	35	35	35	35	35	35	35		
19	80.6	35	35	35	35	35	35	35	50	50	50	49	50	50	51	51	51	39	37	51	51	52	52	40	38	52	52	54	54	52	39	42	51	51	51	51	51	36	41	51	50	50	50	50	45	47	49	36	35	35	35	35	35	35	35	35	35		
18	77.9	35	35	35	35	35	35	35	50	50	50	49	50	50	51	51	51	39	37	51	51	52	52	40	38	52	52	54	53	52	39	42	51	51	51	51	51	36	41	50	50	50	50	45	47	49	36	35	35	35	35	35	35	35	35	35	35	35	
17	75.1	35	35	35	35	35	35	35	50	50	50	49	50	50	50	51	51	39	37	51	51	51	52	40	38	52	52	54	53	52	39	42	51	51	51	51	51	36	41	50	50	50	50	49	45	47	49	36	35	35	35	35	35	35	35	35	35		
16	72.4	35	35	35	35	35	35	35	50	50	50	49	50	50	50	50	51	39	37	51	51	52	52	40	38	52	52	54	53	52	39	42	51	51	51	51	50	36	41	50	50	49	45	47	49	36	35	35	35	35	35	35	35	35	35	35	35	35	
15	69.6	35	35	35	35	35	35	35	50	50	50	48	50	50	50	50	50	38	37	51	51	51	51	39	38	52	52	53	53	51	51	39	42	51	51	50	50	36	41	50	50	49	49	44	47	49	36	35	35	35	35	35	35	35	35	35	35	35	
14	66.9	35	35	35	35	35	35	35	50	50	50	48	50	50	50	50	50	38	37	51	51	51	51	39	38	52	52	53	53	51	51	38	42	50	50	50	36	41	50	50	49	49	49	44	46	49	36	35	35	35	35	35	35	35	35	35	35	35	
13	64.1	35	35	35	35	35	35	35	50	50	50	48	50	50	50	50	50	38	37	51	51	51	51	39	38	51	52	53	52	51	51	38	42	50	50	50	36	41	50	50	49	49	49	44	46	49	36	35	35	35	35	35	35	35	35	35	35	35	
12	61.4	35	35	35	35	35	35	35	50	50	49	48	50	50	50	50	50	38	37	50	51	51	51	39	38	51	51	52	52	51	50	38	41	50	50	50	36	40	50	49	49	49	49	44	46	48	36	35	35	35	35	35	35	35	35	35	35	35	
11	58.6	35	35	35	35	35	35	35	50	50	49	48	50	50	50	50	50	38	37	50	50	51	51	39	38	51	51	52	52	50	38	41	50	50	50	36	40	49	49	49	49	49	44	46	48	36	35	35	35	35	35	35	35	35	35	35	35	35	
10	55.9	35	35	35	35	35	35	35	49	49	49	48	49	49	50	50	50	38	37	50	50	51	51	38	38	51	51	52	52	50	38	41	50	50	50	36	40	49	49	49	49	49	44	46	48	36	35	35	35	35	35	35	35	35	35	35	35	35	
9	53.1	35	35	35	35	35	35	35	49																																																		

Day and Evening Time Leq 30 mins (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SC01a	SC01b	SC01c	SC01d	SC02a	SC02b	SC02c	SC03a	SC03b	SC03c	SC04a	SC04b	SC04c	SC04d	SC05a	SC05b	SC05c	SC06a	SC06b	SC06c	SC07a	SC07b	SC07c	SC07d	SC08a	SC08b	SC08c	SC08d	SC09a	SC09b	SC09c	SC09d	SC10a	SC10b	SC10c	SC10d	SC11a	SC11b	SC11c			
40	138.4	38	38	38	38	38	38	38											38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38		
39	135.6	38	38	38	38	38	38	38											38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
38	132.9	38	38	38	38	38	38	38											39	38	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
37	130.1	38	38	38	38	38	38	38											39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
36	127.4	38	38	38	38	38	38	38											39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
35	124.6	38	38	38	39	39	38	39											39	39	39	39	39	38	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
34	121.9	38	38	38	39	39	39	39											39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
33	119.1	38	38	39	39	39	39	39											39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
32	116.4	39	39	39	39	39	39	39											39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
31	113.6	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
30	110.9	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
29	108.1	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
28	105.4	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
27	102.6	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
26	99.9	39	39	39	39	39	39	39											39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38	38	38	
25	97.1	39	39	39	39	39	39	39	56	56	54	55	56	56	56				39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38
24	94.4	39	39	39	39	39	39	39	56	56	53	54	56	56	56				39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	
23	91.6	39	39	39	39	39	39	39	56	56	53	54	56	56	55	55	55	55	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38	38
22	88.9	39	39	39	39	39	39	39	56	56	53	54	56	55	55	55	55	55	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
21	86.1	39	39	39	39	39	39	39	56	56	53	54	55	55	55	55	55	55	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
20	83.4	39	39	39	39	39	39	39	56	55	53	54	55	55	55	55	55	55	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
19	80.6	39	39	39	39	39	39	39	55	55	53	54	55	55	55	55	55	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
18	77.9	39	39	39	39	39	39	39	55	55	53	54	55	55	55	55	55	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
17	75.1	39	39	39	39	39	39	39	55	55	52	53	55	55	55	55	55	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
16	72.4	39	39	39	39	39	39	39	55	55	52	53	55	55	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38	38
15	69.6	39	39	39	39	39	39	39	55	55	52	53	55	55	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38
14	66.9	39	39	39	39	39	39	39	55	55	52	53	54	54	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38
13	64.1	39	39	39	39	39	39	39	55	54	52	53	54	54	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38
12	61.4	39	39	39	39	39	39	39	54	54	51	53	54	54	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38
11	58.6	39	39	39	39	39	39	39	54	54	51	52	54	54	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38	38
10	55.9	39	39	39	39	39	39	39	54	54	51	52	54	54	54	54	54	54	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38	38
9	53.1	39	39	39	39	39	39	39	54	54	51	52	54	54	53	54	54	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	38	38	38	38	38	38	38	38
8	50.4	39	39	39	39	39	39	39	54	54	51	52	53	53	53	53	53	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
7	47.6	39	39	39	39	39	39	39	54	53	51	52	53	53	53	53	53	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
6	44.9	39	39	39	39	39	39	39	53	53	50	52	53	53	53	53	53	53	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
5	42.1	39	39	39	39	39	39	39	53	53	50																																

Night Time Leq 30 mins (Criterion: 55 dB(A))

FLOOR	Assessment point level (mPD)	SC01a	SC01b	SC01c	SC01d	SC02a	SC02b	SC02c	SC03a	SC03b	SC03c	SC04a	SC04b	SC04c	SC04d	SC05a	SC05b	SC05c	SC06a	SC06b	SC06c	SC07a	SC07b	SC07c	SC07d	SC08a	SC08b	SC08c	SC08d	SC09a
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Leq 24 (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SC01a	SC01b	SC01c	SC01d	SC02a	SC02b	SC02c	SC03a	SC03b	SC03c	SC04a	SC04b	SC04c	SC04d	SC05a	SC05b	SC05c	SC06a	SC06b	SC06c	SC07a	SC07b	SC07c	SC07d	SC08a	SC08b	SC08c	SC08d	SC09a	SC09b	SC09c	SC09d	SC10a	SC10b	SC10c	SC10d	SC11a	SC11b	SC11c	
40	138.4	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	
39	135.6	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
38	132.9	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
37	130.1	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
36	127.4	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
35	124.6	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
34	121.9	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
33	119.1	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
32	116.4	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
31	113.6	34	34	34	34	34	34	34											34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
30	110.9	34	34	34	34	34	34	34											35	34	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
29	108.1	34	34	34	34	34	34	34											35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
28	105.4	34	34	34	34	34	34	34											35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
27	102.6	34	34	34	35	35	34	34											35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
26	99.9	34	34	34	35	35	34	35											35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
25	97.1	34	34	34	35	35	35	35	52	52	49	50	52	52	51				35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
24	94.4	34	34	35	35	35	35	35	52	52	49	50	51	51	51				35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
23	91.6	34	35	35	35	35	35	35	52	52	49	50	51	51	51	51	51	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
22	88.9	35	35	35	35	35	35	35	52	51	49	50	51	51	51	51	51	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
21	86.1	35	35	35	35	35	35	35	51	51	49	50	51	51	51	51	50	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
20	83.4	35	35	35	35	35	35	35	51	51	48	50	51	51	51	51	50	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34
19	80.6	35	35	35	35	35	35	35	51	51	48	49	51	51	51	50	50	50	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34
18	77.9	35	35	35	35	35	35	35	51	51	48	49	51	51	50	50	50	50	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34
17	75.1	35	35	35	35	35	35	35	51	51	48	49	51	50	50	50	50	50	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	35
16	72.4	35	35	35	35	35	35	35	51	51	48	49	50	50	50	50	50	50	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	35
15	69.6	35	35	35	35	35	35	35	51	50	48	49	50	50	50	50	50	50	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	35
14	66.9	35	35	35	35	35	35	35	50	50	48	49	50	50	50	50	50	50	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	35
13	64.1	35	35	35	35	35	35	35	50	50	47	49	50	50	50	50	50	50	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	35
12	61.4	35	35	35	35	35	35	35	50	50	47	48	50	50	50	50	50	49	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	35
11	58.6	35	35	35	35	35	35	35	50	50	47	48	50	50	49	49	50	49	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	34	35
10	55.9	35	35	35	35	35	35	35	50	50	47	48	49	49	49	49	49	49	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	35	
9	53.1	35	35	35	35	35	35	35	50	49	47	48	49	49	49	49	49	49	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	35	
8	50.4	35	35	35	35	35	35	35	49	49	46	48	49	49	49	49	49	49	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	35		
7	47.6	35	35	35	35	35	35	35	49	49	46	48	49	49	49	49	49	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	35		
6	44.9	35	35	35	35	35	35	35	49	49	46	47	49	49	49	49	49	49	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	35		
5	42.1	35	35	35	35	35	35	35	49	49	46	47	49	49	49	49	49	48	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	35		
4	39.4	35	35	35	35	35	35	35	49	49	46	47	48	48	48	48	48	48	35	35	35	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	35			
3	36.6	35	35	35	35	35	35	35	48	48	45	47	48	48	48	48	48	48	35	35	35	35	35	35	35	35	35	35	35	35											

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block D (Base Case)

Appendix 3.3

Day and Evening Time Leq 30 mins (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SD01a	SD01b	SD01c	SD01d	SD02a	SD02b	SD02c	SD03a	SD03b	SD03c	SD04a	SD04b	SD04c	SD04d	SD05a	SD05b	SD05c	SD05d	SD06a	SD06b	SD06c	SD07a	SD07b	SD07c	SD08a	SD08b	SD08c	SD09a	SD09b	SD09c	SD10a	SD10b	SD10c	SD11a	SD11b	SD11c	SD11d	SD12a	SD12b	SD12c	SD13a	SD13b	SD13c	SD14a	SD14b	SD14c		
40	138.4	38	38	38	38	38	38	38	55	55	48	45	55	55	54	49	55	56	55	56	56	54				59	58	57	57	56	42	47	56	56									38	38	38	38	38	38	
39	135.6	38	38	38	38	38	38	38	55	55	47	45	55	55	54	49	55	55	55	56	56	54				59	58	57	57	56	42	47	56	56									38	38	39	39	38	38	
38	132.9	38	38	38	38	38	38	38	54	55	47	45	55	55	53	48	55	55	55	56	56	54				59	58	57	57	56	42	47	56	56									38	38	39	39	39	39	
37	130.1	39	38	38	38	38	38	38	54	54	47	45	55	55	53	48	55	55	55	55	56	54				59	58	57	57	56	42	47	56	56									38	39	39	39	39	39	
36	127.4	39	38	38	38	38	38	38	54	54	47	44	55	55	53	48	55	55	55	55	56	53				59	58	57	57	56	42	47	56	56									39	39	39	39	39	39	
35	124.6	39	39	38	38	38	38	38	54	54	47	44	55	55	53	48	55	55	55	55	55	53				59	58	57	57	56	42	47	56	56									39	39	39	39	39	39	
34	121.9	39	39	39	38	38	38	38	54	54	47	44	54	55	53	48	55	55	54	55	55	53				59	58	57	57	56	42	47	56	56									39	39	39	39	39	39	
33	119.1	39	39	39	39	38	38	38	54	54	46	44	54	55	53	47	55	55	54	55	55	50				59	58	57	57	56	41	47	56	56									39	39	39	39	39	39	
32	116.4	39	39	39	39	39	38	38	54	54	46	44	54	54	53	47	55	55	54	55	55	45	43	56	56	59	58	57	56	56	41	46	56	55	55	56	56	55					39	39	39	39	39	39	
31	113.6	39	39	39	39	39	38	38	54	54	46	44	54	54	53	47	55	55	54	55	55	45	42	56	56	59	58	57	56	56	40	46	55	55	55	55	56	55					39	39	39	39	39	39	
30	110.9	39	39	39	39	39	39	38	54	54	46	43	54	54	53	47	55	55	54	55	55	45	42	55	56	59	58	57	56	56	40	45	55	55	55	55	56	55					39	39	39	39	39	39	
29	108.1	39	39	39	39	39	39	38	54	54	46	43	54	54	53	47	55	55	54	55	55	45	42	55	56	59	58	56	56	56	40	45	55	55	55	55	56	55					39	39	39	39	39	39	
28	105.4	39	39	39	39	39	39	39	54	54	45	43	54	54	53	46	55	55	54	55	55	45	42	55	56	59	57	56	56	56	40	45	55	55	55	55	56	55					39	39	39	39	39	39	
27	102.6	39	39	39	39	39	39	39	54	54	45	43	54	54	52	46	54	55	54	55	55	44	42	55	56	58	57	56	56	55	40	45	55	55	55	55	56	55					39	39	39	39	39	39	
26	99.9	39	39	39	39	39	39	39	54	54	45	43	54	54	52	46	54	54	54	55	55	44	42	55	56	58	57	56	56	55	40	45	55	55	55	55	55	55					39	39	39	39	39	39	
25	97.1	39	39	39	39	39	39	39	53	54	45	42	54	54	52	46	54	54	54	54	55	44	42	55	56	58	57	56	56	55	40	45	55	55	55	55	55	55	55	55	55	56	56	39	39	39	39	39	39
24	94.4	39	39	39	39	39	39	39	53	53	44	42	54	54	52	45	54	54	54	54	55	44	41	55	55	58	57	56	55	55	40	45	55	54	54	55	55	55	55	55	55	56	56	39	39	39	39	39	39
23	91.6	39	39	39	39	39	39	39	53	53	44	42	54	54	52	45	54	54	53	54	54	43	41	55	55	58	57	56	55	55	40	45	54	54	54	55	55	54	55	56	56	39	39	39	39	39	39		
22	88.9	39	39	39	39	39	39	39	53	53	44	42	54	54	52	45	54	54	53	54	54	43	41	55	55	58	57	56	55	55	40	45	54	54	54	55	55	54	55	56	56	39	39	39	39	39	39		
21	86.1	39	39	39	39	39	39	39	53	53	44	42	53	54	52	45	54	54	53	54	54	43	41	55	55	58	57	56	55	55	40	45	54	54	54	55	55	54	54	55	56	39	39	39	39	39	39		
20	83.4	39	39	39	39	39	39	39	53	53	43	42	53	53	52	44	54	54	53	54	54	43	41	55	55	58	57	55	55	55	40	44	54	54	54	54	55	54	54	55	55	39	39	39	39	39	39		
19	80.6	39	39	39	39	39	39	39	53	53	43	42	53	53	51	44	54	54	53	54	54	43	41	54	55	58	57	55	55	54	40	44	54	54	54	54	55	54	54	55	55	39	39	39	39	39	39		
18	77.9	39	39	39	39	39	39	39	53	53	43	41	53	53	51	44	53	54	53	54	54	43	41	54	55	58	56	55	55	54	40	44	54	54	54	54	55	54	54	55	55	39	39	39	39	39	39		
17	75.1	39	39	39	39	39	39	39	53	53	43	41	53	53	51	44	53	53	53	54	54	42	41	54	55	57	56	55	55	54	40	44	54	53	54	54	54	54	54	55	55	39	39	39	39	39	39		
16	72.4	39	39	39	39	39	39	39	53	53	43	41	53	53	51	44	53	53	53	53	54	42	41	54	55	57	56	55	54	54	40	44	53	53	53	54	54	54	54	55	55	39	39	39	39	39	39		
15	69.6	39	39	39	39	39	39	39	53	53	43	41	53	53	51	43	53	53	53	53	53	42	41	54	54	57	56	55	54	54	40	44	53	53	53	54	54	53	54	55	55	39	39	39	39	39	39		
14	66.9	39	39	39	39	39	39	39	52	52	42	41	53	53	51	43	53	53	52	53	53	42	41	54	54	57	56	55	54	54	40	44	53	53	53	54	54	53	54	55	55	39	39	39	39	39	39		
13	64.1	39	39	39	39	39	39	39	52	52	42	41	53	53	51	43	53	53	52	53	53	42	41	54	54	57	56	54	54	54	40	44	53	53	53	53	53	53	53	54	54	54	39	39	39	39	39	39	
12	61.4	39	39	39	39	39	39	39	52	52	42	41	52	53	51	43	53	53	52	53	53	42	41	54	54	57	56	54	54	53	40	44	53	53	53	53	54	53	53	54	54	39	39	39	39	39	39		
11	58.6	39	39	39	39	39	39	39	52	52	42	41	52	52	50	43	53	53	52	53	53	42	41	53	54	56	55	54	53	53	40	44	52	52	52	53	53	53	53	54	54	39	39	39	39	39	39		
10	55.9	39	39	39	39	39	39	39	52	52	42	41	52	52	50	43	53	53	52	53	53	42	41	53	54	56	55	54	53	53	40	43	52	52	52	53	53	52	53	54	54	39	39	39	39	39	39		
9	53.1	39	39	39	39	39	39	39	52	52	42	41	52	52	50	42	52	52	52	53	53	42	41	53	54	56	55	54	53	53	40	43	52	52	52	53	53	52	53	54	54	39	39	39	39	39	39		
8	50.4	39	39	39	39	39	39	39	52	52	42	41	52	52	50	42	52	52	52	52	53	42	41	53	53	56	55	53	53	52	40	43	52	52	52	52	53	52	53	53	54	39	39	39	39	39	39		
7	47.6	39	39	39	39	39	39	39	51	52	42	41	52	52	50	42	52	52	52	52	52	41	41	53	53	56	55	53	53	52	40	43	52	51	52	52	53	52	53	53	53	53	39	39	39	39	39	39	
6	44.9	39	39	39	39	39	39	39	51	51	41	41	52	52	50	42	52	52	51	52	52	41	41	53	53	55	54	53	52	52	40	42	51	51	51	52	53	52	52	53	53	39	39	39					

Leq 24 (Criterion: 65 dB(A))

FLOOR	Assessment point level (mPD)	SD01a	SD01b	SD01c	SD01d	SD02a	SD02b	SD02c	SD03a	SD03b	SD03c	SD04a	SD04b	SD04c	SD04d	SD05a	SD05b	SD05c	SD05d	SD06a	SD06b	SD06c	SD07a	SD07b	SD07c	SD08a	SD08b	SD08c	SD09a	SD09b	SD09c	SD10a	SD10b	SD10c	SD11a	SD11b	SD11c	SD11d	SD12a	SD12b	SD12c	SD13a	SD13b	SD13c	SD14a	SD14b	SD14c		
40	138.4	34	34	34	34	34	34	34	50	50	43	41	51	51	49	45	51	51	51	51	52	50				55	54	53	52	52	38	43	52	52									34	34	34	34	34	34	
39	135.6	34	34	34	34	34	34	34	50	50	43	40	51	51	49	44	51	51	51	51	51	49				55	54	53	52	52	38	43	52	52									34	34	34	34	34	34	
38	132.9	34	34	34	34	34	34	34	50	50	43	40	51	51	49	44	51	51	51	51	51	49				55	54	53	52	52	38	43	52	52									34	34	34	34	34	34	
37	130.1	34	34	34	34	34	34	34	50	50	43	40	50	51	49	44	51	51	50	51	51	49				55	54	53	52	52	37	43	52	52									34	34	34	34	34	34	
36	127.4	34	34	34	34	34	34	34	50	50	43	40	50	50	49	44	51	51	50	51	51	49				55	54	53	52	52	37	43	52	52									34	34	34	34	34	34	
35	124.6	34	34	34	34	34	34	34	50	50	42	40	50	50	49	43	51	51	50	51	51	49				55	54	53	52	52	37	43	52	52									34	34	34	34	34	34	
34	121.9	34	34	34	34	34	34	34	50	50	42	40	50	50	49	43	51	51	50	51	51	49				55	54	53	52	52	37	42	52	51									34	34	34	34	34	34	
33	119.1	34	34	34	34	34	34	34	50	50	42	40	50	50	49	43	50	51	50	51	51	45				55	54	53	52	52	37	42	51	51									34	34	34	34	34	34	
32	116.4	34	34	34	34	34	34	34	50	50	42	39	50	50	49	43	50	50	50	51	51	41	38	51	52	55	54	53	52	52	37	42	51	51	51	51	52	51					34	34	34	34	34	34	
31	113.6	34	34	34	34	34	34	34	50	50	42	39	50	50	49	43	50	50	50	51	51	41	38	51	52	55	53	52	52	52	36	41	51	51	51	51	51	51					34	34	35	35	34	35	
30	110.9	34	34	34	34	34	34	34	50	50	42	39	50	50	48	43	50	50	50	50	51	41	38	51	52	55	53	52	52	51	35	41	51	51	51	51	51	51					34	34	35	35	35	35	
29	108.1	35	34	34	34	34	34	34	50	50	41	39	50	50	48	42	50	50	50	50	51	40	38	51	51	55	53	52	52	51	35	41	51	51	51	51	51	51					34	35	35	35	35	35	
28	105.4	35	34	34	34	34	34	34	50	50	41	39	50	50	48	42	50	50	50	50	51	40	38	51	51	54	53	52	51	51	35	41	51	50	51	51	51	51					35	35	35	35	35	35	
27	102.6	35	35	34	34	34	34	34	49	50	41	39	50	50	48	42	50	50	50	50	50	40	37	51	51	54	53	52	51	51	35	41	51	50	50	50	51	51	51					35	35	35	35	35	35
26	99.9	35	35	34	34	34	34	34	49	49	41	38	50	50	48	42	50	50	50	50	50	40	37	51	51	54	53	52	51	51	35	41	50	50	50	50	51	51	50					35	35	35	35	35	35
25	97.1	35	35	35	34	34	34	34	49	49	40	38	50	50	48	41	50	50	49	50	50	40	37	51	51	54	53	52	51	51	35	41	50	50	50	50	51	51	50	51	52	52	35	35	35	35	35	35	
24	94.4	35	35	35	34	34	34	34	49	49	40	38	49	50	48	41	50	50	49	50	50	39	37	51	51	54	53	52	51	51	35	40	50	50	50	50	51	51	50	50	50	51	52	35	35	35	35	35	35
23	91.6	35	35	35	35	35	34	34	49	49	40	38	49	49	48	41	50	50	49	50	50	39	37	51	51	54	53	52	51	51	36	40	50	50	50	50	51	51	50	50	51	51	35	35	35	35	35	35	
22	88.9	35	35	35	35	35	34	34	49	49	40	38	49	49	47	41	50	50	49	50	50	39	37	51	51	54	53	51	51	51	36	40	50	50	50	50	50	51	51	50	50	51	51	35	35	35	35	35	35
21	86.1	35	35	35	35	35	34	34	49	49	39	38	49	49	47	40	49	50	49	50	50	39	37	50	51	54	52	51	51	51	36	40	50	50	50	50	50	51	51	50	50	51	51	35	35	35	35	35	35
20	83.4	35	35	35	35	35	34	34	49	49	39	37	49	49	47	40	49	49	49	50	50	39	37	50	51	54	52	51	51	50	36	40	50	50	50	50	50	51	51	50	50	51	51	35	35	35	35	35	35
19	80.6	35	35	35	35	35	35	34	49	49	39	37	49	49	47	40	49	49	49	49	50	38	37	50	51	53	52	51	51	50	36	40	50	49	50	50	50	50	50	51	51	35	35	35	35	35	35		
18	77.9	35	35	35	35	35	35	34	48	49	39	37	49	49	47	40	49	49	49	49	49	38	37	50	50	53	52	51	50	50	36	40	49	49	49	50	50	49	50	51	51	35	35	35	35	35	35		
17	75.1	35	35	35	35	35	35	35	48	48	39	37	49	49	47	39	49	49	48	49	49	38	37	50	50	53	52	51	50	50	36	40	49	49	49	49	50	50	49	50	51	51	35	35	35	35	35	35	
16	72.4	35	35	35	35	35	35	35	48	48	38	37	49	49	47	39	49	49	48	49	49	38	37	50	50	53	52	51	50	50	36	40	49	49	49	49	50	50	49	49	50	51	35	35	35	35	35	35	
15	69.6	35	35	35	35	35	35	35	48	48	38	37	48	49	47	39	49	49	48	49	49	38	37	50	50	53	52	50	50	50	36	40	49	49	49	49	50	50	49	49	50	50	35	35	35	35	35	35	
14	66.9	35	35	35	35	35	35	35	48	48	38	37	48	48	47	39	49	49	48	49	49	38	37	50	50	53	52	50	50	49	36	40	49	49	49	49	49	50	49	49	50	50	35	35	35	35	35	35	
13	64.1	35	35	35	35	35	35	35	48	48	38	37	48	48	46	39	49	49	48	49	49	38	37	49	50	52	51	50	50	49	36	40	49	49	49	49	49	50	49	49	50	50	35	35	35	35	35	35	
12	61.4	35	35	35	35	35	35	35	48	48	38	37	48	48	46	39	49	49	48	49	49	38	37	49	50	52	51	50	49	49	36	40	48	48	48	49	49	48	49	50	50	35	35	35	35	35	35		
11	58.6	35	35	35	35	35	35	35	48	48	38	37	48	48	46	38	48	48	48	48	48	49	37	37	49	50	52	51	50	49	49	36	39	48	48	48	49	49	48	49	50	50	35	35	35	35	35	35	
10	55.9	35	35	35	35	35	35	35	48	48	38	36	48	48	46	38	48	48	48	48	48	49	37	36	49	49	52	51	49	49	49	36	39	48	48	48	49	49	48	49	49	50	35	35	35	35	35	35	
9	53.1	35	35	35	35	35	35	35	47	48	37	36	48	48	46	38	48	48	48	48	48	48	37	36	49	49	52	51	49	49	48	36	39	48	48	48	49	49	48	49	49	49	35	35	35	35	35	35	
8	50.4	35	35	35	35	35	35	35	47	47	37	36	48	48	46	38	48	48	47	48	48	37	36	49	49	52	50	49	48	48	36	38	48	47	48	48	49	48	48	49	49	35	35	35	35	35	35		
7	47.6	35	35	35	35	35	35	35	47	47	37	36	47	48	46	38	48	48	47	48	48	37	36	49	49	51	50	49	48	48	36	38	47	47	47	47	48	48	48	48	49	49	35	35	35	35	35	35	
6	44.9	35	35	35	35	35	35	35	47	47	37	36	47	47	45	38	48	48	47	48	48	37	36	48	49	51	50	49	48																				

Day and Evening Time Leq 30 mins (Noise Criterion: 65 dB(A))

Floor	Assessment point level (mPD)	ISWB_1_1	ISWB_1_2	ISWB_1_3	ISWB_1_4	ISWB_1_5	ISWB_1_6	ISWB_1_7	ISWB_1_8	ISWB_1_9	ISWB_1_10	ISWB_1_11	ISWB_1_12	ISWB_1_13	ISWB_1_14	ISWB_1_15	ISWB_1_16	ISWB_1_17
1	22.0	43	43	43	43	43	46	46	46	47	49	55	57	55	54	54	52	48
Floor	Assessment point level (mPD)	ISWB_2_1	ISWB_2_2	ISWB_2_3	ISWB_2_4	ISWB_2_5	ISWB_2_6	ISWB_2_7	ISWB_2_8	ISWB_2_9	ISWB_2_10	ISWB_2_11	ISWB_2_12	ISWB_2_13	ISWB_2_14	ISWB_2_15	ISWB_2_16	
2	26.5	43	43	43	43	43	56	57	46	46	47	49	54	57	57	56	48	
Floor	Assessment point level (mPD)	ISWB_3_1	ISWB_3_2	ISWB_3_3	ISWB_3_4	ISWB_3_5	ISWB_3_6	ISWB_3_7	ISWB_3_8	ISWB_3_9	ISWB_3_10	ISWB_3_11	ISWB_3_12	ISWB_3_13	ISWB_3_14	ISWB_3_15	ISWB_3_16	
3	30.5	43	43	43	43	43	57	58	46	46	47	50	54	58	58	57	50	
Floor	Assessment point level (mPD)	ISWB_4_1	ISWB_4_2	ISWB_4_3	ISWB_4_4	ISWB_4_5	ISWB_4_6	ISWB_4_7	ISWB_4_8	ISWB_4_9	ISWB_4_10	ISWB_4_11	ISWB_4_12	ISWB_4_13	ISWB_4_14	ISWB_4_15		
4	34.5	43	43	43	43	43	58	59	46	46	47	50	56	58	57	50		
Floor	Assessment point level (mPD)	ISWB_5_1	ISWB_5_2	ISWB_5_3	ISWB_5_4	ISWB_5_5	ISWB_5_6	ISWB_5_7	ISWB_5_8	ISWB_5_9	ISWB_5_10	ISWB_5_11	ISWB_5_12	ISWB_5_13				
5	38.5	43	43	43	43	43	58	59	46	46	47	51	56	52				

Night-Time Leq 30 mins (Noise Criterion: 55 dB(A))

Floor	Assessment point level (mPD)	ISWB_1_1	ISWB_1_2	ISWB_1_3	ISWB_1_4	ISWB_1_5	ISWB_1_6	ISWB_1_7	ISWB_1_8	ISWB_1_9	ISWB_1_10	ISWB_1_11	ISWB_1_12	ISWB_1_13	ISWB_1_14	ISWB_1_15	ISWB_1_16	ISWB_1_17
1	22.0	41	41	41	42	42	45	45	45	46	47	53	56	54	52	53	50	46
Floor	Assessment point level (mPD)	ISWB_2_1	ISWB_2_2	ISWB_2_3	ISWB_2_4	ISWB_2_5	ISWB_2_6	ISWB_2_7	ISWB_2_8	ISWB_2_9	ISWB_2_10	ISWB_2_11	ISWB_2_12	ISWB_2_13	ISWB_2_14	ISWB_2_15	ISWB_2_16	
2	26.5	42	41	41	42	42	55	56	45	45	46	48	52	56	56	54	46	
Floor	Assessment point level (mPD)	ISWB_3_1	ISWB_3_2	ISWB_3_3	ISWB_3_4	ISWB_3_5	ISWB_3_6	ISWB_3_7	ISWB_3_8	ISWB_3_9	ISWB_3_10	ISWB_3_11	ISWB_3_12	ISWB_3_13	ISWB_3_14	ISWB_3_15	ISWB_3_16	
3	30.5	42	41	41	42	42	56	57	45	45	46	49	53	56	57	55	49	
Floor	Assessment point level (mPD)	ISWB_4_1	ISWB_4_2	ISWB_4_3	ISWB_4_4	ISWB_4_5	ISWB_4_6	ISWB_4_7	ISWB_4_8	ISWB_4_9	ISWB_4_10	ISWB_4_11	ISWB_4_12	ISWB_4_13	ISWB_4_14	ISWB_4_15		
4	34.5	42	41	41	42	42	56	57	45	45	46	49	54	57	56	49		
Floor	Assessment point level (mPD)	ISWB_5_1	ISWB_5_2	ISWB_5_3	ISWB_5_4	ISWB_5_5	ISWB_5_6	ISWB_5_7	ISWB_5_8	ISWB_5_9	ISWB_5_10	ISWB_5_11	ISWB_5_12	ISWB_5_13				
5	38.5	42	41	41	42	42	57	58	45	45	46	50	55	51				

Exceedance

Project: Public Housing Development at Wang Chau Phase 1 - Social Welfare Block - Scheme 03D (dated 20220929)
Block: ISWB (Base Case)

Appendix 3.3

Leq (24 Hour) (Noise Criterion: 65 dB(A))

Floor	Assessment point level (mPD)	ISWB_1_1	ISWB_1_2	ISWB_1_3	ISWB_1_4	ISWB_1_5	ISWB_1_6	ISWB_1_7	ISWB_1_8	ISWB_1_9	ISWB_1_10	ISWB_1_11	ISWB_1_12	ISWB_1_13	ISWB_1_14	ISWB_1_15	ISWB_1_16	ISWB_1_17
1	22.0	38	39	39	39	39	42	42	42	43	44	50	53	51	50	50	47	43

Floor	Assessment point level (mPD)	ISWB_2_1	ISWB_2_2	ISWB_2_3	ISWB_2_4	ISWB_2_5	ISWB_2_6	ISWB_2_7	ISWB_2_8	ISWB_2_9	ISWB_2_10	ISWB_2_11	ISWB_2_12	ISWB_2_13	ISWB_2_14	ISWB_2_15	ISWB_2_16
2	26.5	39	39	39	39	39	52	53	42	42	43	45	49	53	53	52	43

Floor	Assessment point level (mPD)	ISWB_3_1	ISWB_3_2	ISWB_3_3	ISWB_3_4	ISWB_3_5	ISWB_3_6	ISWB_3_7	ISWB_3_8	ISWB_3_9	ISWB_3_10	ISWB_3_11	ISWB_3_12	ISWB_3_13	ISWB_3_14	ISWB_3_15	ISWB_3_16
3	30.5	39	39	39	39	39	53	54	42	42	43	46	50	53	54	52	46

Floor	Assessment point level (mPD)	ISWB_4_1	ISWB_4_2	ISWB_4_3	ISWB_4_4	ISWB_4_5	ISWB_4_6	ISWB_4_7	ISWB_4_8	ISWB_4_9	ISWB_4_10	ISWB_4_11	ISWB_4_12	ISWB_4_13	ISWB_4_14	ISWB_4_15
4	34.5	39	39	39	39	39	53	54	42	42	43	46	51	54	53	46

Floor	Assessment point level (mPD)	ISWB_5_1	ISWB_5_2	ISWB_5_3	ISWB_5_4	ISWB_5_5	ISWB_5_6	ISWB_5_7	ISWB_5_8	ISWB_5_9	ISWB_5_10	ISWB_5_11	ISWB_5_12	ISWB_5_13
5	38.5	39	39	39	39	39	54	55	42	42	43	47	52	48

APPENDIX 3.4

RAILWAY NOISE IMPACT ASSESSMENT (MITIGATED SCENARIO)

Appendix 3.4

	Truncated Floor
[F]	Provision of Specially Provided Glazing
	1.5m Fin is applied. To ensure the effectiveness of fin, fin will be provided one floor below the lowest exceeding floor to avoid significant noise deflection from underneath the fin. (i.e. 26/F - 40/F of SB07b, 12/F - 24/F of SB08d, 13/F - 24/F of SB09a, and 26/F - 40/F of SB10b). Given that the typical noise reduction order by fin is around 3 dB(A), noise attenuation greater than 3 dB(A) will be capped at 3 dB(A).

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block D (Mitigated Case)

Appendix 3.4

Night-Time Leq 30 mins (Criterion: 55 dB(A))

FLOOR	Assessment point level (mPD)	SD01a	SD01b	SD01c	SD01d	SD02a	SD02b	SD02c	SD03a	SD03b	SD03c	SD04a	SD04b	SD04c	SD04d	SD05a	SD05b	SD05c	SD05d	SD06a	SD06b	SD06c	SD07a	SD07b	SD07c	SD08a	SD08b	SD08c	SD09a	SD09b	SD09c	SD10a	SD10b	SD10c	SD11a	SD11b	SD11c	SD11d	SD12a	SD12b	SD12c	SD13a	SD13b	SD13c	SD14a	SD14b	SD14c		
40	138.4	37	37	37	37	37	37	37	53	53	46	43	54	54	52	48	54	54	54	54	54	52				[F]	54	54	55	55	40	46	55	55									37	37	37	37	37	37	
39	135.6	37	37	37	37	37	37	37	53	53	46	43	54	54	52	47	54	54	54	54	54	52				[F]	54	54	55	55	40	46	55	55									37	37	37	37	37	37	
38	132.9	37	37	37	37	37	37	37	53	53	46	43	53	54	52	47	54	54	53	54	54	52				[F]	54	54	55	55	40	46	55	55									37	37	37	37	37	37	
37	130.1	37	37	37	37	37	37	37	53	53	46	43	53	53	52	47	54	54	53	54	54	52				[F]	54	54	55	55	40	46	55	55									37	37	37	37	37	37	
36	127.4	37	37	37	37	37	37	37	53	53	45	43	53	53	52	47	54	54	53	54	54	52				[F]	54	54	55	55	40	46	55	55									37	37	37	37	37	37	
35	124.6	37	37	37	37	37	37	37	53	53	45	43	53	53	52	46	54	54	53	54	54	52				[F]	54	53	55	55	40	45	55	54									37	37	37	37	37	37	
34	121.9	37	37	37	37	37	37	37	53	53	45	43	53	53	52	46	53	54	53	54	54	52				[F]	54	53	55	55	40	45	54	54									37	37	37	37	37	37	
33	119.1	37	37	37	37	37	37	37	53	53	45	43	53	53	51	46	53	53	53	54	54	48				[F]	54	53	55	55	40	45	54	54									37	37	37	37	37	37	
32	116.4	37	37	37	37	37	37	37	53	53	45	42	53	53	51	46	53	53	53	54	54	44	41	54	55	[F]	53	53	55	55	39	45	54	54	54	54	54	54					37	37	37	37	37	37	
31	113.6	37	37	37	37	37	37	37	53	53	45	42	53	53	51	46	53	53	53	53	54	44	41	54	55	[F]	53	55	55	55	39	44	54	54	54	54	54	54					37	37	37	37	37	37	
30	110.9	37	37	37	37	37	37	37	53	53	44	42	53	53	51	46	53	53	53	53	54	43	41	54	54	[F]	53	55	55	54	38	44	54	54	54	54	54	54					37	37	37	37	37	37	
29	108.1	37	37	37	37	37	37	37	53	53	44	42	53	53	51	45	53	53	53	53	53	43	41	54	54	[F]	53	55	55	54	38	44	54	54	53	54	54	54					37	37	37	37	37	37	
28	105.4	37	37	37	37	37	37	37	52	53	44	42	53	53	51	45	53	53	53	53	53	43	41	54	54	[F]	53	55	54	54	38	44	54	53	53	54	54	54					37	37	38	38	37	38	
27	102.6	37	37	37	37	37	37	37	52	52	44	41	53	53	51	45	53	53	53	53	53	43	40	54	54	[F]	53	55	54	54	38	44	53	53	53	54	54	53					37	37	38	38	38	38	
26	99.9	38	37	37	37	37	37	37	52	52	43	41	53	53	51	45	53	53	52	53	53	43	40	54	54	[F]	53	55	54	54	38	43	53	53	53	54	54	53					37	38	38	38	38	38	
25	97.1	38	37	37	37	37	37	37	52	52	43	41	52	53	51	44	53	53	52	53	53	42	40	54	54	[F]	53	55	54	54	38	43	53	53	53	54	54	53	53	54	55			38	38	38	38	38	38
24	94.4	38	37	37	37	37	37	37	52	52	43	41	52	52	51	44	53	53	52	53	53	42	40	54	54	[F]	53	55	54	54	38	43	53	53	53	54	54	53	53	54	54			38	38	38	38	38	38
23	91.6	38	38	37	37	37	37	37	52	52	43	41	52	52	50	44	53	53	52	53	53	42	40	54	54	[F]	53	54	54	54	38	43	53	53	53	53	54	53	53	54	54			38	38	38	38	38	38
22	88.9	38	38	37	37	37	37	37	52	52	42	41	52	52	50	43	52	53	52	53	53	42	40	53	54	[F]	52	54	54	53	38	43	53	53	53	53	54	53	53	54	54			38	38	38	38	38	38
21	86.1	38	38	38	37	37	37	37	52	52	42	40	52	52	50	43	52	52	52	53	53	42	40	53	54	[F]	55	54	54	53	38	43	53	53	53	53	54	53	53	54	54			38	38	38	38	38	38
20	83.4	38	38	38	38	37	37	37	52	52	42	40	52	52	50	43	52	52	52	52	53	41	40	53	54	[F]	55	54	54	53	39	43	53	52	53	53	53	53	54	54			38	38	38	38	38	38	
19	80.6	38	38	38	38	38	37	37	51	52	42	40	52	52	50	43	52	52	52	52	53	41	40	53	53	[F]	55	54	53	53	39	43	53	52	52	53	53	53	53	54	54			38	38	38	38	38	38
18	77.9	38	38	38	38	38	37	37	51	51	42	40	52	52	50	43	52	52	51	52	52	41	40	53	53	[F]	55	54	53	53	39	43	52	52	52	53	53	52	53	54	54			38	38	38	38	38	38
17	75.1	38	38	38	38	38	37	37	51	51	42	40	52	52	50	42	52	52	51	52	52	41	40	53	53	[F]	55	54	53	53	39	43	52	52	52	53	53	52	53	54	54			38	38	38	38	38	38
16	72.4	38	38	38	38	38	37	37	51	51	41	40	52	52	50	42	52	52	51	52	52	41	40	53	53	[F]	55	53	53	53	39	43	52	52	52	53	53	52	52	53	54			38	38	38	38	38	38
15	69.6	38	38	38	38	38	38	37	51	51	41	40	51	51	50	42	52	52	51	52	52	41	40	53	53	[F]	55	53	53	52	39	43	52	52	52	52	53	52	52	53	53			38	38	38	38	38	38
14	66.9	38	38	38	38	38	38	37	51	51	41	40	51	51	49	42	52	52	51	52	52	41	39	52	53	[F]	54	53	53	52	39	43	52	52	52	52	52	52	53	53			38	38	38	38	38	38	
13	64.1	38	38	38	38	38	38	37	51	51	41	40	51	51	49	42	52	52	51	52	52	41	39	52	53	55	54	53	52	39	43	52	51	51	52	52	52	52	53	53			38	38	38	38	38	38	
12	61.4	38	38	38	38	38	38	37	51	51	41	39	51	51	49	41	51	51	51	52	52	40	39	52	53	55	54	53	52	39	42	51	51	51	52	52	51	52	53	53			38	38	38	38	38	38	
11	58.6	38	38	38	38	38	38	38	51	51	41	39	51	51	49	41	51	51	51	51	52	40	39	52	53	55	54	53	52	39	42	51	51	51	52	52	51	52	53	53			38	38	38	38	38	38	
10	55.9	38	38	38	38	38	38	38	51	51	41	39	51	51	49	41	51	51	51	51	51	40	39	52	52	55	54	52	52	51	39	42	51	51	51	51	52	51	52	52			38	38	38	38	38	38	
9	53.1	38	38	38	38	38	38	38	50	50	40	39	51	51	49	41	51	51	50	51	51	40	39	52	52	55	54	52	52	51	39	42	51	50	51	51	52	51	51			38	38	38	38	38	38		
8	50.4	38	38	38	38	38	38	38	50	50	40	39	51	51	49	41	51	51	50	51	51	40	39	52	52	54	53	52	51	51	39	41	50	50	50	51	51	51	51			38	38	38	38	38	38		
7	47.6	38	38	38	38	38	38	38	50	50	40	39	50	50	48	41	51	51	50	51	51	40	39	52	52	54	53	52	51	51	39	41	50	50	50	51	51	50	51			38	38	38	38	38	38		
6	44.9	38	38	38	38	38	38	38	50	50	40	39	50	50	48	41	51	51	50	51	51	40	39	51	52	54	53	52	51	51	39	41	50	50	50	51	51	50	51			38	38	38	38				

Night-Time Leq 30 mins (Noise Criterion: 55 dB(A))

Floor	Assessment point level (mPD)	ISWB_1_1	ISWB_1_2	ISWB_1_3	ISWB_1_4	ISWB_1_5	ISWB_1_6	ISWB_1_7	ISWB_1_8	ISWB_1_9	ISWB_1_10	ISWB_1_11	ISWB_1_12	ISWB_1_13	ISWB_1_14	ISWB_1_15	ISWB_1_16	ISWB_1_17
1	22.0	41	41	41	42	42	45	45	45	46	47	53	54	54	52	53	50	46
Floor	Assessment point level (mPD)	ISWB_2_1	ISWB_2_2	ISWB_2_3	ISWB_2_4	ISWB_2_5	ISWB_2_6	ISWB_2_7	ISWB_2_8	ISWB_2_9	ISWB_2_10	ISWB_2_11	ISWB_2_12	ISWB_2_13	ISWB_2_14	ISWB_2_15	ISWB_2_16	
2	26.5	42	41	41	42	42	55	54	45	45	46	48	52	55	54	54	46	
Floor	Assessment point level (mPD)	ISWB_3_1	ISWB_3_2	ISWB_3_3	ISWB_3_4	ISWB_3_5	ISWB_3_6	ISWB_3_7	ISWB_3_8	ISWB_3_9	ISWB_3_10	ISWB_3_11	ISWB_3_12	ISWB_3_13	ISWB_3_14	ISWB_3_15	ISWB_3_16	
3	30.5	42	41	41	42	42	53	54	45	45	46	49	53	55	54	55	49	
Floor	Assessment point level (mPD)	ISWB_4_1	ISWB_4_2	ISWB_4_3	ISWB_4_4	ISWB_4_5	ISWB_4_6	ISWB_4_7	ISWB_4_8	ISWB_4_9	ISWB_4_10	ISWB_4_11	ISWB_4_12	ISWB_4_13	ISWB_4_14	ISWB_4_15		
4	34.5	42	41	41	42	42	54	55	45	45	46	49	54	54	54	49		
Floor	Assessment point level (mPD)	ISWB_5_1	ISWB_5_2	ISWB_5_3	ISWB_5_4	ISWB_5_5	ISWB_5_6	ISWB_5_7	ISWB_5_8	ISWB_5_9	ISWB_5_10	ISWB_5_11	ISWB_5_12	ISWB_5_13				
5	38.5	42	41	41	42	42	54	55	45	45	46	50	55	51				

Noise exceedance mitigated by 1.5m fin. To ensure the effectiveness of fin, fin will be provided one floor below the lowest exceeding floor to avoid significant noise deflection from underneath the fin. For location of 1.5m fin applied, please refer to Figure 3.3c.

Noise exceedance mitigated by 2.0m fin. To ensure the effectiveness of fin, fin will be provided one floor below the lowest exceeding floor to avoid significant noise deflection from underneath the fin. For location of 2.0m fin applied, please refer to Figure 3.3c.

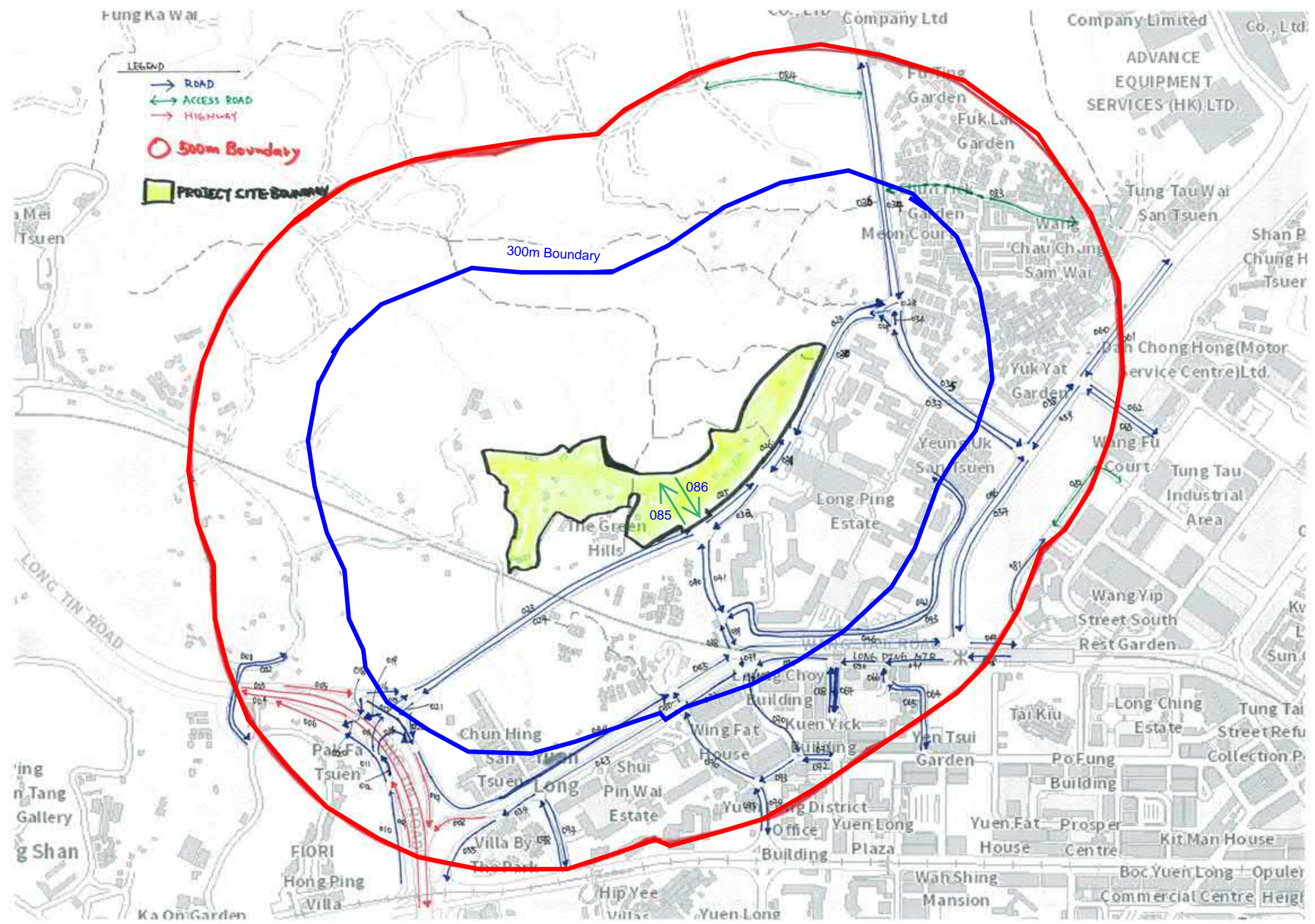
Noise exceedance mitigated by 2.2m fin. To ensure the effectiveness of fin, fin will be provided one floor below the lowest exceeding floor to avoid significant noise deflection from underneath the fin. For location of 2.2m fin applied, please refer to Figure 3.3c.

APPENDIX 4.1

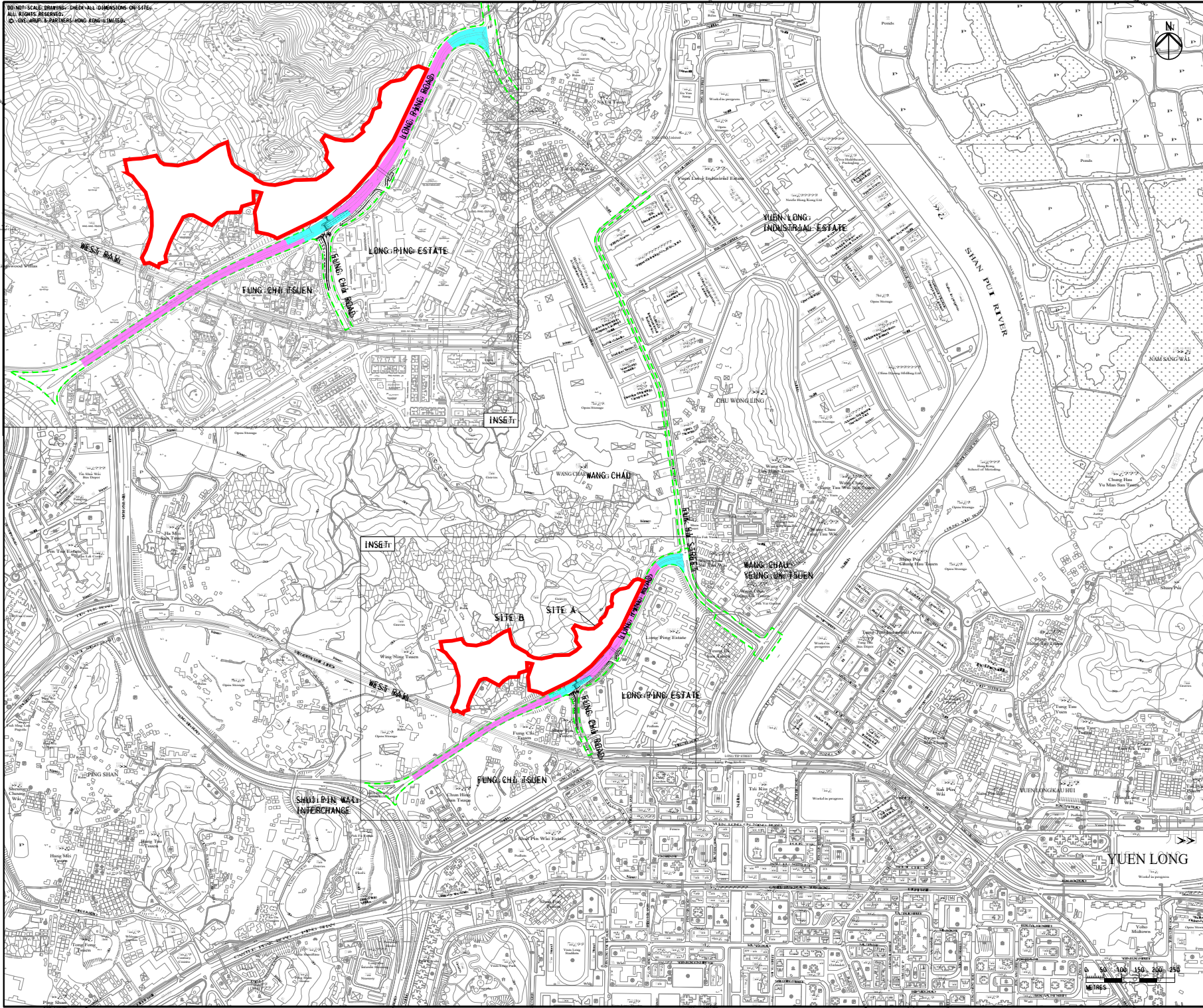
TRAFFIC FORECAST IN YEAR 2044

Traffic Forecast in Year 2044

Link Index	Road Name	Post Speed (kmh)	AM (Veh/hr)	
			Total Vehicle	HV%
015	Shui Pin Wai Interchange - Slip Road	50	473	36.7%
016	Shui Pin Wai Interchange - Slip Road	50	402	35.6%
021	Shui Pin Wai Interchange - Slip Road	50	707	28.7%
022	Shui Pin Wai Interchange - Slip Road	50	306	43.2%
023	Long Ping Road	50	875	36.2%
024	Long Ping Road	50	1013	33.1%
025	Long Ping Road	50	796	42.3%
026	Long Ping Road	50	828	44.5%
027	Long Ping Road	50	733	37.3%
028	Long Ping Road	50	492	31.9%
029	Fuk Hi Street - Slip Road	50	264	51.1%
030	Long Ping Road	50	756	38.6%
031	Long Ping Road	50	687	32.4%
032	Long Ping Road	50	820	43.4%
033	Fuk Hi Street	50	520	39.0%
034	Fuk Hi Street	50	256	26.5%
035	Fuk Hi Street	50	605	44.0%
036	Fuk Hi Street	50	612	28.6%
037	Fuk Hi Street	50	667	35.5%
038	Fung Chi Road	50	727	17.8%
039	Fung Chi Road	50	636	32.0%
040	Fung Chi Road	50	616	22.3%
041	Fung Chi Road	50	500	36.1%
042	Ping Yee Road	50	10	50.0%
043	Ping Yee Road	50	10	50.0%
044	Wang Tat Road	50	1136	24.1%
045	Wang Tat Road	50	2319	22.0%
046	Wang Tat Road	50	831	26.7%
051	Ma Wang Road	50	754	41.3%
052	Ma Wang Road	50	946	35.6%
053	Ma Wang Road	50	1160	35.1%
069	Ping Wui Street - Slip Road	50	198	34.7%
070	Ping Wui Street	50	1005	26.6%
076	Ma Miu Road	50	1373	21.9%
079	Fung Chi Road/Ping Wui Road	50	1396	25.9%
080	Wang Tat Road/Ma Wang Road	50	1164	20.1%
083EB	Unnamed Road	50	106	31.4%
083WB	Unnamed Road	50	158	33.2%
085	Planned Road	50	138	20.3%
086	Planned Road	50	174	19.5%



DO NOT SCALE DRAWINGS: THERE ARE DIMENSIONS ON SITE.
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Extent of Low Noise Road
Surfacing

(Highlighted in Purple)

APPENDIX 4.2

ROAD TRAFFIC NOISE IMPACT ASSESSMENT (BASE CASE SCENARIO)

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block A
Scenario: Base Case (AM)

Floor	Assessment point level (mPD)	SA01a	SA01b	SA02a	SA02b	SA02c	SA02d	SA03a	SA03b	SA03c	SA03d	SA04b	SA04c	SA05a	SA05b	SA05c	SA06a	SA06b	SA06c	SA04a	SA07a	SA07b	SA07c	SA08a	SA08b	SA08c	SA09a	SA09b	SA09c	SA09d	SA10a	SA10b	SA10c	SA11a	SA11b	SA11c	SA12a	SA12b	SA12c	
39/F	134.8	63	60	58	63	64	65	58	58	57	56	56	56	55	55	55	54	54	53	55	53	52	53	53	54	54	54	55	55	57	64	64	62	62	64	64	64	63	60	
38/F	132.0	63	60	58	63	64	65	58	57	57	56	56	56	55	55	54	54	54	52	55	53	52	53	53	54	54	54	55	55	57	64	64	62	62	64	64	64	63	60	
37/F	129.3	63	60	58	63	64	65	58	57	57	55	56	55	55	55	54	54	54	52	55	52	52	52	53	54	54	54	55	55	57	64	64	62	62	64	64	64	63	60	
36/F	126.5	63	60	58	63	64	65	58	57	57	55	56	55	56	55	54	54	53	52	55	52	52	52	53	53	53	53	54	54	56	64	64	62	62	64	64	64	63	60	
35/F	123.8	63	60	58	63	64	65	58	57	57	55	56	56	55	55	54	54	53	52	56	52	52	52	53	53	53	53	54	54	56	64	64	62	62	64	64	64	63	60	
34/F	121.0	63	60	58	63	64	65	58	57	56	55	56	55	55	55	54	54	53	52	55	52	52	52	53	53	53	53	54	54	56	64	64	62	62	64	64	64	63	60	
33/F	118.3	63	60	58	63	64	65	58	57	56	55	55	55	55	55	54	54	53	52	55	52	52	52	53	53	53	53	54	54	56	64	64	62	62	64	64	64	63	60	
32/F	115.5	63	60	58	63	64	65	58	57	56	55	55	55	55	55	54	54	53	52	55	52	52	52	53	53	53	53	54	54	56	64	64	62	62	64	64	64	63	60	
31/F	112.8	62	60	58	63	64	64	58	56	56	55	55	55	55	55	54	54	53	52	55	52	52	52	53	53	53	53	54	56	64	64	62	62	64	64	64	63	59		
30/F	110.0	62	60	58	63	63	64	58	56	56	55	55	55	55	55	54	54	53	52	55	52	52	52	53	53	53	53	53	54	56	64	64	62	62	64	64	64	63	59	
29/F	107.3	62	60	58	63	63	64	58	56	56	55	55	55	55	55	54	53	53	52	55	52	52	52	52	53	53	53	53	54	56	64	64	62	62	64	64	64	63	59	
28/F	104.5	62	61	58	63	63	64	58	56	56	55	55	55	54	54	54	53	53	52	54	52	52	52	52	52	52	52	52	53	54	56	64	64	62	62	64	64	64	63	59
27/F	101.8	62	61	58	63	63	64	57	56	56	55	55	55	54	54	53	53	53	52	54	52	52	52	52	52	52	52	52	53	54	56	64	64	62	62	64	64	64	63	59
26/F	99.0	62	61	58	63	63	64	57	56	56	55	55	54	54	54	53	53	53	52	54	52	52	52	52	52	52	52	53	54	56	64	64	62	62	64	64	64	63	59	
25/F	96.3	62	61	58	63	63	64	57	56	56	54	55	54	54	54	53	53	53	52	54	52	52	52	52	52	52	52	53	54	55	64	64	62	62	64	64	64	63	59	
24/F	93.5	62	61	58	63	63	64	57	56	56	54	55	54	54	54	53	53	53	52	54	52	52	52	52	52	52	52	53	54	55	64	64	62	62	64	64	64	63	59	
23/F	90.8	62	61	58	63	63	64	57	56	56	54	54	54	53	53	53	53	52	52	53	52	52	52	52	52	52	52	53	54	55	64	64	62	62	64	64	64	63	59	
22/F	88.0	62	61	58	63	63	64	57	56	56	54	54	54	53	53	53	52	52	52	53	52	52	52	52	52	52	52	53	53	55	64	64	62	62	64	64	64	63	59	
21/F	85.3	62	61	58	63	64	65	57	56	56	54	54	53	53	53	52	52	52	51	53	52	52	52	52	52	52	52	53	53	54	64	64	62	62	64	64	64	63	59	
20/F	82.5	62	61	58	63	64	65	56	56	56	54	54	53	53	53	52	52	52	52	53	52	52	52	52	52	52	52	53	53	54	64	64	62	62	64	64	64	63	59	
19/F	79.8	63	61	58	63	64	65	56	56	56	53	54	53	53	53	52	52	52	51	53	52	52	52	52	52	52	52	53	53	54	64	64	62	62	64	64	64	63	59	
18/F	77.0	63	61	58	64	64	65	56	56	56	53	54	53	53	53	52	52	52	51	53	52	52	52	52	52	52	52	53	53	54	64	64	62	62	64	64	64	63	59	
17/F	74.3	63	61	58	64	64	65	56	56	56	53	54	53	52	52	52	52	52	51	53	52	52	52	52	52	52	52	53	53	53	64	64	62	62	64	64	64	64	59	
16/F	71.5	63	62	58	64	64	65	56	56	56	53	54	53	52	52	52	52	52	51	53	52	52	52	52	52	52	52	53	53	53	64	64	62	62	64	64	64	64	59	
15/F	68.8	63	62	58	64	64	65	56	56	56	53	54	53	52	52	52	52	52	51	52	52	52	52	52	52	52	52	53	53	53	64	64	62	62	64	64	64	64	60	
14/F	66.0	63	62	58	64	64	65	56	56	56	53	54	53	52	52	52	51	51	51	52	52	51	52	52	52	52	52	52	53	53	64	64	62	62	64	64	64	64	60	
13/F	63.3	63	62	59	64	64	65	56	56	56	53	54	53	52	52	52	51	51	51	52	52	51	52	52	52	52	52	52	53	53	65	65	62	62	64	64	64	64	60	
12/F	60.5	63	62	59	64	64	65	56	56	56	53	54	53	52	52	52	51	51	51	52	52	51	52	52	52	52	52	52	53	53	65	65	62	62	65	65	64	64	60	
11/F	57.8	64	63	59	64	65	65	57	56	56	53	54	53	52	52	51	51	51	51	52	52	51	52	52	52	52	52	52	53	53	65	65	62	62	65	65	65	64	60	
10/F	55.0	64	63	59	65	65	65	57	56	56	53	54	52	52	52	51	51	51	51	52	52	51	52	52	52	52	52	52	53	53	65	65	62	63	65	65	65	65	60	
9/F	52.3	64	63	59	65	65	66	57	56	56	53	54	52	52	52	51	51	51	51	52	52	51	52	52	52	52	52	52	53	53	65	65	62	63	65	65	65	65	60	
8/F	49.5	64	63	60	65	65	66	57	56	56	53	54	52	52	52	51	51	51	51	52	52	51	52	52	52	52	52	52	53	66	66	63	63	65	65	65	65	60		
7/F	46.8	65	64	60	65	65	66	57	57	56	53	54	52	52	52	51	51	51	51	52	52	51	52	52	52	52	52	52	53	66	66	63	63	66	66	65	65	60		
6/F	44.0	65	64	60	66	66	66	57	57	56	53	54	52	52	52	51	51	51	51	52	51	51	51	52	52	52	52	52	53	66	66	63	63	66	66	66	65	61		
5/F	41.3	65	64	60	66	66	67	57	57	56	53	53	52	51	51	51	51	51	51	51	51	51	51	51	51	51	51	52	52	66	66	63	64	66	66	66	66	61		
4/F	38.5	65	64	61	66	66	67	57	57	56	53	54	52	51	51	51	50	51	50	51	51	51	51	51	51	52	52	52	52	52	67	67	64	64	66	66	66	66	61	
3/F	35.8	66	65	61	66	67	67	57	57	57	53	54	52	51	51	51	50	51	50	51	51	51	51	51	51	51	51	52	52	52	52	67	67	64	64	67	67	66	66	61
2/F	33.0	66	65	61	67	67	68	57	57	57	53	54	52	51	51	51	50	51	50	51	51	51	51	51	51	51	51	51	52	52	67	67	64	65	67	67	67	66	61	

Total Number of Flat 456
Total Number of Exceedance 0
Compliance Rate 100%

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)

Block: Site B Block B

Scenario: Base Case (AM)

Floor	Assessment point level (mPD)	SB01a	SB01b	SB01c	SB01d	SB02a	SB02b	SB02c	SB03a	SB03b	SB03c	SB04a	SB04b	SB04c	SB05a	SB05b	SB05c	SB05d	SB06a	SB06b	SB06c	SB07a	SB07b	SB07c	SB08a	SB08b	SB08c	SB08d	SB09a	SB09b	SB09c	SB09d	SB10a	SB10b	SB10c	SB10d	SB11a	SB11b	SB11c	SB12a	SB12b	SB12c	SB12d	SB13a	SB13b	SB13c	SB13d	SB14a	SB14b	SB14c	SB14d	SB15a	SB15b	SB15c	SB15d	SB16a	SB16b	SB16c		
40/F	135.4	60	60	60	58	58	61	61							65	65	65	63	62	66	66	66	66	67									66	63	63	62	62	62	59	58	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
39/F	135.6	60	60	60	58	58	61	61							65	65	65	63	62	66	66	66	66	67									66	63	63	62	62	62	59	58	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
38/F	132.9	60	60	60	59	58	61	61							65	65	65	63	62	66	66	66	66	66									66	63	63	62	62	62	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
37/F	130.1	60	60	60	59	58	61	61							65	65	65	63	62	66	66	66	66	67									66	63	63	62	62	62	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
36/F	127.4	60	60	60	59	59	61	61							65	65	65	63	62	66	66	66	66	67									66	63	63	62	62	62	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
35/F	124.6	60	60	61	59	59	61	61							65	65	65	63	62	66	66	66	66	67	67								66	63	63	62	62	62	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
34/F	121.9	60	60	61	59	59	61	61							65	65	65	63	62	66	66	66	66	67	67								66	63	63	62	63	62	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
33/F	119.1	60	60	61	59	59	61	61							65	65	65	63	62	66	66	66	66	67	67								66	64	63	62	63	63	59	59	62	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
32/F	116.4	60	61	61	59	59	61	61							65	65	65	63	62	66	66	66	66	67	67								66	64	63	62	63	63	59	59	63	62	62	61	63	63	59	59	63	63	62	61	61	61	57	58	60	60		
31/F	113.6	60	61	61	59	59	61	61							65	65	65	63	62	66	66	66	66	67	67								66	64	63	62	63	63	59	59	63	63	62	61	63	63	59	59	64	64	63	62	61	61	57	58	60	60		
30/F	110.9	60	61	61	59	59	61	61							65	65	66	63	62	66	66	66	66	67	67								66	64	63	62	63	63	59	59	63	63	63	61	63	63	59	59	64	64	63	62	61	61	57	58	61	60		
29/F	108.1	60	61	61	59	59	61	61							65	65	66	63	62	66	66	66	66	67	67								66	64	63	63	63	63	59	59	63	63	63	61	63	63	59	59	64	64	63	62	61	61	57	58	61	60		
28/F	105.4	61	61	61	59	59	61	61							65	65	66	63	62	66	66	66	66	67	67								66	64	63	63	63	59	59	63	63	63	61	63	63	61	63	64	60	59	64	64	63	62	61	61	57	58	61	60
27/F	102.6	61	61	61	59	59	62	62							65	65	66	63	62	66	66	66	66	67	67								65	64	63	63	63	63	59	59	63	63	63	61	64	64	60	59	64	64	63	62	61	61	57	58	61	60		
26/F	99.9	61	61	61	59	59	62	62							65	65	66	63	62	66	66	66	66	67	66								62	63	63	63	63	59	59	63	63	63	63	62	64	64	60	60	64	64	63	62	61	61	57	58	61	61		
25/F	97.1	61	61	61	59	59	62	62							65	65	66	63	62	66	66	66	66	66	65								60	63	63	63	63	63	60	59	63	63	63	63	62	64	64	60	60	64	64	63	62	61	61	57	58	61	61	
24/F	94.4	61	61	61	60	59	62	62							65	65	66	63	62	66	66	66	66	64	64	67	67	67	67	65	64	64	60	60	63	63	63	63	63	60	60	63	63	63	62	64	64	60	60	64	64	63	62	62	62	57	58	61	61	
23/F	91.6	61	61	62	60	60	62	62	65	65	63	64	65	65	65	65	65	66	63	62	66	66	66	66	64	64	67	67	67	65	64	64	60	60	64	63	63	63	63	60	60	63	63	63	62	64	64	60	60	64	65	63	63	62	62	57	58	61	61	
22/F	88.9	61	61	62	60	60	62	62	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	64	64	60	60	64	64	63	63	63	60	60	63	63	63	62	64	64	60	60	64	65	63	63	62	62	57	58	61	61	
21/F	86.1	61	61	62	60	60	62	62	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	64	64	60	60	64	64	63	64	64	64	60	60	64	63	63	62	64	64	60	60	64	65	64	63	62	62	57	58	61	61
20/F	83.4	61	61	62	60	60	62	62	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	67	64	64	67	67	67	65	64	64	60	60	64	64	63	64	64	64	60	60	64	63	62	64	64	60	60	65	65	64	63	62	62	57	58	61	61	
19/F	80.6	61	62	62	60	60	62	62	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	64	64	60	60	64	64	64	64	64	60	60	64	64	64	62	64	64	60	60	65	65	64	63	63	62	57	58	61	61	
18/F	77.9	61	62	62	60	60	62	63	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	64	64	60	60	64	64	64	64	64	60	60	64	64	64	62	64	65	61	60	65	65	64	63	63	62	57	58	61	61	
17/F	75.1	61	62	62	60	60	63	63	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	67	64	64	67	67	67	65	65	64	61	61	64	64	64	64	64	60	60	64	64	64	62	65	65	61	61	65	65	64	63	63	62	57	58	61	61	
16/F	72.4	61	62	62	60	60	63	63	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	65	65	61	61	64	64	64	64	64	60	60	64	64	64	62	65	65	61	61	65	65	64	63	63	62	57	58	62	61	
15/F	69.6	62	62	62	60	60	63	63	65	65	63	64	65	65	65	65	66	63	62	66	66	66	66	66	64	64	67	67	67	65	65	65	61	61	64	64	64	64	64	61	61	61	64	64	62	65	65	61	61	65	65	64	63	63	62	57	58	62	61	
14/F	66.9	62	62	62	61	61	63	63	65	65	63	64	65	65	65	65	65	63	62	66	66	66	66	66	64	64	67	67	67	65	65	65	61	61	65	64	64	64	64	61	61	61	64	64	62	65	65	61	61	65	65	64	63	63	62	57	58	62	61	
13/F	64.1	62	62	63	61	61	63	63	65	65	63	64	65	65	65	65	65	63	62	66	66	66	66	66	64	64	67	67	67	65	65	65	61	61	65	65	64	64	64	61	61	61	64	64	62	65	65	61	61	65	66	65	64	63	63	62	57	58	62	62
12/F	61.4	62	62	63	61	61	63	63	65	65	63	64	65	65	65	65	65	63	62	66	66	66	66	66	64	63	67	67	67	65	65	65	61	61	65	65	64	65	64	61	61	61	64	64	62	65	65	62	61</											

Project: Public Housing Development at Wang Chau Phase 1 - Site B - Scheme 11 (dated 20220826)
Block: Site B Block C
Scenario: Base Case (AM)

	Assessment point level (mPD)	SC01a	SC01b	SC01c	SC01d	SC02a	SC02b	SC02c	SC03a	SC03b	SC03c	SC04a	SC04b	SC04c	SC04d	SC05a	SC05b	SC05c	SC06a	SC06b	SC06c	SC07a	SC07b	SC07c	SC07d	SC08a	SC08b	SC08c	SC08d	SC09a	SC09b	SC09c	SC09d	SC10a	SC10b	SC10c	SC10d	SC11a	SC11b	SC11c	
Floor																																									
40/F	138.4	62	62	62	61	61	62	62											61	60	59	59	61	60	59	57	60	61	60	60	62	62	62	64	64	63	61	61	63	62	
39/F	135.6	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	60	61	60	60	62	62	62	64	64	63	61	61	63	62	
38/F	132.9	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	60	61	60	60	62	62	63	64	64	63	61	61	63	62	
37/F	130.1	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	60	61	60	60	62	62	63	64	64	63	61	61	63	62	
36/F	127.4	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	60	61	60	60	62	62	63	64	64	63	61	61	63	63	
35/F	124.6	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	61	61	60	60	62	62	63	64	64	64	61	61	63	63	
34/F	121.9	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	61	61	60	60	62	62	63	64	64	64	61	61	63	63	
33/F	119.1	62	62	62	61	61	62	62											61	61	59	59	61	61	59	57	61	61	60	60	62	62	63	64	64	64	61	61	63	63	
32/F	116.4	62	62	62	61	61	62	62											61	61	59	59	61	61	59	58	61	61	60	60	62	63	63	64	64	64	61	61	63	63	
31/F	113.6	62	62	62	61	61	62	62											61	61	59	59	61	61	59	58	61	61	60	60	62	63	63	64	64	64	61	62	63	63	
30/F	110.9	63	63	63	61	61	62	62											61	61	59	59	61	61	59	58	61	61	61	60	62	63	63	65	64	64	61	62	63	63	
29/F	108.1	63	63	63	61	61	62	62											61	61	59	59	61	61	59	58	61	61	61	60	62	63	63	65	64	64	61	62	63	63	
28/F	105.4	63	63	63	61	61	63	62											61	61	59	59	61	61	60	58	61	61	61	60	63	63	63	65	64	64	61	62	63	63	
27/F	102.6	63	63	63	61	61	63	63											62	62	59	59	62	61	60	58	61	61	61	60	63	63	63	65	64	64	61	62	63	63	
26/F	99.9	63	63	63	62	61	63	63											62	62	60	59	62	62	60	58	61	62	61	60	63	63	63	65	64	64	61	62	63	63	
25/F	97.1	63	63	63	62	62	63	63	63	63	60	62	63	64	64				62	62	60	60	62	62	60	58	61	62	61	60	63	63	64	65	64	64	62	62	63	63	
24/F	94.4	63	63	63	62	62	63	63	63	63	60	62	63	64	64				62	62	60	60	62	62	60	58	62	62	61	60	63	63	64	65	65	64	62	62	63	63	
23/F	91.6	63	63	63	62	62	63	63	63	63	60	61	63	64	64	64	65	64	62	62	60	60	62	62	60	58	62	62	61	60	63	63	64	65	65	64	62	62	63	63	
22/F	88.9	63	63	63	62	62	63	63	63	63	60	61	63	64	64	64	65	64	62	62	60	60	62	62	60	58	62	62	61	60	63	64	64	65	65	64	62	62	64	63	
21/F	86.1	63	63	63	62	62	63	63	63	63	60	62	63	64	64	64	65	64	62	62	60	60	62	62	60	58	62	62	61	61	63	64	64	65	65	64	62	62	64	63	
20/F	83.4	63	63	63	62	62	63	63	63	63	60	62	64	64	64	64	65	64	62	62	60	60	62	62	60	58	62	62	61	61	63	64	64	65	65	64	62	62	64	63	
19/F	80.6	63	63	63	62	62	63	63	63	63	61	62	64	64	64	64	65	64	62	62	60	60	62	62	60	58	62	62	61	61	63	64	64	65	65	64	62	62	64	64	
18/F	77.9	63	63	63	62	62	63	63	63	63	61	62	64	64	64	64	65	64	63	63	60	60	62	62	60	58	62	62	61	61	64	64	64	65	65	65	62	62	64	64	
17/F	75.1	63	63	63	62	62	63	63	63	63	61	62	64	64	64	64	65	64	63	63	60	60	63	62	61	59	62	63	61	61	64	64	64	65	65	65	62	62	64	64	
16/F	72.4	63	64	63	62	62	63	63	63	63	61	62	64	64	64	64	65	64	63	63	60	60	63	63	61	59	62	63	62	61	64	64	64	65	66	65	65	62	62	64	64
15/F	69.6	64	64	64	62	62	63	63	63	63	61	62	64	64	64	64	65	64	63	63	61	61	63	63	61	59	63	63	62	61	64	64	65	66	65	65	62	62	64	64	
14/F	66.9	64	64	64	62	62	64	63	63	63	61	62	64	64	64	64	65	64	63	63	61	61	63	63	61	59	63	63	62	61	64	65	65	66	65	65	62	62	64	64	
13/F	64.1	64	64	64	62	62	64	64	63	63	61	62	64	64	64	64	64	64	63	63	61	61	63	63	61	59	63	63	62	61	64	65	65	66	65	65	62	63	64	64	
12/F	61.4	64	64	64	62	62	64	64	63	63	60	62	63	64	64	64	64	64	63	63	61	61	63	63	61	59	63	63	62	61	64	65	65	66	65	65	62	63	64	64	
11/F	58.6	64	64	64	62	62	64	64	63	63	60	61	63	63	63	64	64	64	64	64	61	61	63	63	61	59	63	64	62	61	65	65	65	66	66	65	62	63	64	64	
10/F	55.9	64	64	64	62	62	64	64	63	63	60	61	63	63	63	64	64	64	64	64	61	61	64	63	61	59	63	64	62	61	65	65	66	66	66	65	62	63	64	64	
9/F	53.1	64	64	64	62	62	64	64	63	63	60	61	63	63	63	64	64	64	64	64	61	61	64	64	62	59	64	64	62	62	65	65	66	66	66	65	62	63	65	64	
8/F	50.4	64	64	64	62	62	64	64	63	63	60	61	63	63	63	63	64	64	64	64	62	62	64	64	62	59	64	64	62	62	65	66	66	66	67	66	66	62	63	65	64
7/F	47.6	64	64	64	63	62	64	64	63	63	60	61	63	63	63	63	63	63	64	64	62	62	64	64	62	60	64	64	63	62	65	66	66	66	67	66	66	63	63	65	65
6/F	44.9	64	65	65	63	63	64	64	63	63	60	61	63	63	63	63	63	63	64	64	62	62	64	64	62	60	64	65	63	62	66	66	66	67	67	66	66	63	63	65	65
5/F	42.1	65	65	65	63	63	65	65	62	62	60	61	63	63	63	63	63	63	65	65	62	62	64	64	62	60	64	65	63	62	66	66	66	67	67	67	66	63	63	65	65
4/F	39.4	65	65	65	63	63	65	65	62	62	60	61	63	63	63	63	63	63	65	65	62	62	65	65	62	60	65	65	63	62	66	67	67	67	67	67	66	63	63	65	65
3/F	36.6	65	65	65	63	63	65	65	62	62	60	61	62	62	62	62	62	63	65	65	62	62	65	65	63	60	65	65	63	62	66	67	68	68	67	66	63	64	66	65	

Note: Truncated Floor

Total Number of Flat 371
Total Number of Exceedance 0
Compliance Rate 100%

Scenario:	Base Case										(AM)																																						
Floor	Assessment point level (mPD)	SD01a	SD01b	SD01c	SD01d	SD02a	SD02b	SD02c	SD03a	SD03b	SD03c	SD04a	SD04b	SD04c	SD04d	SD05a	SD05b	SD05c	SD05d	SD06a	SD06b	SD06c	SD07a	SD07b	SD07c	SD08a	SD08b	SD08c	SD09a	SD09b	SD09c	SD10a	SD10b	SD10c	SD11a	SD11b	SD11c	SD11d	SD12a	SD12b	SD12c	SD13a	SD13b	SD13c	SD14a	SD14b	SD14c		
40/F	138.4	56	59	59	57	56	60	61	68	68	66	66	68	68	67	67	68	68	67	68	68	67						66	62	61	60	60	54	54	60	60								61	61	59	59	60	60
39/F	135.6	56	59	59	57	56	60	61	68	68	66	66	68	68	67	67	68	68	67	68	68	67						66	62	61	60	60	54	54	60	59							61	61	59	59	60	60	
38/F	132.9	56	58	60	57	56	60	61	68	68	66	66	68	68	67	67	68	68	67	68	68	67						66	62	61	60	60	54	53	60	60							61	61	59	59	61	60	
37/F	130.1	56	60	60	57	56	60	61	68	68	66	66	68	68	68	67	68	68	68	67	68	68						66	62	61	60	60	54	53	60	60							61	62	59	59	61	60	
36/F	127.4	56	60	60	57	56	60	61	68	68	66	66	68	68	68	67	68	68	67	68	68	67						66	62	61	60	60	54	54	60	60							62	62	59	60	61	60	
35/F	124.6	56	60	60	57	57	60	62	68	68	66	66	68	68	68	67	68	68	67	68	68	67						66	62	61	60	60	53	53	60	60							62	62	59	60	61	60	
34/F	121.9	56	60	60	57	57	61	62	68	68	66	66	68	68	68	67	68	68	67	68	68	67						67	62	61	60	60	54	53	60	60							62	62	59	60	61	60	
33/F	119.1	56	60	60	57	57	61	62	69	68	67	66	68	68	68	67	68	68	68	68	68	66						67	62	61	60	60	54	53	60	60							62	62	59	60	61	60	
32/F	116.4	56	60	60	57	57	61	62	69	69	67	66	69	69	68	67	69	69	68	68	68	66	66	69	69	69	67	62	61	60	60	54	54	60	60		60	61	61	61			62	62	59	60	61	60	
31/F	113.6	56	60	60	57	57	61	62	69	69	67	66	69	69	68	67	69	69	68	68	68	69	66	66	69	69	67	62	61	60	60	53	53	60	60		60	61	61	61			62	62	60	60	61	60	
30/F	110.9	56	60	60	57	57	61	62	69	69	67	66	69	69	68	67	69	69	68	68	68	69	66	66	69	69	67	62	61	60	60	54	53	60	60		60	61	61	61			62	62	60	60	61	61	
29/F	108.1	56	60	60	58	57</																																											

Total Number of Flat	501
Total Number of Exceedance	0
Compliance Rate	100%

Project: Public Housing Development at Wang Chau Phase 1 - Social Welfare Block - Scheme 03D (dated 20220826)

Block: Integrated Social Welfare Block

Scenario: Base Case (AM)

Floor	Assessment point level (mPD)	ISWB_1_1	ISWB_1_2	ISWB_1_3	ISWB_1_4	ISWB_1_5	ISWB_1_6	ISWB_1_7	ISWB_1_8	ISWB_1_9	ISWB_1_10	ISWB_1_11	ISWB_1_12	ISWB_1_13	ISWB_1_14	ISWB_1_15	ISWB_1_16	ISWB_1_17
1/F	22.0	64	64	64	63	62	53	53	52	52	53	54	62	61	59	60	56	52

Floor	Assessment point level (mPD)	ISWB_2_1	ISWB_2_2	ISWB_2_3	ISWB_2_4	ISWB_2_5	ISWB_2_6	ISWB_2_7	ISWB_2_8	ISWB_2_9	ISWB_2_10	ISWB_2_11	ISWB_2_12	ISWB_2_13	ISWB_2_14	ISWB_2_15	ISWB_2_16
2/F	26.5	63	64	64	63	63	64	66	53	53	53	53	54	55	61	60	53

Floor	Assessment point level (mPD)	ISWB_3_1	ISWB_3_2	ISWB_3_3	ISWB_3_4	ISWB_3_5	ISWB_3_6	ISWB_3_7	ISWB_3_8	ISWB_3_9	ISWB_3_10	ISWB_3_11	ISWB_3_12	ISWB_3_13	ISWB_3_14	ISWB_3_15	ISWB_3_16
3/F	30.5	63	64	65	65	65	67	67	53	53	53	53	54	54	61	59	53

Floor	Assessment point level (mPD)	ISWB_4_1	ISWB_4_2	ISWB_4_3	ISWB_4_4	ISWB_4_5	ISWB_4_6	ISWB_4_7	ISWB_4_8	ISWB_4_9	ISWB_4_10	ISWB_4_11	ISWB_4_12	ISWB_4_13	ISWB_4_14	ISWB_4_15
4/F	34.5	64	65	65	65	65	67	67	53	53	53	53	53	61	59	53

Floor	Assessment point level (mPD)	ISWB_5_1	ISWB_5_2	ISWB_5_3	ISWB_5_4	ISWB_5_5	ISWB_5_6	ISWB_5_7	ISWB_5_8	ISWB_5_9	ISWB_5_10	ISWB_5_11	ISWB_5_12	ISWB_5_13
5/F	38.5	64	65	65	65	65	67	68	53	53	53	53	53	54

Note:

- 1/F consists of CCC (i.e. Child Care Centre) and DAC (i.e. Day Care Centre). The relevant noise criterion shall be referred to Table 4.3 of this EAS Report.
- 2/F consists of HMMH (i.e. Hostel for Moderately Mentally Handicapped Persons). The relevant noise criterion shall be referred to Table 4.3 of this EAS Report.
- 3/F consists of HSMH (i.e. Hostel for Severely Mentally Handicapped Persons). The relevant noise criterion shall be referred to Table 4.3 of this EAS Report.
- 4/F and 5/F consists of RCHE (i.e. Residential Care Homes for the Elderly). The relevant noise criterion shall be referred to Table 4.3 of this EAS Report.

APPENDIX 5.1

NOISE MEASUREMENT FOR EXISTING FIXED NOISE SOURCES

Appendix 5.1 Noise Measurement for Existing Fixed Noise Sources

1. Measurement Equipment

1.1 A sound level meter with fast response mode was used for the measurement. The meter was calibrated with a B&K 4231 acoustic calibrator before and after the measurements. The calibrations were checked to within ± 1.0 dB(A). The on-site noise measurement was conducted on 19 June 2020 where the weather was sunny.

1.2 The instruments used for the measurement are summarized in **Table 1.1** as below.

Table 1.1 Instrument List

Instruments	Model, S/N
Sound Level Meter	Brüel & Kjær Type 2250, S/N: 3010691
Calibrator	Brüel & Kjær Type 4231, S/N: 3016988

2. Identified Fixed Noise Sources

2.1 Sound Power Level/ Sound Pressure Level of the following fixed noise sources were determined by noise measurement.

Table 2.1 Fixed Noise Sources Studied by Noise Measurement

Building Name	Fixed Noise Sources		
	ID	Type	Location
Long Ping Commercial Centre	LP01	Chiller	Rooftop
	LP02	Water Cooling Tower Cum Chiller	Rooftop
	LP03	Water Pump	Rooftop
King Lion P.V.C Pipes and Fittings Manufactory Limited	KL01	Verification unavailable due to inaccessibility. Thus, they are assumed to be fixed noise source for production of PVC pipes.	N/A
	KL02		N/A

3. Methodology

3.1 For fixed noise sources where near field noise measurements can be conducted, the sound pressure levels L_{eq} (1 min) of these fixed noise sources were measured at the measurement points. The sound power levels of these fixed noise sources are then calculated with the use of the following formula:

$$L_{WA} = L_{pFA} + 10 \log (S/S_0) \text{ dB}$$

where

L_{WA} is the equipment sound power level, dB(A);

L_{pFA} is the measured A-weighted sound power level of the source, dB(A);

S is the area of measurement surface, in square meters;

S_0 is the reference area of 1 square meter

3.2 For fixed noise sources where near field noise measurement cannot be conducted due to accessibility and safety reason, the sound pressure levels of these fixed noise sources were measured at the measurement point in the far field with known distance. The projected sound power level of the fixed noise sources was calculated with the use of the following formula:

$$SWL = SPL + 20 \log D + 8 \text{ dB}$$

where

SWL is the sound power level at fixed noise source, dB(A);

SPL is the measured A-weighted sound pressure level recorded at measurement point, dB(A);

D is the distance between the selected measurement point and the fixed noise source, in metres;

3.3 Background correction for the measured noise level depends on whether an appropriate measurement location could be determined taking into account the site/operation constraints. Background noise may be included as conservative approach.

4. Noise Measurement Results

LP01

4.1 Noise measurement was conducted to determine the sound power level of LP01. Locations of LP01 are shown in **Figure 4.1**.



Figure 4.1 Locations of Fixed Noise Sources at LP_01

4.2 As advised by the management office of Long Ping Commercial Centre, night-time operation is not expected. The noise measurement results for LP01 are summarized in **Table 4.1**.

There are in total 3 chillers at LP01 which are located closely next to each other. The estimated sound power level of LP01 is **97.8 dB(A)**.

Table 4.1 Noise Measurements Results for LP01

Date	Type of Measurement	Measurement Point ID	Measured Noise Level, dB(A) ^[1]	Mean Time-Averaged Sound Pressure Level – Source	10 log (S), dB(A) ^[2]	Total Sound Power Level, dB(A)
11 June 2020	Near-Field	001	65.22	68.26	29.54	97.8
		002	65.05			
		003	67.75			
		004	67.38			
		005	62.28			
		006	62.67			
		007 #	67.38			
		008 #	67.75			
		009 *	70.75			
		010 *	70.75			
		011 *	70.75			
		012 *	70.75			

Note:

Given that the location where measurement point 007 and 008 located is inaccessible, the measured noise level at 004 and 003 are assumed for 007 and 008 respectively due to symmetry.

* Measurement on top surface could not be conducted due to safety issue. Noise level is assumed based on the maximum measured level +3 dB(A) conservative factor taking into account the possible directivity of noise propagation. (i.e., $67.75 + 3 = 70.75$ dB(A))

[1] As advised verbally by Property Management Office of Long Ping Commercial Centre, other co-existing sources could not be switched off as it would affect the operation of the centre. Thus, background noise and contribution from other noise sources are included as conservative approach.

[2] Dimension of Reference Box: 12m (L) x 12m (W) x 5m (H). Measurement distance is 3m. Thus, the surface area (S) of the total measurement surface is 900m².

LP02

4.3 Noise measurement was conducted to determine the sound pressure levels of LP02. Locations of LP02 are shown in **Figure 4.2**.

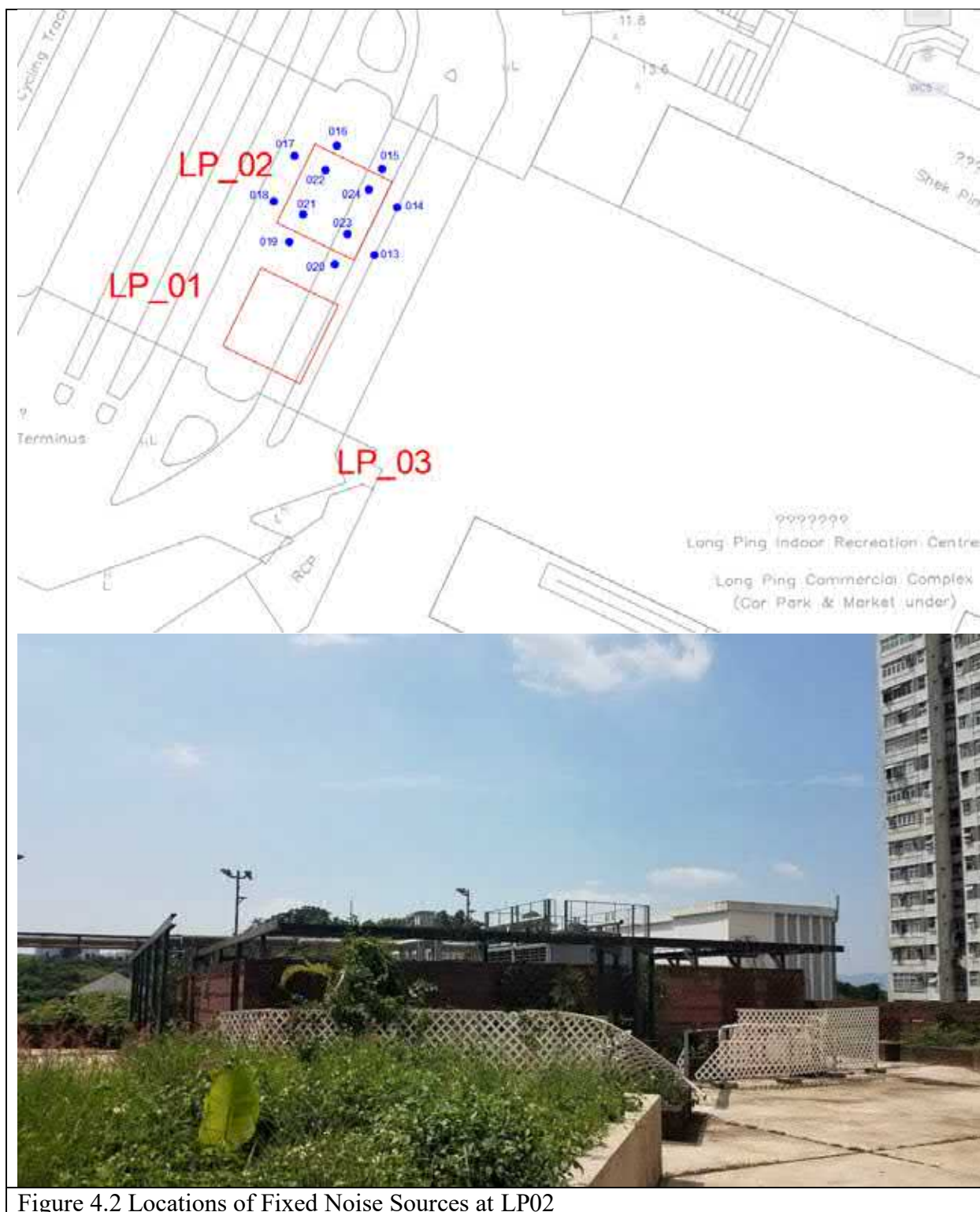


Figure 4.2 Locations of Fixed Noise Sources at LP02

4.4 As advised by the management office of Long Ping Commercial Centre, night-time operation is not expected. The noise measurement results for LP02 are summarized in **Table 4.2**. The estimated sound power level of **94.0 dB(A)**.

Table 4.2 Noise Measurements Results for LP02

Date	Type of Measurement	Measurement Point ID	Measured Noise Level, dB(A) ^[1]	Mean Time-Averaged Sound Pressure Level – Source	10 log (S), dB(A) ^[2]	Total Sound Power Level, dB(A)
11 June 2020	Near-Field	013	61.91	65.25	28.78	94.0
		014	60.76			
		015	62.54			
		016	65.11			
		017	61.32			
		018	62.61			
		019	62.60			
		020	61.90			
		021 *	68.11			
		022 *	68.11			
		023 *	68.11			
		024 *	68.11			

Note:

* Measurement on top surface could not be conducted due to safety issue. Noise level is assumed based on the maximum measured level +3 dB(A) conservative factor taking into account the possible directivity of noise propagation. (i.e., 65.11 + 3 = 68.11 dB(A))

[1] As advised verbally by Property Management Office of Long Ping Commercial Centre, other co-existing sources could not be switched off as it would affect the operation of the centre. Thus, background noise and contribution from other noise sources are included as conservative approach.

[2] Dimension of Reference Box: 12m (L) x 12m (W) x 3m (H). Measurement distance is 3m. Thus, the surface area (S) of the total measurement surface is 756m².

LP03

4.5 Noise measurement was conducted to determine the sound pressure levels of LP03. Locations of LP03 are shown in **Figure 4.3**. Measurement has been conducted 1m away from the 3 sides of the water pump (i.e. 025, 026, 027 (Top)). Consider its small size and measurement distance, the maximum noise level measured will be adopted for quantitative fixed noise assessment. The maximum measured noise level is 77.5 dB(A) at measurement point 025, which is 1m from the water pump. Thus, the adopted sound pressure level is **77.5 dB(A)** at 1m from LP03.

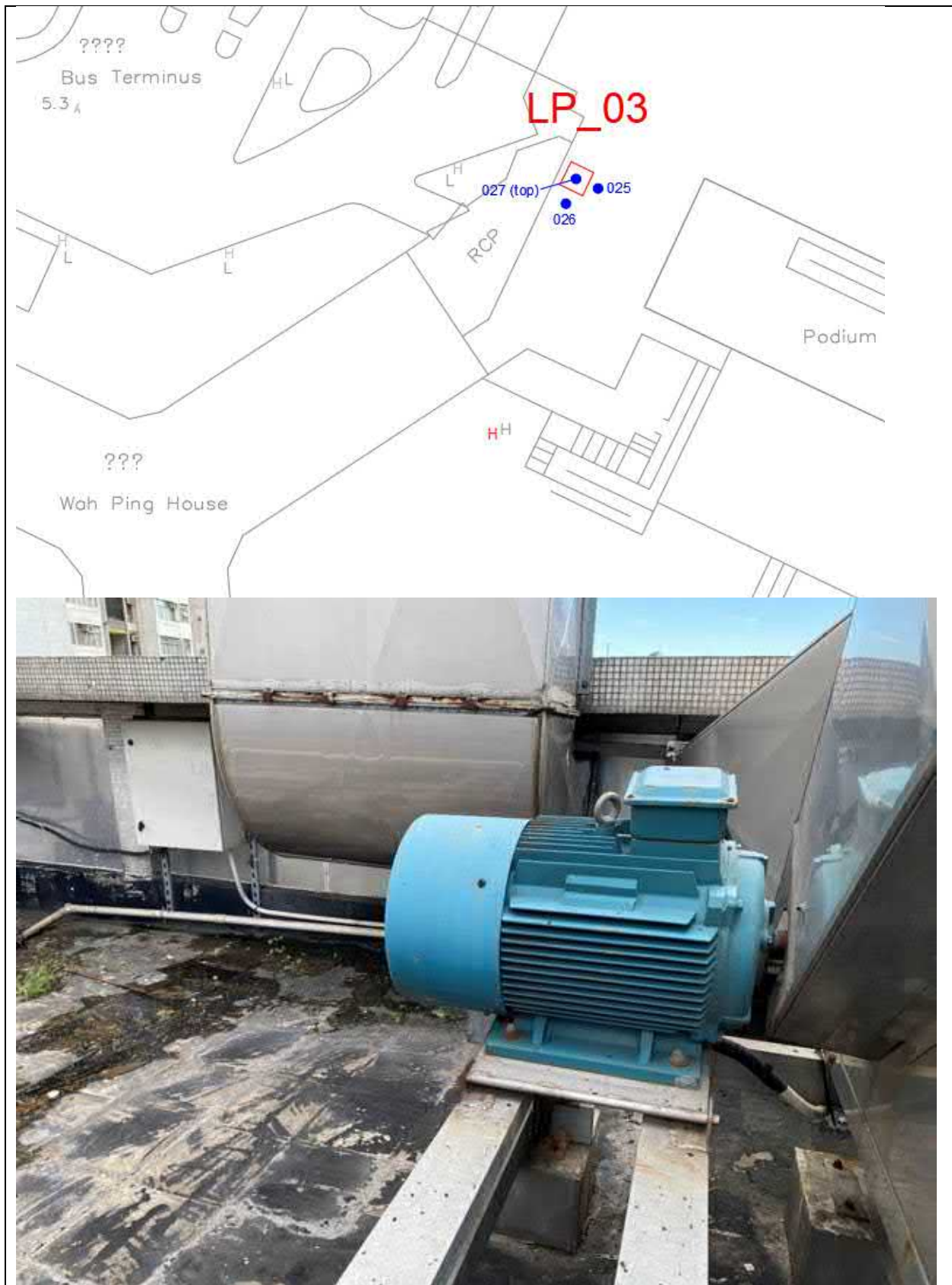


Figure 4.3 Locations of Fixed Noise Sources at LP03

4.6 As advised by the management office of Long Ping Commercial Centre, night-time operation is not expected.

Table 4.3 Noise Measurements Results for LP03

Date	Type of Measurement	Measurement Point ID	Measured Noise Level, dB(A) ^{[1] [2]}	Maximum SPL @ 1m from LP03, dB(A)	Sound Power Level, dB(A)
11 June 2020	Near-Field	025	77.5	77.5	85.5
		026	76.2		
		027	76.7		

Note:

[1] As advised verbally by Property Management Office of Long Ping Commercial Centre, other co-existing sources could not be switched off as it would affect the operation of the centre. Thus, background noise and contribution from other noise sources are included as conservative approach.

[2] Measurement distance is 1m. SWL of LP03 is determined by $77.5 + 20\log(1) + 8 = 85.5$ dB(A)

KL01 and KL02

4.7 Noise measurement was conducted for KL01 and KL02 at far-field due to inaccessibility to King Lion P.V.C Pipes and Fittings Manufactory Limited. Based on previous HKHA's Study on "Planning and Engineering Study for the Public Housing Site and Yuen Long Industrial Estate Extension at Wang Chau", two existing fixed noise sources are identified. Due to limited information, it is assumed that the two existing fixed noise sources are similar in nature for the production of PVC pipes. Measurement point 030 is taken to measure fixed noise impact from KL01 and KL02 at far-field. Locations of KL01 and KL02 are shown in **Figure 4.4**.

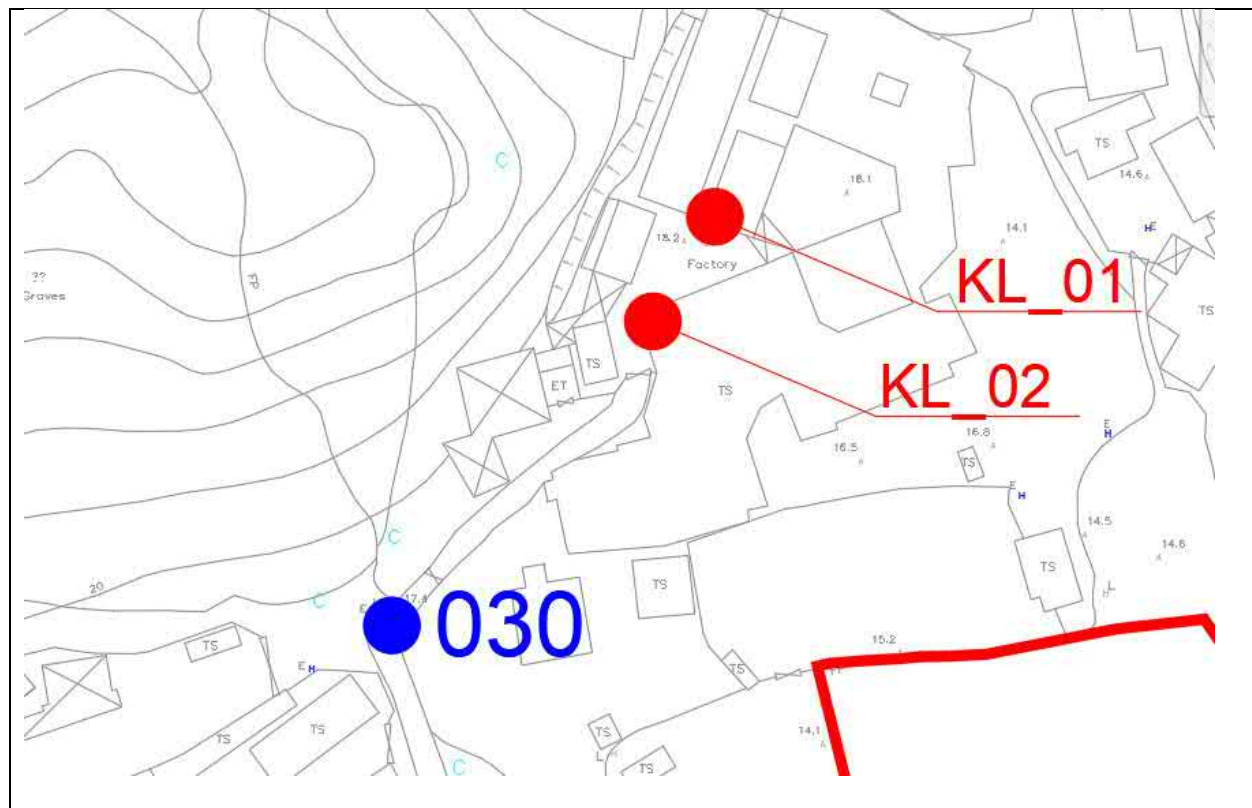




Figure 4.4 Locations of KL01 and KL02, measured at far-field (030)

4.8 Night-time visit was also conducted on 11 June 2020 to verify that night-time operation from King Lion P.V.C Pipes and Fittings Manufactory Limited is not expected. The noise measurement results for KL01 and KL02 are summarized in **Table 4.4**. The results revealed that the sound pressure level for both KL01 and KL02 measured at measurement point 030 as is 55.8 dB(A). Tonality and impulsiveness are not observed during the noise measurement of KL01 and KL02.

4.9 Given that both KL01 and KL02 are assumed to have similar sound power level, for conservative consideration, it is assumed that only KL02 is in operation during the noise measurement. As shown in **Table 4.4**, the sound power level of KL02 is **101.5 dB(A)**. Thus, the estimated sound power level of **101.5 dB(A)** is adopted in the assessment for both KL01 and KL02.

Table 4.4 Noise Measurements Results for KL01 and KL02

Date	Type of Measurement	Measured Noise Level, dB(A) ^[1]	Distance from KL02	Distance Correction, dB(A) ^[1]	Total Sound Power Level, dB(A)
11 June 2020	Far-Field	55.8	77.2	45.7	101.5

[1] Distance Correction: $20\log D + 8$ where D is the distance between Fixed Noise source and the measurement point.

APPENDIX 5.2

FIXED NOISE IMPACT ASSESSMENT

Title: **Fixed Noise Impact Assessment**

Site B Block A	NS ID	SWL	Distance	Distance Correction, dB(A)	Façade Correction, dB(A)	Barrier Correction, dB(A)	SPL, dB(A)	ANL (Day), dB(A)	Compliance	Remarks
SA03a	LP_01	97.8	521.9	-62.4	3	-10	28	65	Yes	No direct line of sight - blocked by other buildings
	LP_02	94.0	528.2	-62.5	3	-10	25			
	LP_03	85.5	535.9	-62.6	3	-10	16			
	KL_01	101.5	90.1	-47.1	3	0	57			
	KL_02	101.5	81.1	-46.2	3	0	58			
	Total						61			

Note

1. Unit SA03 is closest to KL_01 and KL_02 with direct line of sight. NAP SA03a is selected for assessment as it is closest to KL_01 and KL_02.
2. Night operation of the fixed noise plants is not expected
3. Tonality, intermittency and impulsiveness are not observed.



本署檔號 Our Ref. HD(P)8/3/YL22

電話 Tel No.

來函檔號 Your Ref.

圖文傳真 Fax No. 2761 5870

13 March 2023

By Email

Secretary, Town Planning Board
15/F, North Point Government Offices
333 Java Road, North Point
Hong Kong

Dear Sir/Madam,

**Section 16 Planning Application for Proposed Minor Relaxation of Building Height
Restriction for Proposed Public Housing Development at Site B of
Wang Chau Phase 1, Yuen Long**

Reference is made to the captioned Section 16 application received by the Town Planning Board on 3 February 2023 and the comments received from Planning Department. We submit herewith the table summarizing the responses to comments as well as the replacement pages for the application.

Besides, we would like to clarify/supplement the followings:

- a) The proposed public housing development and the proposed building height have already accommodated the feasibility of Modulated Integrated Construction (MiC) design if applicable;
- b) As the site is subject to severe railway noise from Tuen Ma Line, the no. of high-level flats is limited. The proposed scheme has optimized the feasible site coverage and minimized the increase of building heights;
- c) The terms "children play area", "communal/children play area" or "communal play area" mentioned in the text or Plan of the supporting Planning Statement on the captioned refer to "the same facilities (i.e. communal/children play area) which are to serve children and all age groups to foster a sense of community;
- d) Referring to Para. 4.12 of the supporting Planning Statement, according to the TIA of IDC

Study results, the proposed development will not induce adverse traffic impact on the

香港九龍何文田佛光街33號房屋委員會總辦事處

Housing Authority Headquarters, 33, Fat Kwong Street, Ho Man Tin, Kowloon, Hong Kong.

互聯網網址：

Internet Homepage Address: <http://www.housingauthority.gov.hk>

surrounding road network with the proposed access road and the improvement works at the junction of Long Ping Road and Fung Chi Road, as shown in the layout plan extracted from the endorsed TIA report (see **Appendix**). In summary, a staggered pedestrian crossing will be provided at the access road leading to the public housing development. In addition, an exclusive right-turn lane is proposed at Long Ping Road Westbound for the traffic entering the site. Fung Chi Road will be widened to provide 3 entry lanes at the Junction. Under the proposed scheme, it is anticipated that the overall junction performance would be operating at satisfactory level; &

- e) Mitigation/improvement measures to be implemented in different technical aspects will be further refined in detailed design stage after consultation with relevant government departments.

Should you have any queries or need further information, please contact me at [redacted]
. Thank you for your attention.

Yours faithfully,




(Winnie CHAN)

for Director of Housing

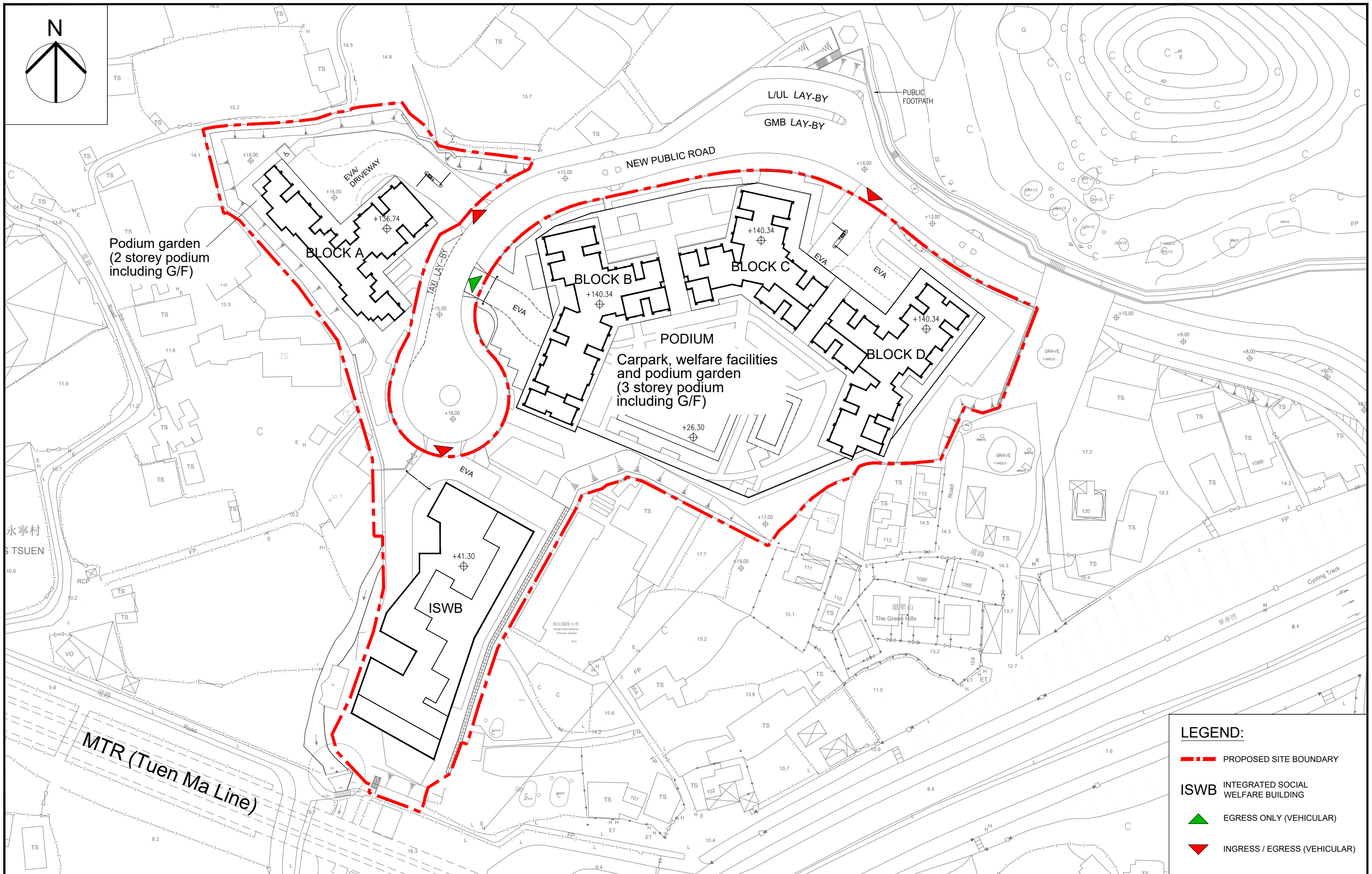
Encl.

**Proposed Minor Relaxation of Building Height Restriction from 135mPD to 145mPD
for Site B of Wang Chau Phase 1, Yuen Long**

Response to Comments

	Comments	Response
	<u>Comments from Transport Department</u>	
1.	<p>I have no objection in principle for the proposed minor relaxation on height restriction from traffic engineering perspective and have the below minor comments:</p> <p>It is observed that the vehicular access arrangement to the Site B in Plan 5 and Plan 7 seems outdated. The plans should be updated to reflect the latest agreed run-in/out.</p>	<p>Noted with thanks.</p> <p>Revised Plans 5 and 7 are attached (Attachment 1)</p>
	<u>Comments from Urban Design and Landscape Section, Planning Department</u>	
2.	<p>Paragraph 4.10 of Supporting Planning Statement – Referring to the findings of AVA EE, all the air ventilation measures in the Proposed Scheme should be listed out. Also, with reference to the findings of the submitted AVA EE, we consider that given the surrounding context and the wind enhancement features incorporated, the proposed development will not result in significant adverse (rather than “no adverse”) air ventilation impact on the surrounding pedestrian wind environment. Please consider to revise the paragraph accordingly.</p>	<p>Noted. For details of the air ventilation measures for the proposed scheme mentioned in Para. 4.10 of the Supporting Planning Statement, reference can be made to Para. 7.2 of the Appendix 2 (i.e. AVA-EE). Notwithstanding the above, Para. 4.10 of the supporting Planning Statement has been amended. Relevant page has been updated accordingly (Attachment 2)</p>
	<u>Comments from Social Welfare Department</u>	
3.	<p>According to Table 2, requirements for our proposed welfare facilities are shown. Our comments are marked in red in the attached PDF –</p> <div style="text-align: center;">  </div> <p>SWD Comments - Mark ups_20230301.pdf</p> <p>Other than the above, we have no comment from welfare perspective.</p>	<p>For the dimensions of the parking and L/UL space for welfare facilities, the requirements will be adopted during detail design stage.</p> <p>For the added information for the IVRSC, a footnote has been incorporated. Relevant pages have been updated. (Attachment 3)</p>

Attachment 1



PROJECT TITLE
PUBLIC HOUSING DEVELOPMENT AT
WANG CHAU PHASE 1 SITE B

DRAWING TITLE
MASTER LAYOUT PLAN
(FOR REFERENCE ONLY & SUBJECT TO DESIGN REVIEW)



房屋署
HOUSING DEPARTMENT

DRAWING NO.
YL51NH/BC/SITE/A/PLO-03

DATE
24 JUN 2022

Plan 5

SCALE 1:1000 (A3)



Attachment 2

vertical greening would be applied where appropriate. With implementation of the above mitigation measures, the visual impacts due to the slight increase in BHR will be acceptable.

No Adverse Impact on Landscape Aspect

- 4.9 Not less than 20% greening ratio of total Gross Site Area will be provided at the Application Site. Associated green measures (vertical green, and podium greening) where appropriate will be furnished in suitable locations to contribute the greening coverage and at the same time beautify the outdoor landscape environment. We will provide a minimum of three trees per 100 m² of the total green coverage area. Recreational facilities including local open space and communal/children play areas will be provided. Open space will be embraced by soft landscaping with seats for the residents' enjoyment. It is considered that minimal landscape impact is anticipated.

No Adverse Impact on Air Ventilation Aspect

- 4.10 An Air Ventilation Expert Evaluation (AVA-EE) in support of the current public housing scheme has been conducted (**Appendix 2**). With wind enhancement features incorporated in the Application Site including building gaps/tower setback/building setback with width of 10 to 22 metres and empty bays under domestic blocks and at podium levels, **significant** adverse air ventilation impact is **not** anticipated to the surrounding pedestrian wind environment under the proposal.

No Insurmountable Impact on Environmental Aspect

- 4.11 An Environmental Assessment Study (EAS) based on the current housing layout has been conducted to evaluate and address the potential railway noise, road traffic noise, fixed noise and air quality (**Appendix 3**). The EAS has concluded that the proposed development of the Application Site will have no insurmountable impact with proper building layout, design and mitigation measures to be incorporated in the Application Site, including truncated residential blocks, building orientation, acoustic fins etc. The EAS has been

Attachment 3

Table 2 Key Development Parameters for the Application Site

Development Parameters	Application Site[@]
Gross Site Area** (about)	About 2.02 ha
Net Site Area** (about)	About 1.71 ha
Maximum Plot Ratio (Overall)	6.0
Maximum Gross Floor Area	102,600m ²
Maximum Building Height (main roof)	+145mPD
Total No. of Flats (about)	1,870
Design Population (about)	5,240
No. of Blocks	4 Residential Blocks 1 Welfare Block
No. of storeys	Block A: 40 Block B: 41 Block C: 41 Block D: 41 Welfare Block: 7 Including 38 domestic storeys of each block
Green Coverage (% of Gross Site Area)	At least 20%
Recreation Facilities	
Local Open Space	Not less than 5,240 m ²
Children Play Area	Not less than 419 m ²
Basketball Court	1
Badminton Court	1
Table Tennis Table	1
Social Welfare/Community Facilities[#]	
60-p Special Child Care Centre (SCCC)	One (NOFA of 409m ²)
100-p Residential Care Centre Home for the Elderly (RCHE)	One (NOFA of 1,354 m ²)
50-p Day Activity Centre (DAC)	One (NOFA of 319 m ²)
50-p Hostel for the Moderately Mentally Handicapped Persons (HMMH)	One (NOFA of 617 m ²)
50-p Hostel for the Severely Mentally Handicapped Persons (HSMH)	One (NOFA of 691 m ²)
50-p Integrated Vocational Rehabilitation Services Centre (IVRSC) [!]	One (NOFA of 325 m ²)
100-p Child Care Centre	One (NOFA of 530 m ²)
Estate Management & Ancillary Facilities	About 1710 m ² (GFA)
Parking Facilities^{^#}	

Development Parameters	Application Site [@]
Car Parking Spaces (Domestic)	156
Car Parking Spaces (Visitors)	20
Light Goods Vehicle Parking Space [%]	8
Motorcycle Parking Spaces (Domestic)	17
Bicycle Parking Spaces	125
Loading/Unloading (L/UL) Bay (Domestic) ^{\$}	8
Parking (Welfare facilities)	<ul style="list-style-type: none"> 1 48-seater bus parking space for “SCCC” 1 parking space for a 5.5 ton goods vehicle for “IVRSC” 2 private light bus parking space with tail-lift for “RCHE” and “HSMH”
L/UL (Welfare facilities)	<ul style="list-style-type: none"> 1 for shared use between “SCCC” and residential blocks 1 for shared use among “IVRSC”, “RCHE”, “HSMH” and “CCC”.

[@] The scheme is for illustration purpose and subject to detailed design.

^{**} Subject to detailed survey.

[^] As per HKPSG requirement and TD’s agreement.

[%] Shared Use Parking Space with Light Bus in accordance with HKPSG.

^s Shared Use for overnight parking of medium/high good vehicles and coaches/buses with due consideration of site constraints and local situation in accordance with HKPSG.

[#] Ancillary parking facilities and government, institution and community facilities are assumed to be exempted from PR calculation in accordance with the Remarks of the Notes of the OZP for the “R(A)” zone.

[!] The Schedule of Accommodation for IVRSC is subject to Government Property Agency's Approval.

Implementation Programme

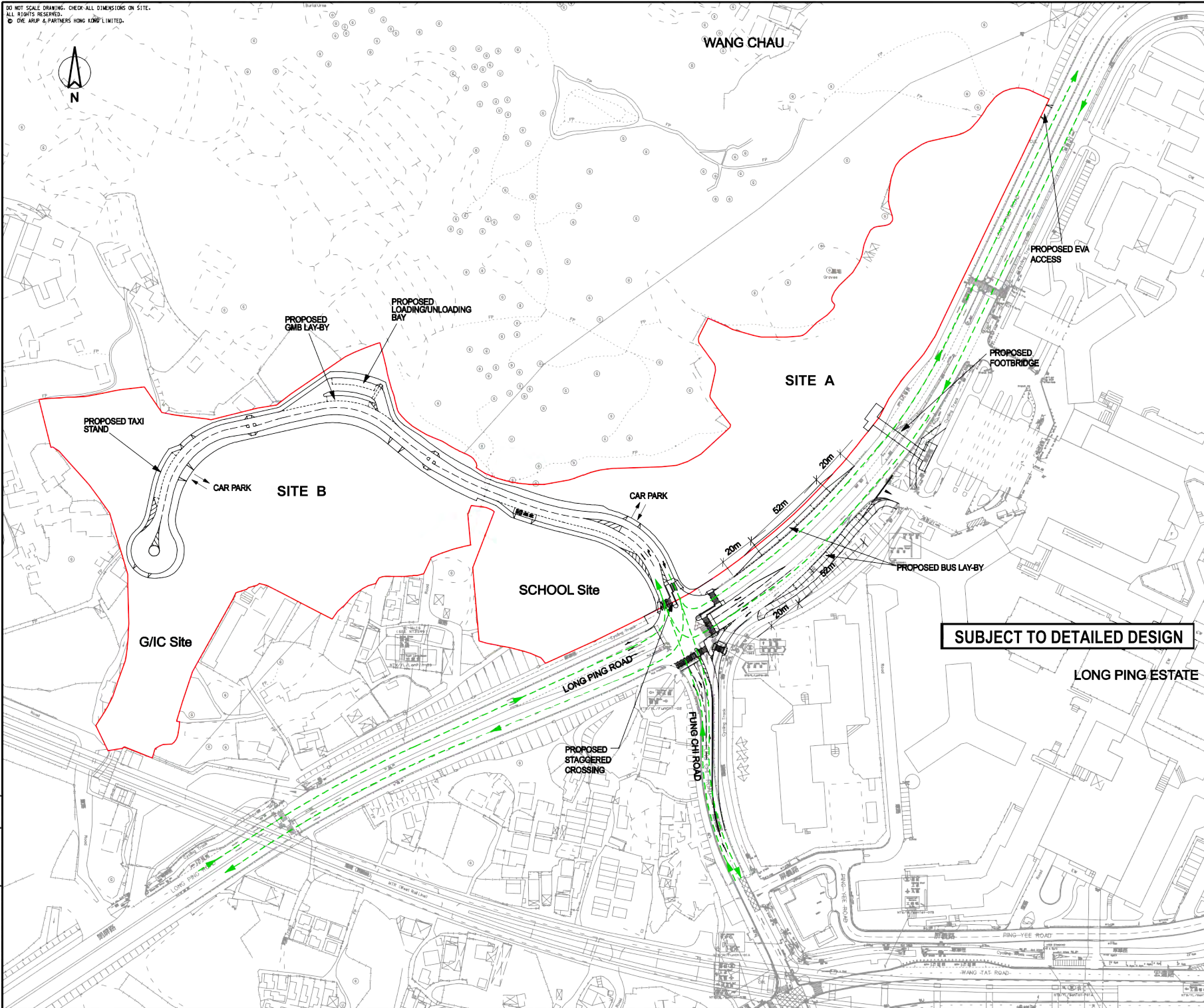
3.5 Piling works for the Application Site is tentatively to be commenced in 2023/24 for building completion in 2027/28.

4. JUSTIFICATIONS AND PLANNING MERITS

Meet the Acute Demand for Public Housing

4.1 Under the Long Term Housing Strategy Annual Progress Report 2022, the split ratio of public / private housing of 70:30 for the ten year from 2023/24 to 2032/33 is maintained. The supply target for public housing is 301,000. As

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LEGEND:

- PUBLIC HOUSING SITE
(SUBJECT TO DETAILED DESIGN / SURVEY)
- VEHICULAR ACCESS ROUTINGS

Rev	Description	By	Date
Consultant			
ARUP			
Project title			
Agreement No. CE 64/2014 (CE)			
Engineering Works at			
Lin Cheung Road, Sham Shui Po and			
Wang Chau, Yuen Long - Investigation,			
Design and Construction			
Drawing title			
PROPOSED ACCESS ROAD			
FOR PUBLIC HOUSING SITE			
Drawing no.			
FIGURE 4.1.1			
Drawn	Date	Checked	Approved
ATL	10/15	KC	HL
Scale	1:2000 (A3)	Status	PRELIMINARY

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土木工程拓展署
Civil Engineering and
Development Department

Previous s.16 Application covering the Application Site

Rejected Application

Application No.	Applied Use(s)/Development(s)	Zoning	Date of Consideration	Rejection Reasons
A/YL-PS/253	Filling of Land for Agricultural Use (Growing of Organic Vegetables and Mushrooms) and Ancillary Office	“GB” ¹	3.11.2006	1,2,3

Rejection Reasons:

1. No strong justification to demonstrate that filling of land was essential and inevitable for carrying out agricultural activities on site.
2. No information in the submission to demonstrate that the development would not have adverse drainage impact.
3. Setting undesirable precedent.

¹ The Site was rezoned from “GB” to “R(A)4” on the draft Ping Shan OZP No. S/YL-PS/15 gazetted on 31.10.2014.

Recommended Advisory Clauses

- (a) to note the comments of the Chief Highway Engineer/New Territories West, Highways Department (CHE/NTW, HyD) that adequate drainage measures shall be provided to prevent surface water running from the Site to the nearby public roads and drains;
- (b) to note the comments of the Director of Fire Services (D of FS) that detailed fire service requirements will be formulated upon receipt of formal submission of general building plans. Furthermore, the EVA provision at the Site shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 under the Building (Planning) Regulation 41D which is administered by the Buildings Department. Also, licensing requirements will be formulated upon receipt of formal application via the Licensing Authority;
- (c) to note the comments of Chief Engineer/Construction, Water Supplies Department (CE/C, WSD) that existing water mains will be affected and the cost of any necessary diversion shall be borne by the proposed development. In case it is not feasible to divert the affected water mains, a waterworks reserve within 1.5 metres from the centre line of the water mains shall be provided to WSD. No structure shall be built or materials stored within this waterworks reserve. Free access shall be made available at all times for staff of the Director of Water Supplies and their contractor to carry out construction, inspection, operation, maintenance and repair works. No trees or shrubs with penetrating roots may be planted within the waterworks reserve or in the vicinity of the water mains. The Government shall not be liable to any damage whatsoever and howsoever caused arising from burst or leakage of the public water mains and in close vicinity of the Site;
- (d) to note the comments of Head of Geotechnical Engineering Office, Civil Engineering and Development Department (H(GEO), CEDD) that:
 - (i) the applicant is reminded submit the relevant slope/retaining wall assessment, stabilisation measure reports or proposed slope/retaining wall works according to the Project Administration Handbook for Engineering Works (PAH) and circular ETWB TC(W) No. 29/2002 regarding Geotechnical Control for Slopes and Retaining Walls at the later stage, as necessary; and
 - (ii) the applicant is reminded that the Site is located within Scheduled Area No. 2 and may be underlain by cavernous marble. Depending on the nature of foundation of the new development proposed at the site, extensive geotechnical investigation may be required, as necessary. This would require a high-level involvement of experienced geotechnical engineer(s), both in the design and supervision of geotechnical aspects of the works to be carried out on the site;
- (e) to note the comments of the Director of Agriculture, Fisheries and Conservation (DAFC) that a series of technical assessments for the whole Wang Chau Phase 1 covering ecology was conducted under the Investigation, Design and Construction study. The applicant is reminded to observe the relevant ecological mitigation measures recommended in the previous study;
- (f) to note the comments of the Director of Electrical and Mechanical Services (DEMS) that in the interests of public safety and ensuring the continuity of electricity supply, the parties concerned with planning, designing, organising and supervising any activity near the underground cable or overhead line for the development should approach the electricity supplier (i.e. CLP Power) for the requisition of cable plans (and overhead line alignment drawings, where applicable) to find out whether there is any underground cable and/or overhead line within and/or in the

vicinity of the site. They should also be reminded to observe the Electricity Supply Lines (Protection) Regulation and the “Code of Practice on Working near Electricity Supply Lines” established under the Regulation when carrying out works in the vicinity of the electricity supply lines;

- (g) to note the comments of the Director of Food and Environmental Hygiene (DFEH) that:
 - (i) if any Food and Environmental Hygiene Department’s (FEHD) facility is affected by the development, FEHD’s prior consent must be obtained. Reprovisioning of the affected facilities by the project proponent up to the satisfaction of FEHD may be required. Besides, the project proponent may be required to provide sufficient amount of additional recurrent cost for management and maintenance of the reprovisioned facilities to FEHD;
 - (ii) if FEHD is requested to take up management responsibility of new facilities, FEHD should be separately consulted. Prior consent from FEHD must be obtained and sufficient amount of recurrent cost may have to be provided to FEHD;
 - (iii) if provision of cleansing service for new roads, streets, cycle tracks, footpaths, paved areas etc, is required, FEHD should be separately consulted. Prior consent from FEHD must be obtained and sufficient amount of recurrent cost may have to be provided to FEHD;
 - (iv) no environmental nuisance should be generated to the surroundings. Also, for any waste generated from the operations and works, the project proponent should arrange its disposal properly at their own expenses;
 - (v) if the project will lead to significant population increase, sufficient amount of recurrent costs may have to be provided to FEHD in order to provide various types of environmental hygiene services for increased population, such as inspection to food premises, hawker control, handling of complaints, etc.;
 - (vi) if domestic waste collection service of FEHD is required in future, prior comments from FEHD on the waste collection plan, including the accessibility and maneuverability of refuse collection vehicle to refuse collection point, should be sought; and
 - (vii) proper licence/permit issued by FEHD is required if there is any food business/catering service/activities regulated by the DFEH under the Public Health and Municipal Services Ordinance (Cap. 132) and other relevant legislation for the public;
- (h) to note the comments of the Chief Architect/Central Management Division 2, Architectural Services Department (CA/CMD2, ArchSD) that the applicant is advised to comply with the building separation requirements of the design guidelines promulgated in PNAP APP-152; and
- (i) to note the comments of the Chief Town Planner/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD) that:
 - (i) regarding the proposed “not less than 20% greening ratio of total Gross Site Area”, it is advised to review the greening principle with reference to paragraph 13 of Joint Planning Department – Housing Department Technical Circular No. 1/2020 “Planning Briefs for Public Housing Development Projects”, i.e. “a target of an overall 30% green coverage is recommended”;
 - (ii) the applicant should note that approval of the s.16 application by the Board does not imply approval of the tree works such as pruning, transplanting and/or felling under lease. The applicant is reminded to approach relevant authority/government department(s) direct to

obtain the necessary approval on tree works; and

- (iii) the applicant should be reminded that the approval of the s.16 application by the Board does not imply approval of site coverage of greenery requirements under PNAP APP-152 and/or under the lease. The site coverage of greening calculation should be submitted separately to BD for approval.

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk



Secretary, Town Planning Board
15/F, North Point Government Offices,
333 Java Road,
North Point,
Hong Kong

Our ref: T&ESD/E&IC/ES/EnvF/L1177

Date: 24 FEB 2023

By Post and Fax
(Fax no.: 2877 0245 / 2522 8426)

Dear Sir/Madam,

Comments on the Section 16 Planning Application regarding Proposed Minor Relaxation of Building Height Restriction for Permitted Public Housing Development at Site B of Wang Chau Phase 1, Long Ping Road, Yuen Long (Application No. A/YL-PS/677)
Operational Railway Noise Concern

The Corporation has, in general, no objection to the captioned Section 16 application (Application No. A/YL-PS/677) seeking for minor relaxation of building height restriction for the public housing development at Site B of Wang Chau Phase 1, Long Ping Road, Yuen Long. As the proposed development is situated close to the MTR Tuen Ma Line (TML), noise from train operations could have a potential impact on any future occupants.

We understand that the applicant has already conducted an Environmental Assessment Study, including a Railway Noise Impact Assessment (RNIA), which will be reviewed by the Environmental Protection Department (EPD) to ensure full compliance with the statutory requirements. From the RNIA, we noticed that single-aspect building design, truncated residential blocks, 1.5m-2.2m long architectural fins and fixed glazing with maintenance windows are the key mitigation measures of railway noise impact such that the predicted noise levels at some of the noise sensitive receivers at Block B, Block D and the Integrated Social Welfare Building (ISWB) are marginally within the statutory noise limit. We wish to caution that the proposed development can be sensitive to air-borne noise impact. Like many other property development projects in proximity to the railway, it is crucial for the development proponent and its consultant to ensure the mitigation measures as proposed in the RNIA are fit-for-purpose for implementation so that the potential train noise issue can be satisfactorily addressed.

Page 1 of 2

MTR Corporation Limited
香港鐵路有限公司
www.mtr.com.hk



Our ref: T&ESD/E&IC/ES/EnvE/L1177

Date: 24 FEB 2023

Should approval be granted to the Section 16 Planning Application, we urge the Town Planning Board to include in the planning approval conditions requiring the development proponent to incorporate and implement all necessary noise mitigation measures as indicated in the RNIA, at their own cost and to the satisfaction of the Director of Environmental Protection, to ensure that the future residents of the development will not be exposed to noise impacts from railway operations.

Should you have any queries, please feel free to contact our Lead Environmental Manager Ms. Catherine Leung at _____

Yours faithfully,

Chan Hing Keung
Chief of Operations Engineering Service & Innovation

c.c Mr. TSANG Sai Wing, Terence - Assistant Director of EPD (Environmental Assessment)
Mr. LEE Chee Kwan - Principal Environmental Protection Officer (Assessment & Noise)

Page 2 of 2

2

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A/YL-PS/677 Wang Chau Phase 1, Long Ping Road HA

02/03/2023 02:31

From:

To: tpbpd <tpbpd@pland.gov.hk>

File Ref:

A/YL-PS/677

Site B of Wang Chau Phase 1, Long Ping Road, Yuen Long

Site area: About 20,200sq.m

Zoning: "Res (Group A) 4"

Applied development : Relaxation of BHR for PH Development / 4 Towers / 1,870 Units / PR 6 / 145mPD (135) / 5,240sq.mts OS / 198 Vehicle Parking / GIC 7-storey building

Dear TPB Members,

Another pointless exercise as I know, you know and anyone who bothers expending time reading the documents knows, this application will sail through.

Another pack them in, reduce the footprint, add additional floors, and we are to believe that the residents will enjoy a compatible quality of life.

The old HA estates are exemplary examples in providing a people friendly environment when compared to these planned developments of tall towers on podiums with zero at grade natural surroundings.

That there will be an ever increasing percentage of HK citizens suffering from mental issues going forward is the inevitable consequence.

Mary Mulvihill