1 2 JUL 2022

This decement is received on
The Lord Planning Board will formally acknowledge
the date of receipt of the application only upon receipt of all the required information and documents.



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

《城市規劃條例》(第131章) 根據 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:

Construction of "New Territories Exempted House(s)"; 興建「新界豁免管制屋宇」;

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
- & 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

For Official Use Only 請勿填寫此欄	Application No. 申請編號	AIT-35/288
	Date Received 收到日期	1 2 JUL_20 22 4

- 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。
- 2. 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 樓及新界沙田上禾鲞路 1 號沙田政府合署 14 樓)索取。
- 3. 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 /忆 Company 公司 /□Organisation 機構)

Champ Dynasty Limited (樂朝有限公司)

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)

Aikon Development Consultancy Limited (毅勤發展顧問有限公司)

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)	Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories
(b)	Site area and/or gross floor area involved 涉及的地盤面積及/或總樓面面 積	☑Site area 地盤面積 2,093 sq.m 平方米☑About 約
(c)	Area of Government land included (if any) 所包括的政府土地面積(倘有)	sq.m 平方米 ☑About 約

(d)	Name and number of statutory plan(s) 有關法定圖則的名稱及		Draft Fanling/Sheung Shui Outlin Plan No. S/FSS/25	ne Zoning
(e)	Land use zone(s) involv 涉及的土地用途地帶	red	"Village Type Development" zor area shown as 'Road'	ne and
(f)	Current use(s) 現時用途		Largely formed site occupied by structures and some vegetated l (If there are any Government, institution or community 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,	and facilities, please illustrate on
4.	"Current Land Ow	ner" of A	pplication Site 申請地點的「現行土地	也擁有人 」
The	applicant 申請人 -			
	is the sole "current land d是唯一的「現行土地擁	owner" ^{#&} (ple 有人」 ^{#&} (謂	ease proceed to Part 6 and attach documentary proof 情繼續填寫第 6 部分,並夾附業權證明文件)。	of ownership).
,0			(please attach documentary proof of ownership). (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)。			
3	Statement on Owner's Consent/Notification 就土地擁有人的同意/通知土地擁有人的陳述			
(a)	(a) According to the record(s) of the Land Registry as at			
(h)	The applicant 申請人 -			
(b)			"current land owner(s)".	
		0.350,500	現行土地擁有人」#的同意。	
	Details of consent	of "current l	and 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	Registry wh	/address of premises as shown in the record of the Land here consent(s) has/have been obtained 任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 s	sheets if the sp	ace of any box above is insufficient. 如上列任何方格的驾	5間不足,請另頁說明)

1	Details of the "current land owner(s)" # notified 已獲通知「現行	A CENTRAL WAS UNIT W W AND AND DESCRIPTION OF THE PERSON O
r)	Lot number/address of premises as shown in the Land Registry where notification(s) has/have be 根據土地註冊處記錄已發出通知的地段號碼	een given
(Ple	ease 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
□ hos	s taken reasonable steps to obtain consent of or give notification t	co overnor(o):
	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。	
	asonable Steps to Obtain Consent of Owner(s) 取得土地擁有人	
Ke		
	sent request for consent to the "current land owner(s)" on	
	Control of the contro	St. 24. 24. 24. Control Telephonology Stells, St. Schlieberhamer
Rea	asonable Steps to Give Notification to Owner 向土地擁有人	
	published notices in local newspapers on	(DD/MM/YYYY)& -次通知&
	posted notice in a prominent position on or near application sit	te/premises on
	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選
	sent notice to relevant owners' corporation(s)/owners' commit office(s) or rural committee on(DD/M 於(日/月/年)把通知寄往相關的業主。處,或有關的鄉事委員會&	IMYYY)&
<u>Otl</u>	hers 其他	
	others (please specify) 其他(請指明)	
	<u> </u>	

6.	Type(s)	of Application 申請類別
	Type (i) 第(i)類	Change of use within existing building or part thereof 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
	第(ii)類	Plan(s) 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) 第(iii)類	Public utility installation / Utility installation for private project 公用事業設施裝置/私人發展計劃的公用設施裝置
\checkmark	Type (iv) 第(iv)類	Minor relaxation of stated development restriction(s) as provided under Notes of Statutory Plan(s) 略為放寬於法定圖則《註釋》內列明的發展限制
\checkmark		Use / development other than (i) to (iii) above 上述的(i)至(iii)項以外的用途/發展
註 1 Note	: 可在多於- 2: For Develop	more than one「✔」. 一個方格內加上「✔」號 ment involving columbarium use, please complete the table in the Appendix. 及靈灰安置所用途,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 平力	万米
(b) Proposed use(s)/development 擬議用途/發展	the use and gro	oss floor area)	nstitution or community f 設施,請在圖則上顯示		illustrate on plan and specify 及總樓面面積)
(c) Number of storeys involved 涉及層數			Number of units invo 涉及單位數目	olved	
	Domestic par	t 住用部分,		sq.m 平方爿	← □About 約
(d) Proposed floor area 擬議樓面面積	Non-domesti	c part 非住用部	第分	sq.m 平方划	长 □About 約
	Total 終計			sq.m 平方爿	□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 us	se(s) 現時用途	Propos	sed use(s) 擬議用途

(ii) For Type (ii) applic	ation 供第(ii)類申請
	□ Diversion of stream 河道改道
	□ Filling of pond 填塘 Area of filling 填塘面積
(a) Operation involved 涉及工程	□ Filling of land 填土 Area of filling 填土面積 sq.m 平方米□About 約 Depth of filling 填土厚度 m 米□About 約 □ Excavation of land 挖土 Area of excavation 控土面積 sq.m 平方米□About 約 Depth of excavation 挖土面積 sq.m 平方米□About 約 Depth of excavation 挖土深度 m 米□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、填環、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) applic	cation 供第(iii)類申請
(a) Nature and scale 性質及規模	□ Public utility installation 公用事業設施裝置 □ 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 数量 Number of provision 數量 Dimension of each installation //ouilding/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) \underline{F}	or Type (iv) applicat	tion 供第(iv)類申請	
(a)		proposed minor relaxation of stated development restriction(s) and	also fill in the
		ment and development particulars in part (v) below —	
Ē	月7月9月5年我一日,向100月日	的發展限制 <u>並填妥於第(v)部分的擬議用途/發展及發展細節</u> —	
	Plot ratio restriction 地積比率限制	From 由 to 至	
	Gross floor area restrict 總樓面面積限制	ion From 由sq. m 平方米 to 至sq. m 平方岩	K
	Site coverage restriction 上蓋面積限制	n From 由% to 至%	
\square	Building height restricti 建築物高度限制	ion From 由	at the second second
	(For Flat)	From 由 mPD 米 (主水平基準上) to 至	
		mPD 米 (主水平基準上)	
		From 由 3 storeys 層 to 至 4 store	ys 層
	Non-building area restr 非建築用地限制	iction From 由m to 至m	
	Others (please specify) 其他(請註明)		
(v) <u>F</u>	or Type (v) applicati	on 供第(v)類申請	
	posed (s)/development 養用途/發展	Proposed Social Welfare Facility (Residential Home for the Elderly) and Flat with Minor Rel Building Height Restriction (Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議	axation of
(b) Dev	relopment Schedule 發展	細節表	
Pro	posed gross floor area (G	FA) 擬議總樓面面積 4,972 sq.m 平方米	☑About 約
	posed plot ratio 擬議地積	[比率	☑About 約
Proposed site coverage 擬議上蓋面積 48.0 % MAbout 約			☑About 約
	posed no. of blocks 擬議	4 (flat) / 7 (DCUE)	
Pro	posed no. of storeys of ea	ach block 每座建築物的擬議層數 4 (flat) / 7 (RCHE) storeys 層	
		□ include 包括 <u>0</u> storeys of basen □ exclude 不包括 <u>0</u> storeys of basen	
		口 exclude 个包括U storeys of bas	ements 層地庫
Pro	posed building height of	each block 每座建築物的擬議高度 mPD 米(主水平基準上 12.95 (flat) / 25.95 (RCHE) _m 米	上)□About 約 ☑About 約

✓ Domestic par	+ 住田部分			
H-100			sq. m 平方米	☑About 約
59750VC	樓面面積		38 sq. m 平万米	MADOUT #1
31300-3300-3300-3300-3300-3300-3300-330	of Units 單位數目			~
W=-	unit size 單位平均面		.27.251.9sq. m 平方米	☑About 約
estimate	d number of resident	s估計住客數目	1.14	
Non-domestic	c part 非住用部分		GFA 總樓面面	元
	lace 食肆		3,000 - 00 000 TABLE - NORMAN	□About 約
□ hotel 酒	energe and a process and the contract of the c		sq. m 平方米	
notei 烟,	占		sq. m 平方米	□About 約
			(please specify the number of rooms	
			請註明房間數目)	
□ office 辦			sq. m 平方米	□About 約
shop and	l services 商店及服务	努行業	sq. m 平方米	□About 約
✓ Governm	nent, institution or co	mmunity facilities	(please specify the use(s) and	concerned land
		minumity facilities		
区的 * 位	幾構或社區設施		area(s)/GFA(s) 請註明用途及有關	13.14.11.11.11.11.11.11.11.11.11.11.11.11.
			樓面面積) Social Wolfers Facility /F	Posidontial
			Social Welfare Facility (F Care Home for the Elder	
			GFA: About 3,281 sqm	2.7
			No: of Beds Provided in I	Proposed
			RCHE: 210 Beds (Maxim	
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)	

	1 25 77 14			7 . T
✓ Open space \lozenge		Per tul	(please specify land area(s) 請註明	
Sept-100 AWV	ppen space 私人休憩		371.4. sq. m 平方米 Mot	
public of	pen space 公眾休憩	书地	sq. m 平方米 口 Not	less than 不少於
(c) Use(s) of differ	ent floors (if applical	ole) 各樓層的用途 (如適原	用)	
[Block number]	[Floor(s)]		[Proposed use(s)]	
[座數]	[層數]		[擬議用途]	
1 (RCHE)	G/F	RCHE / E&M /	/ Parking	
	1/F - 6/F	RCHE / E&M		
	R/F		Sarden and Outdoor Activi	ty Area
2 (Flat)	G/F			.iy
	1/F - 3/F	Domestic (Flat) / E&M / Parking		
3.11.11.11.11.11.11.11.11.11.11.11.11.11	R/F	Domestic (Flat) / E&M Private Flat Roof / Communal Greenery		
(d) Proposed use(s)		if any) 露天地方(倘有)	ob / Communal Creenery 的擬議用途	
			Path and Landscape Plantin	ıg

7.	7. Anticipated Completion Time of the Development Proposal 擬議發展計劃的預計完成時間				
擬 (So	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)				
(1	ear 2031)		cility (RCHE) is anticipated to also be completed in		
8.	Vehicular Access Arra 擬議發展計劃的行		t of the Development Proposal 安排		
l	ny vehicular access to the te/subject building?	Yes 是	□ 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))		
0.7	:否有車路通往地盤/有關 禁物?		☑ 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)		
		No 否	Ingress/egress of 8.9m in width (including 1.5m-wide pedestrian footpath)		
fd 5	Iny provision of parking space or the proposed use(s)? 是否有為擬議用途提供停車 7.?	Yes 是	☑ (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) 11 (including 3 accessible car parking Spaces 私家車車位 car parking spaces) 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)		
		No 否			
lo pr 是	ny provision of ading/unloading space for the oposed use(s)? 否有為擬議用途提供上落客 車位?	Yes 是	 ✓ (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) 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 Others (Please Specify) 其他 (請列明) —————————————————————————————		
		No 否			

9. Impacts of Development Proposal 擬議發展計劃的影響					
justifications/reasons for	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,請另頁表示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。				
	Yes 是	☐ Please provide details 請			
Does the development	/2		TACK CET 175		
proposal involve					
alteration of existing building?					
擬議發展計劃是否					
包括現有建築物的					
改動?	N - T				
<u> </u>	No 否	<u> </u>		W1 7/2 2 22 3	
	Yes 是	200 N	oundary of concerned land/pond(s), and p	articulars of stream diversion,	
		the extent of filling of land/pond(s			
Does the development		A STATE OF THE PROPERTY OF THE	/池塘界線,以及河道改道、填塘、填	土及/或挖土的細節及/或範	
proposal involve the operation on the		(国)			
right?		☐ Diversion of stream 河差	道改道		
擬議發展是否涉及		☐ Filling of pond 填塘			
右列的工程?			責sq.m 平方米	□About 約	
(Note: where Type (ii)		1	度m ж	□About 約	
application is the subject of application,				—	
please skip this	_	Filling of land	^{d 填土} 2 093		
section.		Area of filling 填土面積			
註: 如申請涉及第	Depth of filling 填土厚度 … 21				
(ii)類申請,請跳至下	□ Excavation of land 挖土				
一條問題。)		The second secon	上面積sq.m 平方米		
		Depth of excavation 挖	土深度m 米	□About 約	
	No 否				
	On envir	onment 對環境	Yes 會 □	No 不會 ☑	
		c 對交通	Yes 會 □	No 不會 ☑	
		r supply 對供水	Yes 會 🗌	No 不會 ☑	
		age 對排水 ·s 對斜地	Yes 會 🗌	No 不會 ☑ No 不會 ☑	
	(E)	s 對斜坡 by slopes 受斜坡影響	Yes 會 □ Yes 會 □	No 不會 ☑	
		pe Impact 構成景觀影響	Yes 會 □	No 不會 ☑	
		ling 砍伐樹木	Yes 會 🔽	No 不會 □	
	Visual Impact 構成視覺影響 Yes 會 □		No 不會 ☑		
Would the	Others (I	Please Specify) 其他 (請列明)	Yes 會 🗌	No 不會 ☑	
development	-				
proposal cause any					
adverse impacts?			e impact(s). For tree felling, p	lease state the number,	
擬議發展計劃會否 造成不良影響?		at breast height and species of th			
起风小 区别音:			r伐樹木,請說明受影響樹木的!	數目、及胸高度的樹幹	
	Service Committee Committe	品種(倘可)	101 : 01 1		
			d Planning Statement	and Iree	
	Prese	ervation and Landscap	oe Proposal.		

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 Planning Statement.

11. Declaration 聲明				
I hereby declare that the particulars given in this application are 本人謹此聲明,本人就這宗申請提交的資料,據本人所知及	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 to the Board's website for browsing and downloading by the pu 員會酌情將本人就此申請所提及的所有資料複製及/或上載3	blic free-of-charge at the Board's discretion. 本人現准許委			
Signature				
SHEETA LEUNG	Secretary			
Name in Block Letters 姓名(請以正楷填寫)	Position (if applicable) 職位 (如適用)			
Professional Qualification(s) 「 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 / 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 Others 其他 On behalf of Aikon Development Consultancy Limited				
on behalf of 代表 Company 公司 / □ Organisation Name and Chop (if applicable) 機構名稱及蓋章(如適用)				
Date 日期 17/06/2022	(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况下,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:
 - 画安具智規動指与的規定下以下用述:

 (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。

Ash interment capacity 骨灰安放容量@	2 1 2 2
ASII Internative A/人文版在里。	
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 全位總數	
Total number of single niches 單人龕位總數	1 (1)
Number of single niches (sold and occupied) 單人龕位數目 (已售並佔用)	
Number of single niches (sold but unaccupied) 單人龕位數目 (已售但未佔用)	11 =
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	- 14 - 1
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)	var. II. Umrani
Number of double niches (residual for sale) 雙人龕位數目 (待售)	917
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)	8
京中八久文八章 [L.カーロッチ 正義 [L. 本心女父 (日月ブリッカカスカリ)	
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; 每個鑫位內可安放的骨灰容器的最高數目; 	humbarium: and
 the maximum number of sets of ashes that may be interred other than in niches in any area in the co 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。 	umoarum, and

Gist of Application 申請摘要

(Please provide details in both English and Chinese <u>as far as possible</u>. 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 deposited 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

(請 <u>盡量</u> 以英文及中文填寫。此部分將曾發送予相關諮詢人士、上載至城市規劃委員會網負供公眾免費瀏覽及 下載及存放於規劃署規劃資料查詢處以供一般參閱。)						
Application No. 申請編號	(For O	fficial Use Only) (請勿	刃填寫此欄)			
Location/address 位置/地址	Tin F	Ping Road, Sh 上水天平路丈:	eung Shui,	52 and adjoinir New Territorie 約地段第834號	es	
Site area 地盤面積		2,093		S	q. m 平方:	米☑About 約
	(includ	les Government land	of包括政府:	上地 123	sq.m 平方:	米 ☑About 約)
Plan 圖則	C1010000000000000000000000000000000000	n en ren a Williamsonia word	and the same was	utline Zoning F (編號:S/FS		S/FSS/25
Zoning 地帶	"Village Type Development" zone and area shown as 'Road'「鄉村式發展」地帶及顯示為「道路」的地方					
Applied use/ development 申請用途/發展	Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction 擬議社會福利設施(安老院舍)及分層住宅,並略為放寬建築物高度限制			ng Height		
(i) Gross floor ar and/or plot rat			sq.n	1 平方米	Plot R	atio 地積比率
總樓面面積為 地積比率		Domestic 住用	1,691	☑ About 約 □ Not more than 不多於	0.81	☑About 約 □Not more than 不多於
		Non-domestic 非住用 (RCHE)	3,281	☑ About 約 □ Not more than 不多於	1.57	☑About 約 □Not more than 不多於
(ii) No. of block 幢數		Domestic 住用	1			
		Non-domestic 非住用 (RCHE)	1			
		Composite 綜合用途	N.A.			

(iii)	Building height/No. of storeys 建築物高度/層數	Domestic 住用	12.95	m 米 ☑ (Not more than 不多於)
-			AB 2	mPD 米(主水平基準上)□ (Not more than 不多於)
		,	4	Storeys(s) 層 図 (Not more than 不多於)
				(□Include 包括/□ Exclude 不包括 □ Carport 停車間 □ Basement 地庫 □ Refuge Floor 防火層 □ Podium 平台)
		Non-domestic 非住用 (RCHE)	25.95	m 米 ☑ (Not more than 不多於)
			s "	mPD 米(主水平基準上)□ (Not more than 不多於)
				Storeys(s) 層 ☑ (Not more than 不多於)
			7	(□Include 包括/□ Exclude 不包括 □ Carport 停車間 □ Basement 地庫 □ Refuge Floor 防火層
				□ Podium 平台)
		Composite 綜合用途	N.A.	m 米□ (Not more than 不多於)
			N.A.	mPD 米(主水平基準上)□ (Not more than 不多於)
				Storeys(s) 層 □ (Not more than 不多於)
			N.A.	(□Include 包括/□ Exclude 不包括 □ Carport 停車間 □ Basement 地庫 □ Refuge Floor 防火層 □ Podium 平台)
(iv)	Site coverage 上蓋面積	48.0		% ☑ About 約
(v)	No. of units 單位數目	38 flats (proposed flat) 210 beds (proposed RCHE) (Maximum)		
(vi)	Open space 休憩用地	Private 私人	371.4	sq.m 平方米 🗹 Not less than 不少於
		Public 公眾	N.A.	sq.m 平方米 🗆 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	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)	12 11 1 0
		Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位/停車處總數	2
		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)	0 0 2 0

Submitted Plans, Drawings and Documents 提交的圖則、繪圖及文件		
	Chinese	English
	中文	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		\square
Block plan(s) 樓宇位置圖		
Floor plan(s) 樓宇平面圖		\square
Sectional plan(s) 截視圖		\square
Elevation(s) 立視圖		\square
Photomontage(s) showing the proposed development 顯示擬議發展的合成照片		\square
Master landscape plan(s)/Landscape plan(s) 園境設計總圖/園境設計圖		\square
Others (please specify) 其他(請註明)	. \square	\square
Location plan, extract of lot index plan and extract of Outline Zor	ning	
Plan		
Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據		\square
Environmental assessment (noise, air and/or water pollutions)		\square
環境評估(噪音、空氣及/或水的污染)		
Traffic impact assessment (on vehicles) 就車輛的交通影響評估		\square
Traffic impact assessment (on pedestrians) 就行人的交通影響評估		
Visual impact assessment 視覺影響評估		
Landscape impact assessment 景觀影響評估		\square
Tree Survey 樹木調查		\square
Geotechnical impact assessment 土力影響評估		
Drainage impact assessment 排水影響評估		\square
Sewerage impact assessment 排污影響評估		\square
Risk Assessment 風險評估		\square
Others (please specify) 其他(請註明)		
Note: May insert more than one「レ」. 註:可在多於一個方格內加上「レ」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。



Date : 20th December 2022 Our Ref. : ADCL/PLG-10238/L006

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

By Email and Hand

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction in "Village Type Development" zone and Area shown as 'Road' Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories (Planning Application No. A/FSS/288)

In order to facilitate the processing of the captioned application by the Town Planning Board, please find enclose herewith the consolidated Further Information with inclusion of the following items for consideration by the Board and the relevant Government departments:-

- i. Consolidated Planning Statement;
- ii. Response-to-comment Table dated 23.8.2022;
- iii. Response-to-comment Table dated 19.10.2022; and
- iv. Response-to-comment Table dated 11.11.2022.

Please note enclosed consolidated Further Information supersedes the planning statement and responses-to-comments tables previously submitted for the captioned application. Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Zoe LAU or Mr. Thomas LUK at 3180 7811.

Yours faithfully,

Aikon Development Consultancy Limited

Encl.

c.c. DPO/FS&YLE, PlanD (Attn.: Ms Lily LAU) - By Email (Ihlau@pland.gov.hk)

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL_PLG_10238_L006

List of Items

Item (I)	Consolidated Planning Statement
Item (ii)	Response-to-comment Table dated 23.8.2022
Item (iii)	Response-to-comment Table dated 19.10.2022
Item (iv)	Response-to-comment Table dated 11.11.2022

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care
Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at
Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung
Shui. New Territories

Ref.: ADCL_PLG_10238_L006

Item (i)

Consolidated Planning Statement



Section 16 Planning Application

Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction

Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Consolidated Planning Statement

Prepared by **Aikon Development Consultancy Ltd.**

In Association with

L & N Architects Limited

Axon Consultancy Limited

SMEC Asia Limited

Landes Limited

Address:

Unit 1310, Level 13, Tower 2 Metroplaza, No. 223 Hing Fong Road, Kwai Chung, Hong Kong

Tel : (852) 3180 7811 Fax : (852) 3180 7611 Email: info@aikon.hk

December 2022

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

EXECUTIVE SUMMARY

This Planning Statement is submitted to the Town Planning Board (hereinafter referred to as "the Board") in support of a planning application (hereinafter referred to as "the current application") to amend a previous approved scheme under planning application No. A/FSS/279 (hereinafter referred to as "the previous application") approved by the Rural and New Town Planning Committee (RNTPC) on 29.10.2021 for proposed social welfare facility (residential care home for the elderly (RCHE)) and flat with minor relaxation of building height (BH) restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories (hereinafter referred to as "the application site"). The application site covers the same site as that of the previous application with a total site area of about 2,093m² (including Government land of about 123m²). This Planning Statement serves to provide background information and planning justifications in support of the current application to facilitate consideration by the Board.

The current application for amending the previous approved scheme under the previous application aims to respond to the latest policy direction of the Government to optimize the development potential of the under-utilized land resources in the New Territories and increase housing supply and provision of elderly home care services. Moreover, the current application intends to respond to the imminent public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Residential Care Homes Legislation (Miscellaneous Amendments) Bill 2022 (hereinafter referred to as "the Bill") to enhance quality of RCHEs.

The current application involves proposed development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m for the 4-storey residential block. Compared with the approved scheme under the previous application, the proposed amendments mainly involve alteration of the layout and change in the major development parameters including increase in BH, plot ratio (PR), gross floor area (GFA) and site coverage (SC) of the approved scheme, which results in an increase in the number of flats with larger flat sizes and an increase in the number of RCHE bedspaces with a larger floor space per RCHE resident.

The application site mainly falls within "Village Type Development" (hereinafter referred to as "V") zone (about 96.9%) with the remaining minor portion falling within the area shown as 'Road' (about 3.1%) on the draft Fanling/Sheung Shui Outline Zoning Plan No. S/FSS/25 (hereinafter referred to as "the Current OZP") which was gazetted on 17.12.2021. As detailed in the Planning Statement, the proposed development is well justified on the grounds that:-

(a) The proposed development is situated within an area of urban fringe landscape character with its immediate surroundings mainly comprising low-rise residential

Address : Unit 1310, Level 13, Tower 2, Metroplaza, No. 223 Hing Fong Road, Kwai Fong, New Territories, Hong Kong

地址:香港葵芳興芳路 223 號新都會廣場 2期 13樓 1310室

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

- structures and low to medium-rise G/IC facilities. The proposed development under the current application would be a low to medium-rise and low-density development, which is considered compatible with the surrounding environment in terms of land use, character and scale;
- (b) The proposed development, which is to amend an approved scheme, is fully in line with the Government's latest policy direction to further increase housing supply and provision of elderly home care services. The proposed development will respond to the public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Bill;
- (c) While majority of the application site falls within "V" zone, the application site is neither covered by 'Village Environs' (VE) of any recognised village nor 'Village Extension Area' (VEA). It is not anticipated that there will be Small House development within the application site. The proposed development would therefore help unleash the development potential of the scarce and under-utilised land resources in the New Territories to address the shortfall of housing and elderly home care services of the community;
- (d) The proposed development will not pose any adverse impacts in terms of traffic, environmental, drainage, sewerage, risk and landscape aspects as proven by the technical reports; and
- (e) The proposed development will not set an undesirable precedent since similar approved applications are identified in the "V" zone of the Current OZP.

In view of the above and the list of detailed planning justifications in this Planning Statement, the Board is respectfully requested to give favorable consideration to approve the current application for the proposed development.

Address : Unit 1310, Level 13, Tower 2, Metroplaza, No. 223 Hing Fong Road, Kwai Fong, New Territories, Hong Kong

地址:香港葵芳興芳路 223 號新都會廣場 2 期 13 樓 1310 室

Ref.: ADCL/PLG-10238/R001a

行政摘要

(如內文與其英文版本有差異,則以英文版本為準)

此規劃報告書旨在支持一宗遞交予城市規劃委員會(以下簡稱「城規會」)的規劃申請(以下簡稱「是次申請」)。是次申請擬議修訂鄉郊及新市鎮規劃小組委員會於 2021 年 10 月 29 日在有條件下批給許可之規劃申請編號 A/FSS/279(以下簡稱「先前申請」)作擬議社會福利設施(安老院舍)及分層住宅、並略為放寬建築物高度限制(以下簡稱「擬議發展」)之已核准的發展計劃。是次申請所涉及地點位於新界上水天平路丈量約份第 52 約地段第 834 號及 838 號餘段及毗連政府土地(以下簡稱「申請地點」)。申請地點與先前申請地點一致、面積約為 2,093 平方米(包括約 123 平方米的政府土地)。此規劃報告書將提供是次申請的背景資料及規劃理據予城規會考慮。

擬議發展將有效充分利用短缺的土地資源以適時回應政府對解決房屋供應及長者護理服務設施需求的最新政策方向。擬議修訂亦遵從政府最新有關最低單位面積的要求,以及《2022 年院舍法例(雜項修訂)條例草案》(以下簡稱「條例草案」)的相關守則,以回應社會大眾對增加居所空間及提升安老院舍質素的迫切需求。

擬議修訂包括於申請地點內興建一座樓高7層、容納最多210張床位的安老院舍,及一座樓高4層、合共38個分層住宅的住宅樓宇。是次申請同時擬議略為放寬上述分層住宅的樓宇高度限制由最多3層(8.23米)至4層(12.15米)。相對於先前申請,擬議修訂在發展佈局及發展參數(包括建築物高度、地積比率、總樓面面積及上蓋面積)上作出修改,以提供更多且面積更大的分層住宅,及更多且院舍長者的人均面積更大的安老院舍床位。

申請地點的大部分範圍於 2021 年 12 月 17 日刊憲公佈的粉嶺 / 上水分區計劃大綱核准圖 (編號: S/FSS/25) (以下簡稱「大綱核准圖」)內被劃為「鄉村式發展」地帶(約 96.9%),其餘少部分範圍為於大綱核准圖內顯示為「道路」的地方(約 3.1%)。此規劃報告書提供規劃理據詳列如下:

- (一) 申請地點位於市區邊緣,周遭主要為低密度的住宅樓宇及中低密度的政府、機構及社區設施。擬 議中低高度、低密度之安老院舍及分層住宅在現有土地用途、性質和發展規模方面與周遭環境相 互兼容;
- (二) 擬議修訂符合政府有關增加房屋供應及安老院舍照顧服務的政策方向·亦遵從最低單位面積的要求以及條例草案的相關守則·以回應社會大眾對增加居所空間及提升安老院舍質素的迫切需求;
- (三) 申請地點不在任何認可鄉村的「認可鄉村範圍」或「鄉村擴展區」內。有見及此,申請地點並不 會有任何小型屋宇發展。擬議的發展將有效利用短缺且寶貴的土地資源以適時回應社會對房屋供 應及安老院舍的需求;
- (四) 各項專業研究報告證明是次申請並不會對交通、環境、排水、排污、風險及園景方面造成不良影響;及

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Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL/PLG-10238/R001a

(五) 考慮到在大綱核准圖的「鄉村式發展」地帶中已有類似是次申請的規劃申請獲批准·擬議發展並不會立下不良先例。

鑑於以上及此規劃報告書所提供的詳細規劃理據,敬希城規會各委員給予考慮並批准是次規劃申請。

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1. INTRODUCTION

1.1 Purpose

- 1.1.1 Pursuant to section 16 of the Town Planning Ordinance (Cap. 131) (hereinafter referred to as "the Ordinance"), this Planning Statement is submitted to the Board to amend a previous approved scheme under the previous planning application No. A/FSS/279 approved by the RNTPC on 29.10.2021 for proposed social welfare facility (RCHE) and flat with minor relaxation of BH restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories (hereinafter referred to as "the application site"). The application site covers the same site as that of the previous application with a total site area of approximately 2,093m² (including Government land of about 123m²). The location of the application site is shown in Figure 1. Figure 2 indicates the relevant private lots and the Government land in which the application site involves.
- 1.1.2 The current application seeks planning permission to amend major development parameters and layout of the previous approved scheme under the previous application. The current application is for development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block. Comparison between the previous approved scheme and the proposed development under the current application is discussed in Section 4.1 below.
- 1.1.3 The application site currently falls mainly within an area zoned "V" (about 96.9%) with the remaining minor portion within the area shown as 'Road' (about 3.1%) on the Current OZP (Figure 3 refers). According to the Notes of the Current OZP, 'Social Welfare Facility' and 'Flat' are both Column 2 uses within the "V" zone and planning permission from the Board is required. Both 'Social Welfare Facility' and 'Flat' uses within the area shown as 'Road' require planning permission from the Board. Minor relaxation of the building height restriction may be considered by the Board on application under section 16 of the Ordinance. According to the Notes of the Current OZP, the building height restriction is applicable to 'Flat' use only, but not applicable to 'Social Welfare Facility' use.
- 1.1.4 Champ Dynasty Limited (hereinafter referred to as "the Applicant") is the sole current land owner of all private lots within the application site. Aikon Development Consultancy Limited has been commissioned to prepare and submit the current application on behalf of the Applicant.

1.2 Objectives

1.2.1 The overriding goal of the current application is to enable the Applicant to be given an opportunity to achieve multiple policy goals set out by the Government in addressing the housing needs and the demand of the ageing population in the

community. In summary, the proposed development strives to achieve the following objectives:-

- (a) To materialize the policy directions reflected in the latest Policy Address 2021, "Hong Kong 2030+ Towards a Planning Vision and Strategy Transcending 2030" and the Elderly Services Programme Plan in addressing the foreseeable planning challenges posed by limited land supply, ageing population and increasing demand for housing and RCHEs;
- (b) To make an optimal use of the scarce and under-utilised land resources in the New Territories in response to the Government's policy initiatives of speeding up the housing supply and increasing the provision of RCHEs;
- (c) To improve the existing rural environment of the application site to create a pleasant, safe and convenient living environment, enhance liveability through promoting inter-generational care and support, and create a comfortable elderly-friendly living environment in the application site; and
- (d) To provide a sustainable and beneficial land use alternative in the application site that could stimulate environmental and infrastructural improvement to the locality.

1.3 Structure of the Planning Statement

1.3.1 This *Planning Statement* is divided into 6 chapters. **Chapter 1** is the above introduction outlining the purpose and objectives of the current application. **Chapter 2** gives background details of the application site in terms of the current land use characteristics and the neighbouring developments. **Chapter 3** offers the planning context of the application site whilst **Chapter 4** provides details of the proposed development. A full list of planning justifications is given in **Chapter 5** whilst **Chapter 6** provides a concluding remark for the proposed development.

2. SITE PROFILE

2.1 Location and Current Condition of the Application Site

- 2.1.1 The application site has an area of about 2,093m² (including Government land of about 123m²) and is situated at the fringe of Tin Ping Shan Tsuen. The application site is currently a largely formed site predominately occupied by domestic structures and some abandoned vegetated land (**Illustration 1** refers).
- 2.1.2 The existing site formation is lower than that of Tin Ping Road by about 4.2m (Illustration 1 refers). The application site is currently accessible from footpaths connecting to Tin Ping Road (Illustrations 1 and 2 refer). There is currently no direct vehicular access connecting the application site to Tin Ping Road.

2.2 Surrounding Land-use Characteristics

- 2.2.1 The application site is situated in an area of urban fringe landscape character with its surroundings predominately comprising low to high-rise residential buildings and low to medium-rise G/IC facilities intermixed with scattered vegetation and trees. The application site is bounded by a pedestrian walkway and Tin Ping Road to its immediate south.
- 2.2.2 To the immediate north, east and west of the application site are domestic structures intermixed with scattered vegetated and abandoned land. To the further north and west of the application site is a cluster of G/IC facilities including Fung Kai Kindergarten, Fung Kai Primary School, Fung Kai No.1 Secondary School and Fung Kai Innovative School. To the south of the application site across Tin Ping Road are G/IC facilities including Hong Kong Institute of Construction Sheung Shui Campus and Sheung Shui Fire Station. To the southeast across Tin Ping Road is a high-rise residential development known as Tsui Lai Garden.

3. PLANNING CONTEXT

3.1 The Current OZP

3.1.1 The application site largely falls within an area zoned "V" (about 96.9%) with the remaining minor portion within the area shown as 'Road' (about 3.1%) on the Current OZP (Figure 3 refers). The Notes of the Current OZP stipulate that the planning intention of "V" zone is to designate both existing recognised villages and areas of land considered suitable for village expansion. Land within the "V" zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within the "V" zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House and other commercial, community and recreational uses may be permitted on application to the Board. The area shown as 'Road' is intended for road use.

3.2 Previous Planning Application

3.2.1 The application site is the subject of a previous planning application (No. A/FSS/279) submitted by the same Applicant for the same applied use as the current application. The previous application was approved by the RNTPC on 29.10.2021 mainly on the considerations that the proposed development would help address the shortfall of elderly facilities and meet the housing demand, the proposed development is not incompatible with the adjacent existing residential and GIC uses, the proposed minor relaxation of BH would unlikely result in significant visual impact on the surroundings, the proposed minor relaxation of BH of the proposed flats from 3 storeys to 4 storeys is considered minor in scale and nature, and no insurmountable problem from traffic, environmental, sewerage, drainage and risk perspectives is anticipated.

3.3 Similar Planning Applications

- 3.3.1 There are three similar applications (Nos. A/FSS/164, A/FSS/270 and A/FSS/276) in "V" zones of the Current OZP.
- 3.3.2 Application No. A/FSS/164 for proposed house was rejected by the RNTPC on 13.1.2006 mainly on the considerations of not being in line with the planning intention of "V" zone, failing to demonstrate the proposed development would not cause adverse traffic impact, setting an undesirable precedent, and resulting a cumulative effect with a loss of land for Small house development in the area.
- 3.3.3 Two similar applications No. A/FSS/270 and No. A/FSS/276 covering primarily the same site for proposed houses and social welfare facility (RCHE) with minor relaxation of building height restriction were approved by the RNTPC of the Board on 6.9.2019 and 6.11.2020 respectively. Application No. A/FSS/276 sought planning permission from the Board for amending the approved scheme of application No. A/FSS/270.

Applications No. A/FSS/270 and No. A/FSS/276 were mainly approved by the RNTPC on the considerations that the proposed RCHE could help address the shortfall of elderly facilities and meet the demand of ageing population in the community; the proposed houses and RCHE development were not incompatible with the adjacent residential uses; the proposed development would unlikely result in significant visual impact; and no insurmountable problem from traffic engineering, environmental and sewerage impact perspectives was anticipated; and the proposed minor relaxation of building height for the proposed houses from 3 storeys to 4 storeys was considered minor in scale and nature.

4. THE DEVELOPMENT PROPOSAL

Shui, New Territories

4.1 Proposed Development and Major Development Parameters

- 4.1.1 The current application is to amend a previous approved scheme under the previous application No. A/FSS/279 approved by the RNTPC on 29.10.2021 to facilitate development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block.
- 4.1.2 Compared with the approved scheme under the previous application, the proposed amendments under the current application mainly involve an increase in BH and site coverage (SC) of the proposed RCHE and residential block, and a corresponding increase in plot ratio (PR) and gross floor area (GFA) of the approved scheme. Under the current application, the floor-to-floor height for typical floors of the proposed residential block and RCHE and ground floor (G/F) of the proposed residential block have been increased to improve the living quality of future residents. There is a proposed increase in the number of storeys of RCHE to maximise the provision of RCHE bedspaces for the community. The proposed increase in SC under the current application aims to further optimise the use of scarce land resources within the application site.
- 4.1.3 Compared with the previous approved scheme, the current application involves an increase in the number of flats from 28 flats to 38 flats with larger flat sizes ranging from 27.2m² to 51.9m², and an increase in the number of RCHE bedspaces from 143 beds to a maximum of 210 beds with a larger floor space of about 10.7m² per RCHE resident. There will be a minor change in the layout of the proposed RCHE and residential block, and an increase in the communal open space from 245m² to 371.4m² under the current application. The application site area remains unchanged. The layout plan, floor plans, elevation and section plan are shown in **Appendix I**. Comparison of the proposed layout plan and section plan, and the major development parameters between the previous approved scheme and the proposed development under the current application is at **Figures 4 and 5** and summarised in **Table 1** below respectively. The photomontages of the proposed development are at **Illustrations 4-I and 4-II**.
- 4.1.4 The current application serves to comply with the latest requirements set by the Government and respond to the imminent public call for larger living space and enhanced elderly home care services. Compared with the previous approved scheme with a minimum flat size of 23.5m², the proposed development under the current application with a minimum flat size of about 27.2m² will comply with the latest minimum unit size requirement of at least 26m² promulgated by the Government as from 2022. In addition, compared with the average floor space of 8.69m² per RCHE resident under the previous approved scheme, the proposed development under the current application involving a larger floor space of about 10.7m² per RCHE resident

will comply with the latest legislative amendments proposed under the Bill in meeting the highest standard requirement for minimum area of floor space per RCHE resident (9.5m²).

4.1.5 Compared with the previous application, the proposed development will involve the same site formation level as +8.24mPD and same portion of Government land (about 123m²) for provision of an 8.9m-wide access road connecting the application site to Tin Ping Road (Appendix I refers). Same as the previous approved scheme, the proposed RCHE under the current application will be privately-operated. The proposed maximum number of RCHE beds to be provided (i.e. 210 beds) may be subject to further revision upon liaison with the Social Welfare Department (SWD) and relevant Government departments at the detailed design stage upon approval of the current application for complying with all relevant and prevailing statutory and licensing requirements for RCHE.

Table 1: Comparison of Major Development Parameters of the Previous Approved Scheme and the

Proposed Development under the Current Application

	Previous Approved Scheme	Proposed Development (Under Current	Difference
	(No. A/FSS/279) (a)	Application) (b)	(b) – (a)
Total Site Area (About)	2,093m ²	2,093m ²	No Change
Total PR / GFA (About)	1.36 / 2,839m ²	2.38 / 4,972m ²	+1.02 / +2,133m ² (+75%)
Non-domestic (RCHE)	0.82 / 1,706m ²	1.57 / 3,281m ²	+0.75 / +1,575m ² (+92%)
Domestic (Residential Block)	0.54 / 1,133m ²	0.81 / 1,691m ²	+0.27 / +558m ² (+49%)
BH	A star	7 -1 /	2 -1 (750/) (
Non-domestic (RCHE)	4 storeys / About 14.40m	7 storeys / About <mark>24</mark> m	+3 storeys (+75%) / + <mark>9.6</mark> m (+ <mark>66.7</mark> %)
Domestic (Residential	4 storeys/	4 storeys /	No Change /
Block)	About 12.15m	About <mark>12.15</mark> m	No Change
SC	Not more than 36.3%	Not more than 48.0%	+11.7% (+32.2%)
Flat Size [a]	23.5m ² to 41.7m ²	27.2m² to 51.9m²	+3.7m ² (+15.7%) to +10.2m ² (+24.5%)
Number of Units Non-domestic (RCHE) Domestic (Residential Block)	143 beds 28 flats	210 beds (Maximum) 38 flats	+67 beds (+46.9%) +10 flats (+35.7%)
Area of Floor Space Per RCHE Resident [9] (About)	8.69m ²	10.7m²	+2.01m ² (+23.1%)
Estimated Population Non-domestic (RCHE) Domestic (Residential Block	143 84	210 (Maximum) 114	+67 (+46.9%) +30 (+35.7%)

Table 1: Comparison of Major Development Parameters of the Previous Approved Scheme and the

Proposed Development under the Current Application (Cont'd)

Proposed Development under the Current Application (Cont'd)					
	Previous Approved Scheme (No. A/FSS/279)	Proposed Development (Under Current Application)	Difference (b) – (a)		
	(a)	(b)	(δ) (α)		
Floor-to-Floor Height (About)	(4)	(8)			
Non-domestic (RCHE)					
- G/F	4.95m	4.95m	No Change		
- Typical Floors	3.15m (1/F – 3/F)	<mark>3.175</mark> m (1/F – <mark>7</mark> /F)	+ <mark>0.025</mark> m (+ <mark>0.8</mark> %)		
- Roof Floor (R/F)	2.8m	2.8m	No Change		
Domestic (Residential Block)					
- G/F	3.15m	<mark>3.15</mark> m	<mark>No Change</mark>		
- Typical Floors	3m (1/F – 3/F)	<mark>3</mark> m (1/F – 3/F)	No Change		
- R/F	2.8m	2.8m	No Change		
Communal Open Space (About)	245m²	371.4m ²	+126.4m² (+51.6%)		
Common Greenery Coverage (About)	635m² / 30.34%	579.4m² / 27.69%	-55.6m² (-8.76%) / -2.65% (-8.73%)		
Parking Spaces					
Non-domestic (RCHE) - Private car	3 (including 1 accessible car parking space)	4 (including 1 accessible car parking space)	+1 (no change in accessible car parking space)		
- Light Goods Vehicle (LGV) Loading / Unloading (L/UL) Bay	1	1	No Change		
Domestic (Residential Block)					
- Private car	5 (including 2 accessible car parking spaces)	7 (including 2 accessible car parking spaces)	+2 (no change in accessible car parking space)		
Motorcycle LGV L/UL Bay	1 1	1	No Change No Change		
Tentative Completion Year	Year 2030	Year 2031	N.A.		

A minimum flat size of about 27.2m² proposed under the current application will comply with the latest minimum unit size requirement of at least 26m² promulgated by the Government as from 2022.

4.2 Tree Preservation and Landscape Proposal

4.2.1 Tree survey (**Appendix II** refers) has been conducted for the current application. It is concluded that existing trees are mainly presented along the southern boundary of the application site. Most of the existing trees identified exhibited poor condition

An average floor space of about 10.7m² per RCHE resident proposed under the current application will comply with the latest legislative amendments under the Bill in meeting the highest standard requirement with a minimum area of 9.5m² of floor space per RCHE resident.

while the remaining trees were in fair condition. There are no Old and Valuable Trees, or protected species identified within the application site.

- 4.2.2 With reference to the Landscape Proposal (**Appendix II** refers), the proposed Landscape Master Plan constitutes a total common greenery area of about 579.4m² and a common greenery ratio of 27.69%, which is more than the required 20% greenery requirement (equalling to 418.53m²) set out in PNAP APP-152 Sustainable Building Design Guidelines. In order to further integrate the proposed development with the surrounding landscape, soft landscape measures including heavy standard trees, shrubs, groundcovers and climbing plants are proposed along the edge of the application site to create soft planted edges. Moreover, several landscaped zones are proposed at vacant spaces of G/F and R/F of the proposed RCHE to provide visual amenity and for the enjoyment of the users and visitors on the application site. There are also tree and shrub planting along the internal vehicular access and common landscaped areas. In addition, heavy standard trees are proposed along the front of the residential block to form a green boulevard along the internal road.
- 4.2.3 With regard to the Planting and Tree Preservation Proposal (**Appendix II** refers), a total of 41 trees were recorded from the tree survey. Since the proposed development will require vegetation clearance during construction stage, of the 41 trees, 16 existing trees on the application site will be inevitably disturbed while the remaining 25 existing trees outside the application site boundary are proposed to be retained in-situ. There will be 35 new heavy standard trees with diameter at breast height of approximately 100mm on average proposed to be planted to compensate the loss of 16 existing trees within the site boundary. It is proposed that the new trees will be planted at the common landscape areas, peripherical planting strips and roadside planting verge within the site boundary.

4.3 Traffic Aspect

Traffic Access Arrangement, Pedestrian Facilities and Internal Transport Facilities

- A total of 11 private car parking spaces (including 3 accessible car parking spaces), 1 motorcycle parking space and 2 light goods vehicle loading/unloading bays will be offered for the proposed development. Out of the 11 private car parking spaces provided, 7 car parking spaces (including 2 accessible car parking spaces) are proposed to cater for the parking needs of the proposed residential block comprising 38 flats. In addition, 4 car parking spaces (including 1 accessible car parking space) are proposed for the proposed RCHE. All car parking spaces (except open car parking spaces and loading/unloading bays) for the proposed development are EV charging-enabling. Details of the provision of parking spaces and loading/unloading bays are indicated in **Table 1** above and **Appendix I**.
- 4.3.2 As shown in **Appendices I and III**, the application site would be directly accessible by pedestrians and drivers via a newly proposed 8.9m-wide access road connecting to Tin Ping Road. The 8.9-wide access road would also include a 1.5m-wide pedestrian footpath. The proposed footpath will be connected to the existing pedestrian track along Tin Ping Road.

4.3.3 Appropriate traffic arrangement measures would be established to enhance the safety of pedestrians and drivers at the application site. The measures include separating the proposed pedestrian path from the driveway by railings, erecting traffic sign labelled "Beware of Vehicles" on site, installing amber revolving lanterns with audible alarm on both sides of the site access, as well as providing proper road markings on site to minimise conflicts between pedestrians and vehicles, enhance safety within the application site, and also to guide the drivers. For the proposed measure of separation of the pedestrian path from the driveway by railings, no railings are proposed to be erected upon the existing pedestrian track along Tin Ping Road (Figure 2.2 of Appendix III refers). As such, pedestrians walking along the existing pedestrian track along Tin Ping Road will not be obstructed by the proposed railings under the proposed traffic management measures. Details of the traffic management measures are indicated in Appendix III.

Traffic Impacts

4.3.4 Traffic Impact Assessment (TIA) (**Appendix III** refers) has been conducted and concluded that all the concerned road links and junctions will have sufficient capacity to accommodate the expected traffic growth up to Year 2034, including the traffic generated from the proposed development and in consideration of the population growth in the North District. The proposed development will hence not generate any adverse traffic impact on the surrounding road networks and is acceptable from traffic engineering point of view.

4.4 Environmental Aspects

4.4.1 Environmental Assessment (EA) (**Appendix IV** refers) has been conducted for the proposed development and concluded that no adverse air, noise, water quality or waste impacts are anticipated to be generated by the proposed development.

Air Quality

4.4.2 As referred to **Section 2** of EA, adverse air quality impact during the construction phase is not anticipated with the implementation of the recommended mitigation measures and good site practice. Moreover, sufficient setbacks from Tin Ping Road and Jockey Club Road have been provided. No industrial chimney or other community uses that would cause potential odour impact within 200m of the application site are anticipated. As such, no adverse air quality impact is anticipated during the construction and operation stages of the proposed development.

Noise Impact

4.4.3 As referred to **Section 3** of EA, no adverse noise impact is anticipated during the construction phase of the proposed development with the implementation of the recommended noise mitigation measures. No adverse fixed source noise impact on the proposed development is anticipated. Moreover, adverse fixed noise impact from the operation of the proposed development is not anticipated with the provision of good practices. With the recommended migration measures, the traffic noise impact on the proposed development will comply with the standards as recommended in Chapter 9 Environment of the Hong Kong Planning Standards and Guidelines. As such,

no adverse noise impact is anticipated during the construction and operation phases of the proposed development.

Water Quality

4.4.4 As referred to **Section 4** of EA, with the implementation of the recommended measures including provision of portable toilets for construction workers on-site, no adverse water quality impact site is anticipated from the construction of the proposed development. All the sewage arising from the proposed development will be discharged to the municipal sewerage system and there will be no adverse water quality impact arising from the proposed development. As such, no adverse water quality impact is anticipated during the construction and operation stages of the proposed development.

Waste Management and Land Contamination

4.4.5 As referred to **Section 5** of EA, with the development of waste management plan and implementation of the recommended good site practices, the waste generation during construction phase could be minimized. Provided that the recommended good site practices are followed, no adverse impact related to the management, handling and transportation of waste during the construction phase is anticipated. During the operation phase, the major type of waste generated will be domestic waste. Since domestic waste will be collected on a regular basis by private waste collectors and will be disposed at a landfill managed by the Environmental Protection Department, no adverse waste impacts from handling, transportation or disposal are anticipated during operation of the proposed development. With the implementation of the recommended mitigation measures, adverse waste impacts generated during the construction and operational phases of the project are not anticipated.

4.5 Provision of Drainage and Sewerage Facilities

Drainage

4.5.1 According to the Drainage Impact Assessment (DIA) conducted (**Appendix V** refers), the existing stormwater system would have sufficient capacity to receive stormwater runoff from the proposed development and the surrounding catchments. With around 28% of the application site area proposed to be soft landscape and the installation of a perimeter drainage system along the site boundary to prevent surcharge into other catchments, no adverse drainage impact to the existing drainage system is anticipated after the development of the application site for the current application.

Sewerage

4.5.2 According to the Sewerage Impact Assessment (SIA) conducted (**Appendix VI** refers), sewage generated from the proposed development will be collected and conveyed to the public sewerage system underneath Tin Ping Road. As estimated in the assessment, since less than 100% of the available capacity of the sewerage system will be used taking into account the sewage contributed by the proposed development and the upstream and downstream catchments, there will be no unacceptable impact on the existing sewerage system under the worst-case scenario

for existing flows and the peak sewage discharge from the proposed development.

4.6 Risk Aspect

4.6.1 Since the proposed development is located in the vicinity of an existing LPG storage installation at Tsui Lai Garden, a Quantitative Risk Assessment (QRA) (Appendix VII refers) has been conducted, taking into account the revised development parameters compared to the previous application. Good practices are recommended to enhance the safety awareness of the person inside the application site of the proposed development. QRA concluded that for the proposed development, the risk level of the LPG storage installation complies with the Hong Kong Risk Guideline.

5. PLANNING JUSTIFICATIONS

5.1 Being Compatible with the Surrounding Land Uses

- 5.1.1 The application site is situated at the urban fringe area with the surroundings predominately occupied by low-rise domestic structures and low to medium-rise G/IC clusters. There are high-rise residential buildings to the southeast across Tin Ping Road. The planned Fanling North New Development Area is situated to the further north of the application site. Taking into account the character and scale of the surroundings, the proposed low to medium-rise (7-storey RCHE and 4-storey residential block) and low-density (total PR of 2.38) development under the current application would be compatible with the adjacent existing residential and G/IC uses. In addition, having considered that the formation level of the application site is lower than that of Tin Ping Road by about 2.1m (Appendix I refers), the existing topography of the application site would help reduce the potential visual impact of the proposed development. As shown in Illustrations 4-I and 4-II, the proposed development would unlikely induce adverse visual impact on the surroundings.
- The current proposal involving minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block will further increase BH of the residential block of the previous approved scheme by 0.8m (6.6%) while keeping the number of storeys unchanged for improving the living quality of future residents of the residential block. The proposed amendments of slight increase in BH of the residential block of the previous approved scheme should be considered minor in scale and nature, and would induce no significant visual impact on the surroundings. In addition, having regard that the G/IC uses in the vicinity of the application site have a building height ranging from 1 to 9 storeys, the proposed 7-storey RCHE would be compatible with the surrounding context. The proposed development under the current application would therefore be compatible with the neighbourhood and would unlikely result in any adverse visual impact on the surroundings.

5.2 Optimizing Land Resources in Meeting Community Needs

- 5.2.1 While the majority of the application site currently falls within the "V" zone, the application site is not covered by VE of any recognised village or VEA. It is therefore not anticipated that there will be any Small House development at the application site. There is no Small House application approved in the application site or within the subject "V" zone.
- 5.2.2 The proposed development would therefore help unleash the development potential of the under-utilised land resources in the New Territories to address the shortfall of housing and elderly home care services of the community. Moreover, the proposed development could bring major improvements to the existing rural environment at the application site, which is now predominately occupied by temporary domestic structures and abandoned land.

5.3 Being In Line with the Latest Government's Policy Direction

5.3.1 In view of the fact that there is currently an imminent demand for housing supply and a general deficit of residential care services for elderly in the Fanling/Sheung Shui area, the proposed amendments under the current application involving a further increase in the number of flats and RCHE bedspaces of the approved scheme could help address the community demand for housing supply and social welfare services while complying with the latest requirements set by the Government on the minimum flat size and the minimum area of floor space per RCHE resident. The proposed development is in line with the latest Government's policy direction as reflected in the latest Policy Address 2021, "Hong Kong 2030+ Territorial Development Strategy" and the Elderly Services Programme Plan.

5.4 Not Generating Adverse Technical Impacts

5.4.1 Tree Preservation and Landscape Proposal (**Appendix I** refers) has been formulated and various technical assessments including TIA (**Appendix III** refers), EA (**Appendix IV** refers), DIA (**Appendix V** refers), SIA (**Appendix VI** refers) and QRA (**Appendix VII** refers) have been conducted for the current application and concluded that the proposed development under the current application would not cause adverse landscape, traffic, environmental, drainage, sewerage or risk impacts.

5.5 Not Setting an Undesirable Precedent

- 5.5.1 Two similar applications (No. A/FSS/270 and A/FSS/276) covering primarily the same site in "V" zone of the Current OZP were approved by the RNTPC in 2019 and 2020 respectively on the considerations as detailed in **Section 3.3.1** above. Since the current application carries similar nature as the two similar applications involving RCHE and residential development with minor relaxation of building height restriction for the residential development, and the application site of the current application and the two similar applications both falling outside VEA and/or VE, the considerations of the RNTPC for the two similar applications are generally applicable to the current application. On the other hand, the similar application (No. A/FSS/164) is subject to different planning circumstances. Approval of the current application is in line with the previous decisions of the RNTPC and would not set an undesirable precedent to other similar applications.
- 5.5.2 Moreover, the Board in recent years has approved numerous s.16 planning applications for proposed social welfare facility in "V" zones which carry similar nature as that of the proposed RCHE under the current application. **Table 2** below summarises the approved s.16 planning applications for social welfare facility in "V" Zone in the past five years.

Table 2: Approved s.16 Applications for Social Welfare Facility in "V" Zone in the Past Five Years (Year 2017 - Present)

Application No.	Proposed Use(s)/Development(s)	Date of Approval
A/SK-TMT/74	Proposed Social Welfare Facility (Residential Care Home for the Elderly)	1.4.2022
A/YL/263*	Proposed Social Welfare Facility (Residential Care Home for the Elderly) in Tai Kei Leng, Yuen Long, New Territories	5.2.2021
A/KTN/73	Social Welfare Facility (Residential Care Home for Disabled and Ex-mental Illness Persons) in Ho Sheung Heung, Sheung Shui, New Territories	5.2.2021
A/FSS/276	Proposed House and Social Welfare Facility (Residential Care Home for the Elderly) and Minor Relaxation of Building Height Restriction in Fanling, New Territories	6.11.2020
A/FSS/270	Proposed House and Social Welfare Facility (Residential Care Home for the Elderly) and Minor Relaxation of Building Height Restriction in Fanling, New Territories	6.9.2019
A/TKO/114	Proposed Social Welfare Facility (Day Care Centre for the Elderly) in Hang Hau Village, Tseung Kwan O, New Territories	19.10.2018
A/TM/511	Social Welfare Facility (Residential Home for People with Disabilities) in Tsz Tin Tsuen, Tuen Mun, New Territories	26.1.2018
A/KTN/32	Social Welfare Facility (Residential Care Home for Persons with Disabilities) in Ho Sheung Heung, Sheung Shui, New Territories	27.10.2017
A/NE-KTS/446	Social Welfare Facility (Residential Care Home for Persons with Disabilities) in Hang Tau Village, Sheung Shui, New Territories	3.2.2017
A/YL-TT/391	Proposed Social Welfare Facility (Residential Home for Persons with Disabilities) in Nam Hang Tsuen, Yuen Long, New Territories	3.2.2017

^{*} Majority of the application site for application No. A/YL/263 falls within "V" zone (about 98.34%), with a minor portion within an area shown as 'Road' (about 1.66%)

6. CONCLUSION

- 6.1.1 This Planning Statement is submitted to the Board in support of the current application to amend a previous approved scheme under planning application No. A/FSS/279 approved by the RNTPC on 29.10.2021 for proposed social welfare facility (RCHE) and flat with minor relaxation of BH restriction at the application site. The application site covers the same site as that of the previous application with a total site area of about 2,093m² (including Government land of about 123m²). This Planning Statement serves to provide background information and planning justifications in support of the current application to facilitate consideration by the Board.
- 6.1.2 The current application for amending the previous approved scheme under the previous application aims to respond to the latest Government's policy direction to optimize the development potential of the under-utilized land resources in the New Territories and increase housing supply and provision of elderly home care services. Moreover, the current application intends to respond to the imminent public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Bill.
- 6.1.3 The current application involves proposed development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m for the 4-storey residential block. Compared with the approved scheme under the previous application, the proposed amendments mainly involve alteration of the layout and change in the major development parameters including increase in BH, PR, GFA and SC of the approved scheme, which result in an increase in the number of flats with larger flat sizes and an increase in the number of RCHE bedspaces with a larger floor space per RCHE resident.
- 6.1.4 The application site mainly falls within "V" zone (about 96.9%) with a minor portion falling within area shown as 'Road' (about 3.1%) on the Current OZP which was gazetted on 17.12.2021. As detailed in the Planning Statement, the proposed development is well justified on the grounds that-:
 - (a) The proposed development is situated within an area of urban fringe landscape character with its immediate surroundings mainly comprising low-rise residential structures and low to medium-rise G/IC facilities. The proposed development under the current application would remain as a low to medium-rise development, which is considered compatible with the surrounding environment in terms of land use, character and scale;
 - (b) The proposed development, which is to amend an approved scheme, is fully in line with the Government's latest policy direction to further increase housing supply and provision of elderly home care services. The proposed development

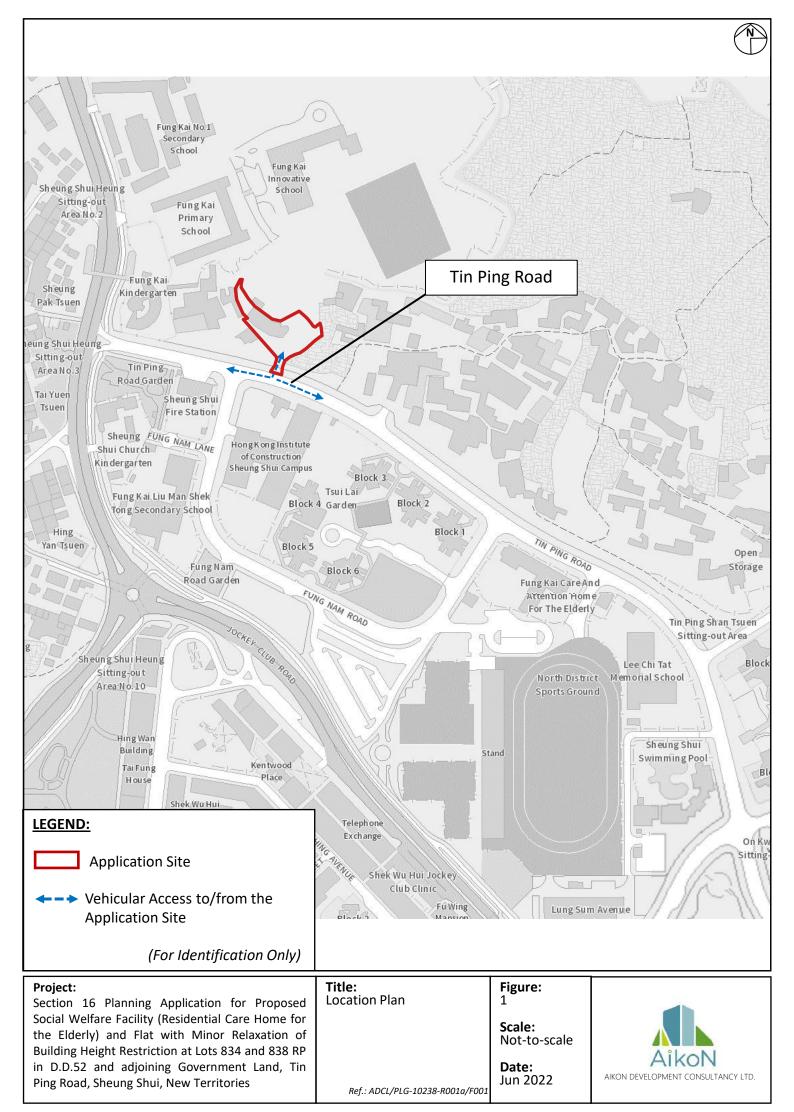
- will respond to the public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Bill;
- (c) While majority of the application site falls within "V" zone, the application site is neither covered by VE of any recognised village nor VEA. It is not anticipated that there will be Small House development within the application site. The proposed development would therefore help unleash the development potential of the scarce and under-utilised land resources in the New Territories to address the shortfall of housing and elderly home care services of the community;
- (d) The proposed development will not pose any adverse impacts in terms of traffic, environmental, drainage, sewerage, risk and landscape aspects on the surrounding areas as proven by the technical reports; and
- (e) The proposed development will not set an undesirable precedent since similar approved applications are identified in the "V" zone of the Current OZP.
- 6.1.5 In view of the above and the list of detailed planning justifications in this Planning Statement, the Board is respectfully requested to give favorable consideration to approve the current application for the proposed development.

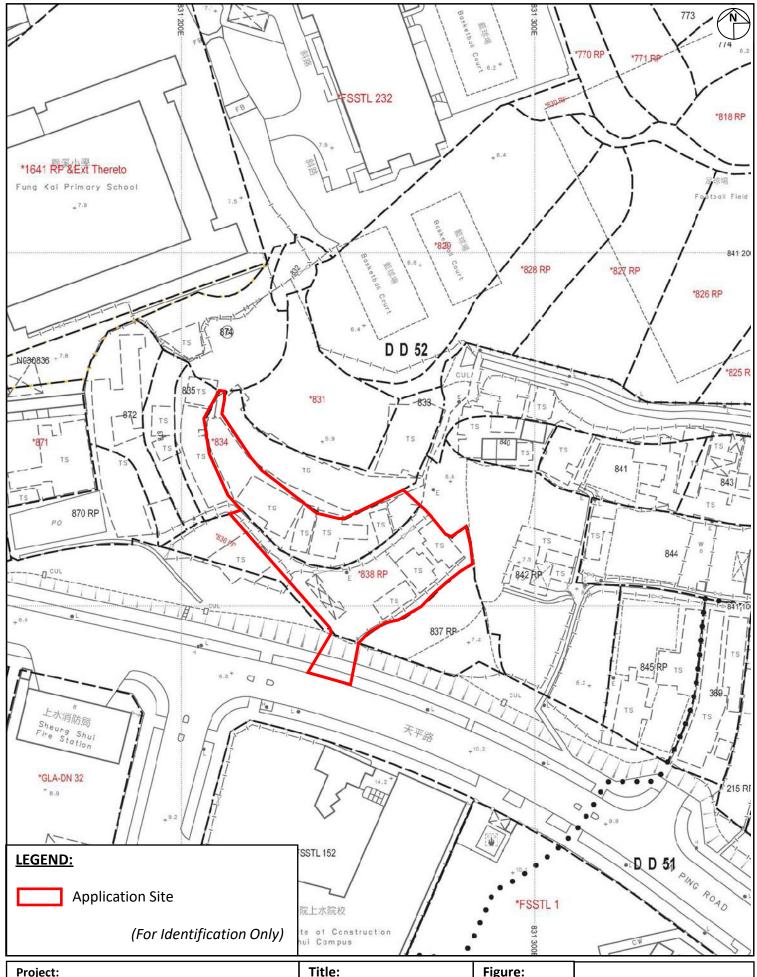
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL_PLG_10238_R001a

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Extract of Lot Index Plan (No. ags_S00000094883_0001

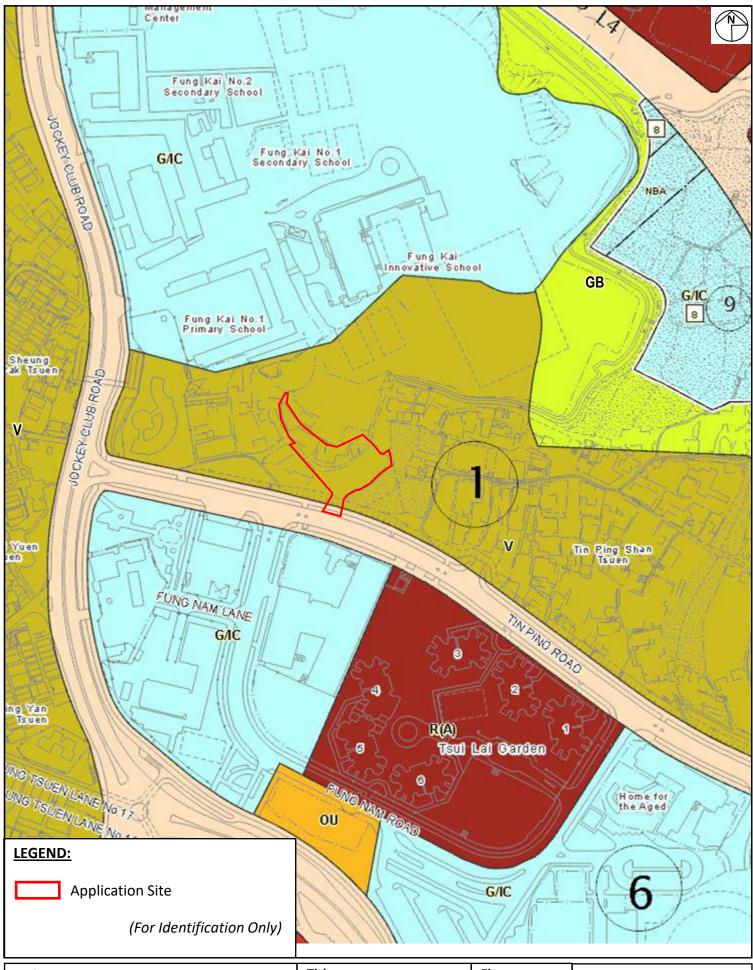
Ref.: ADCL/PLG-10238-R001a/F002

Figure:

Scale: Not-to-scale

Date: Jun 2022





Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Extract of Draft Fanling/Sheung Shui Outline Zoning Plan No. S/FSS/25

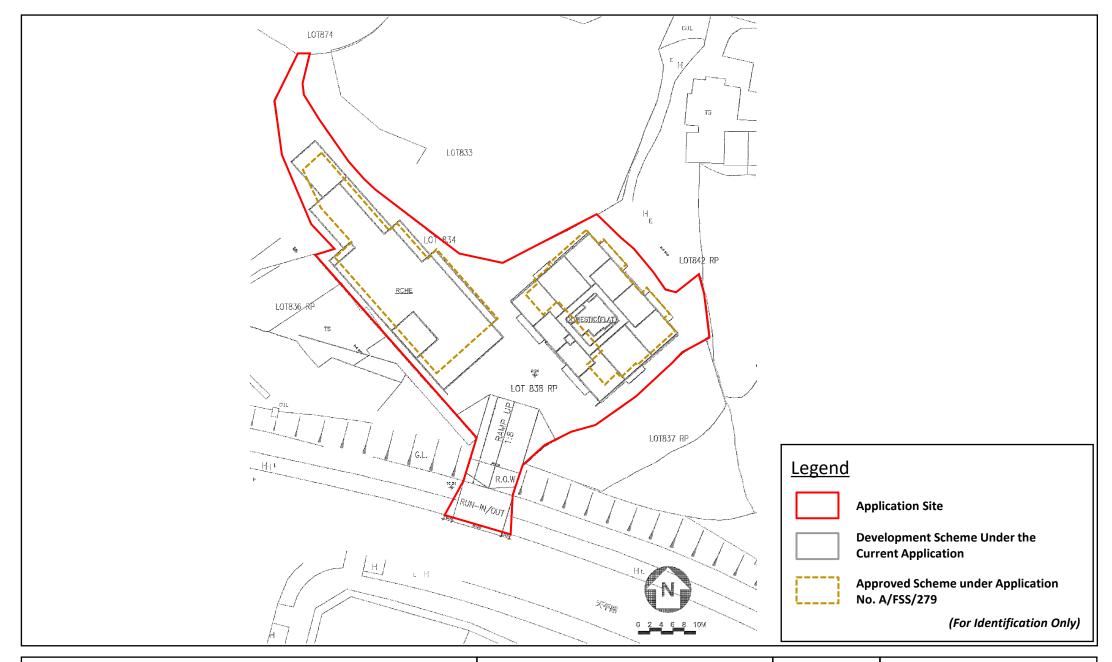
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Date: Jun 2022





Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Figure Comparing Master Layout Plan of the Approved Scheme Under Application No. A/FSS/279 with That of the Development Scheme Under the Current Application (Indicative Only)

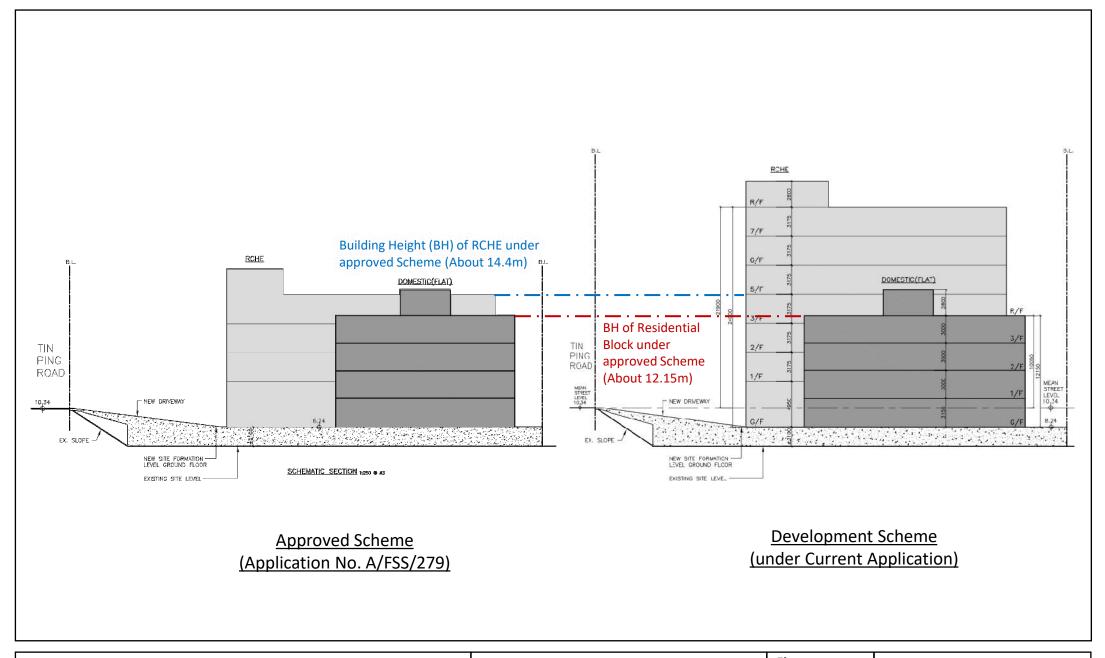
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Date: Jun 2022





Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Figure Comparing Schematic Section of the Approved Scheme Under Application No. A/FSS/279 with That of the Development Scheme Under the Current Application (Indicative Only)

Ref: ADCL/PLG-10238-R001a/F005

Figure:

Scale: Not to Scale

Date: Dec 2022

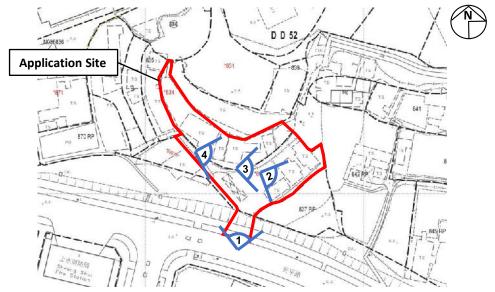


Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

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Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Current Condition of the Application Site

Illustration:

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Scale: N.A.

Date: Jun 2022



Ref.: ADCL/PLG-10238-R001a/I001



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Surrounding Land-use Characteristics

Illustration:

Scale: N.A.

Date: Jun 2022 AÎKON
AIKON DEVELOPMENT CONSULTANCY LTD.

Ref.: ADCL/PLG-10238-R001a/I002



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Extract of Aerial Photo

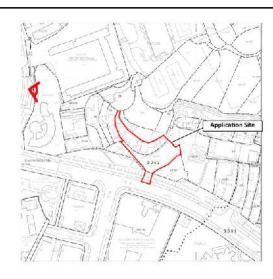
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Date: Jun 2022



Ref.: ADCL/PLG-10238-R001a/F003







Previously approved scheme (Application No. A/FSS/279)



Proposed Scheme

Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Source:
Exercise Arcilled

操文主等师有限公司

L. & N Architectis Ltd.
Rooms 1203-1204, 12F Belgian Bank Building 721 725 Nathan Soot, Kowloon 1452 422 20982, 1-862 4242 2299

Project:

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, N.T.

Title:

Photomontage from Viewpoint (1) - Fung Kai Kindergarten

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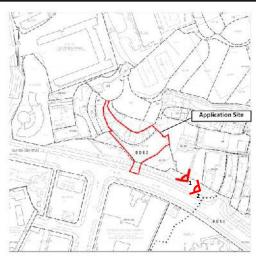
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Date: Dec 2022



Ref.: ADCL/PLG-10238-R001a/I004







1. Previously approved scheme (Application No. A/FSS/279)



2. Proposed Scheme

Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Source:

Project:

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, N.T.

Title:

Photomontage from Viewpoint (2) – Ting Ping Road

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Date: Dec 2022



Ref.: ADCL/PLG-10238-R001a/I004

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

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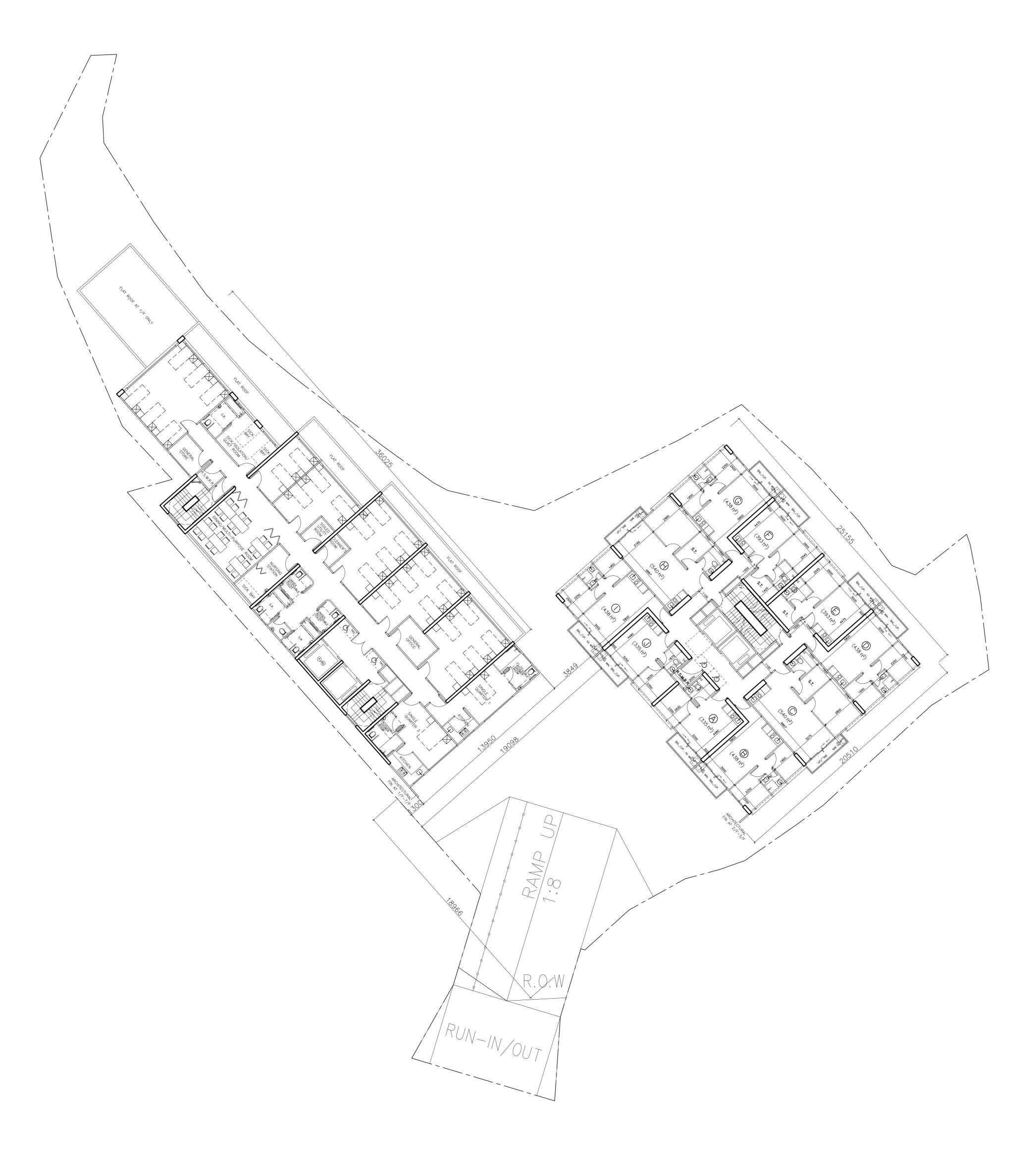
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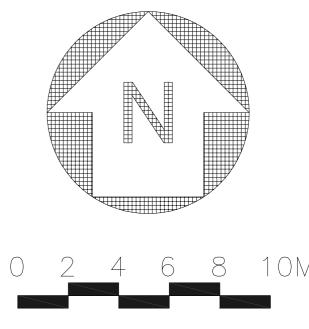
Appendix | I

Architectural Drawings

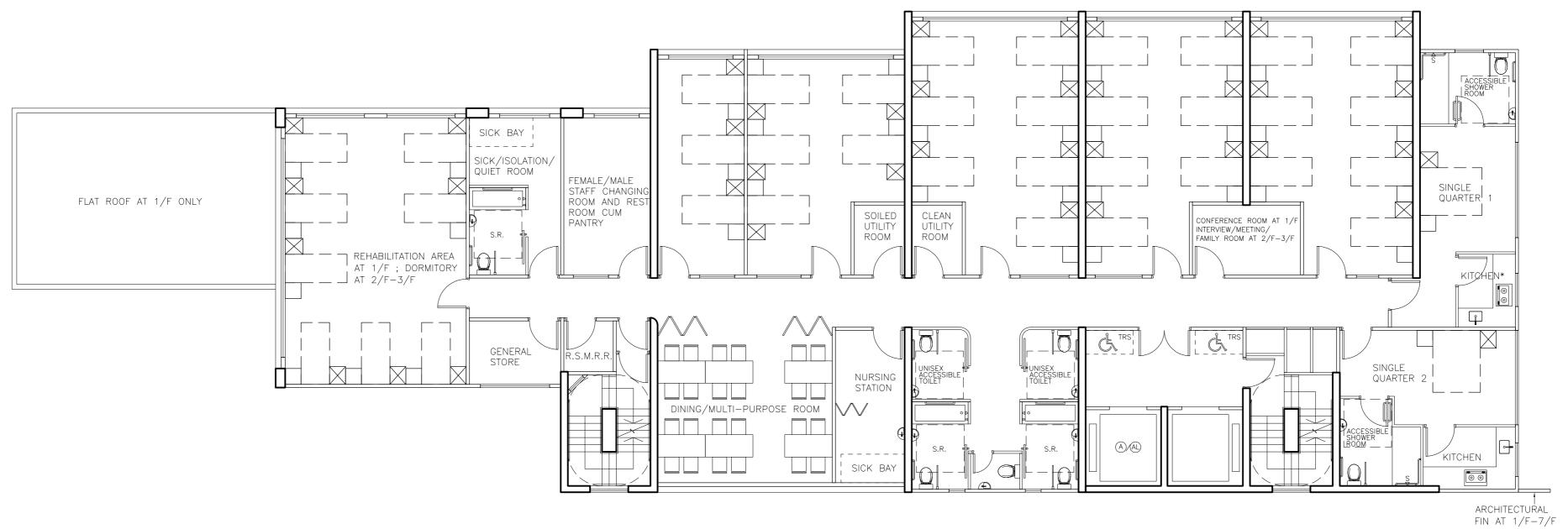




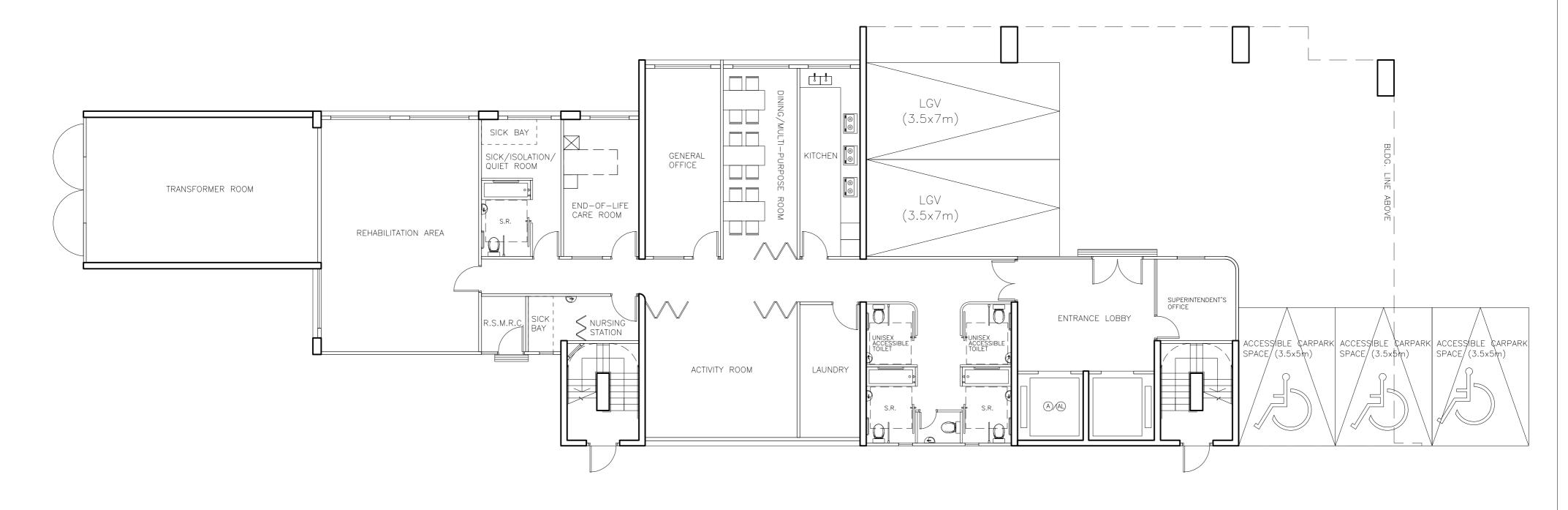








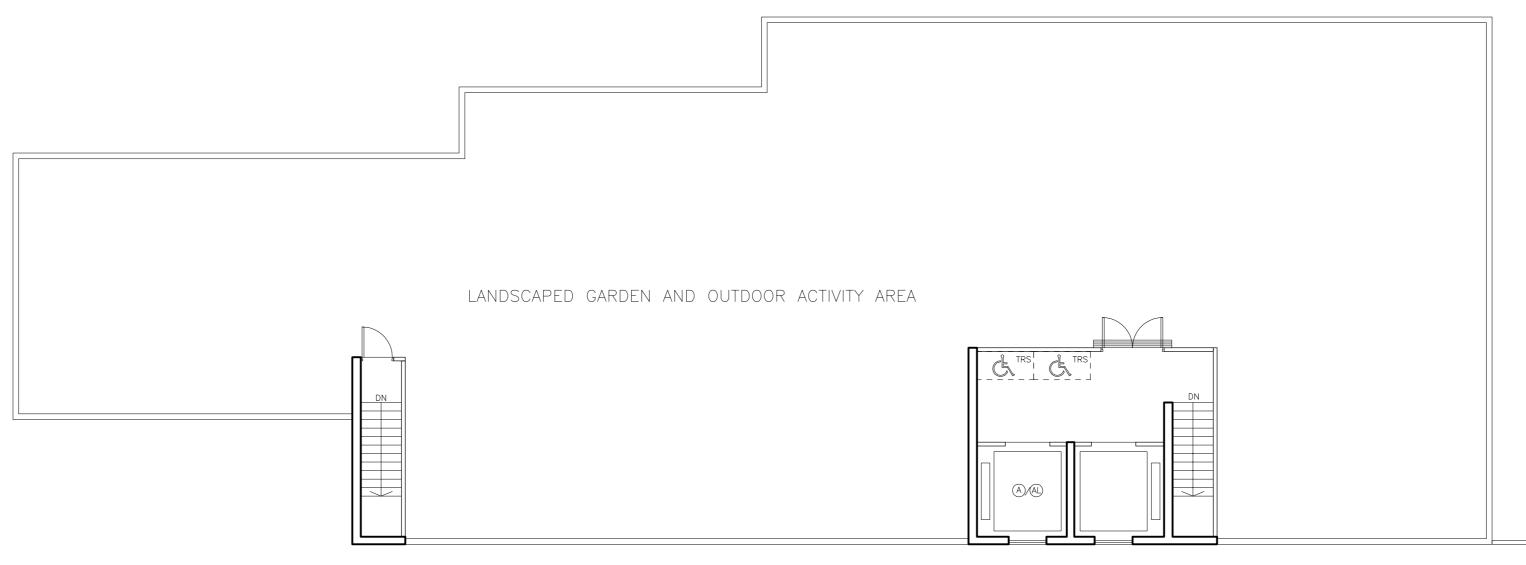
(2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED



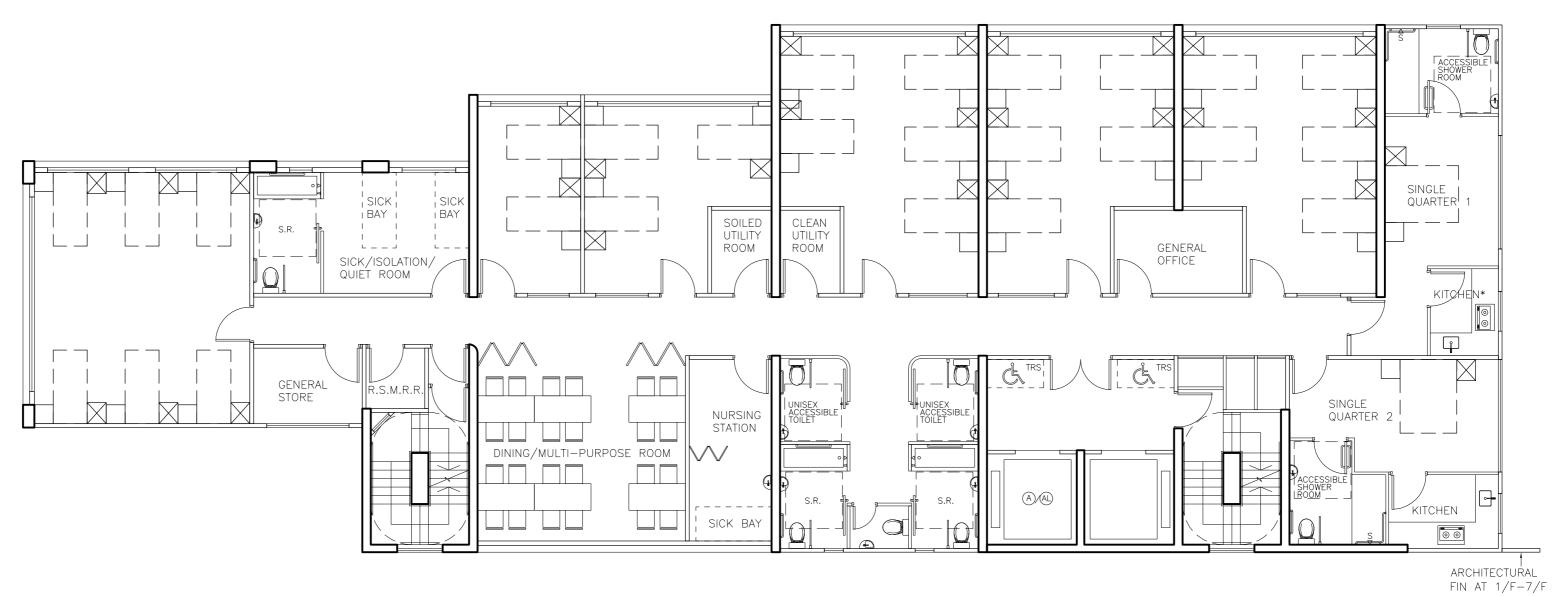
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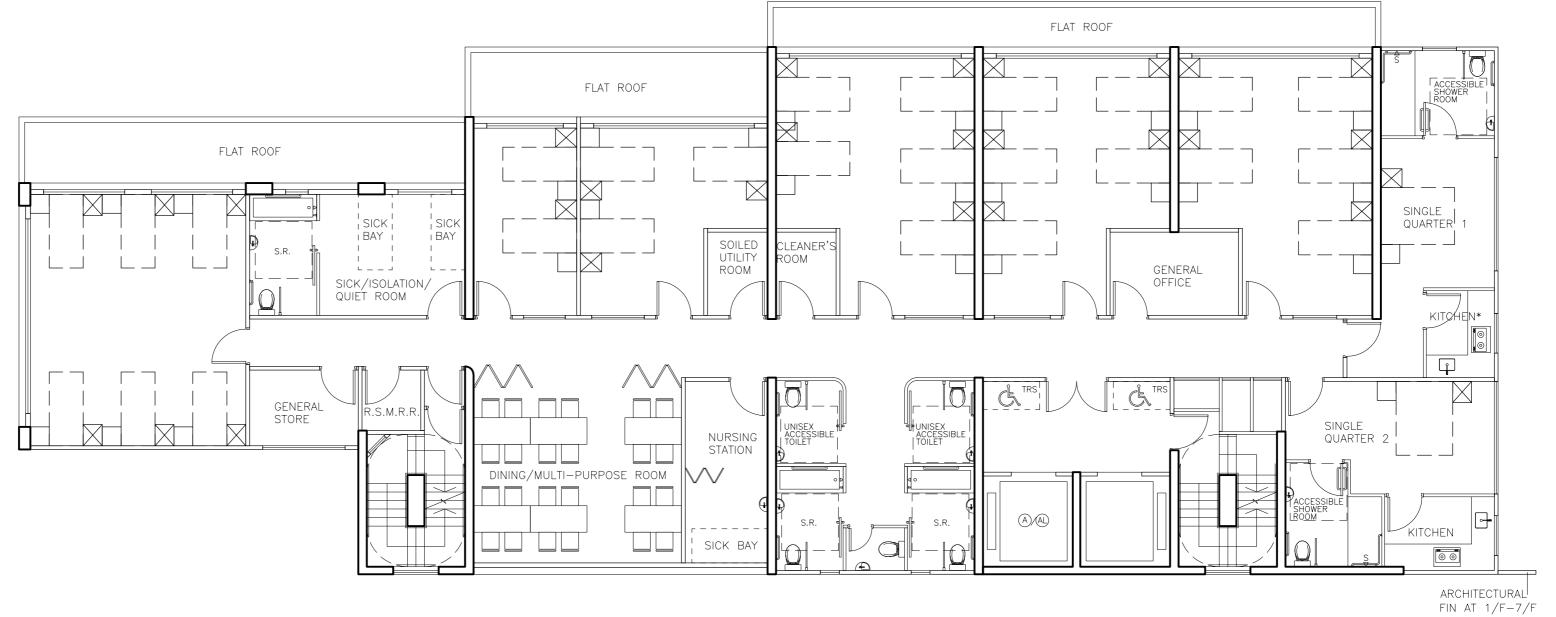
Executive Architect



R/F PLAN

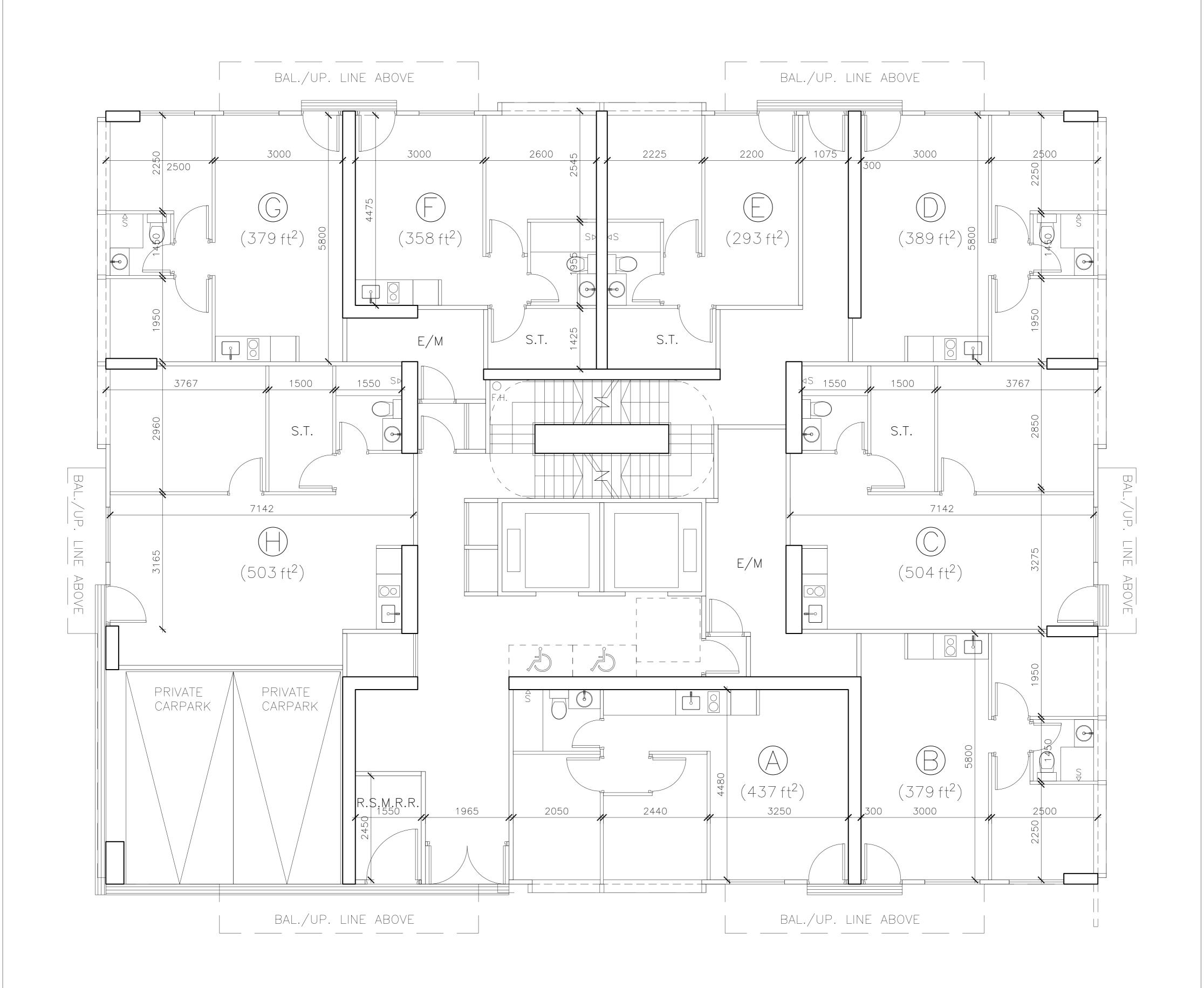


6/F-7/F SITE COVERAGE: 458.996s.m. / GFA: 453.314s.m. (TOTALLY 2 FLOORS);(TOTAL NO. OF BED SPACE:6/F: 28; 7/F: 28); (2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED

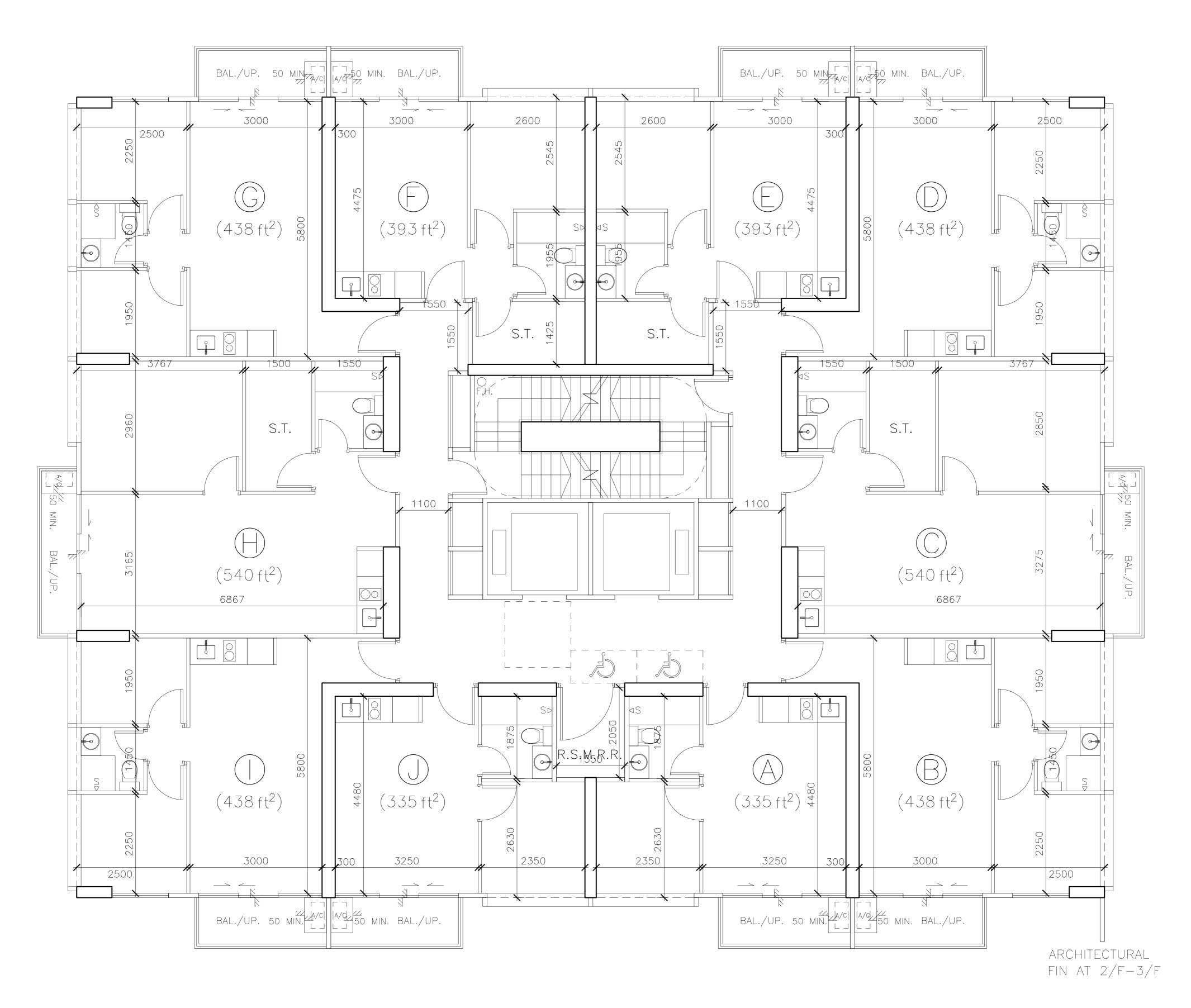


5/F SITE COVERAGE: 458.996s.m. / GFA: 453.314s.m. (TOTAL NO. OF BED SPACE: 5/F: 28); (2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED



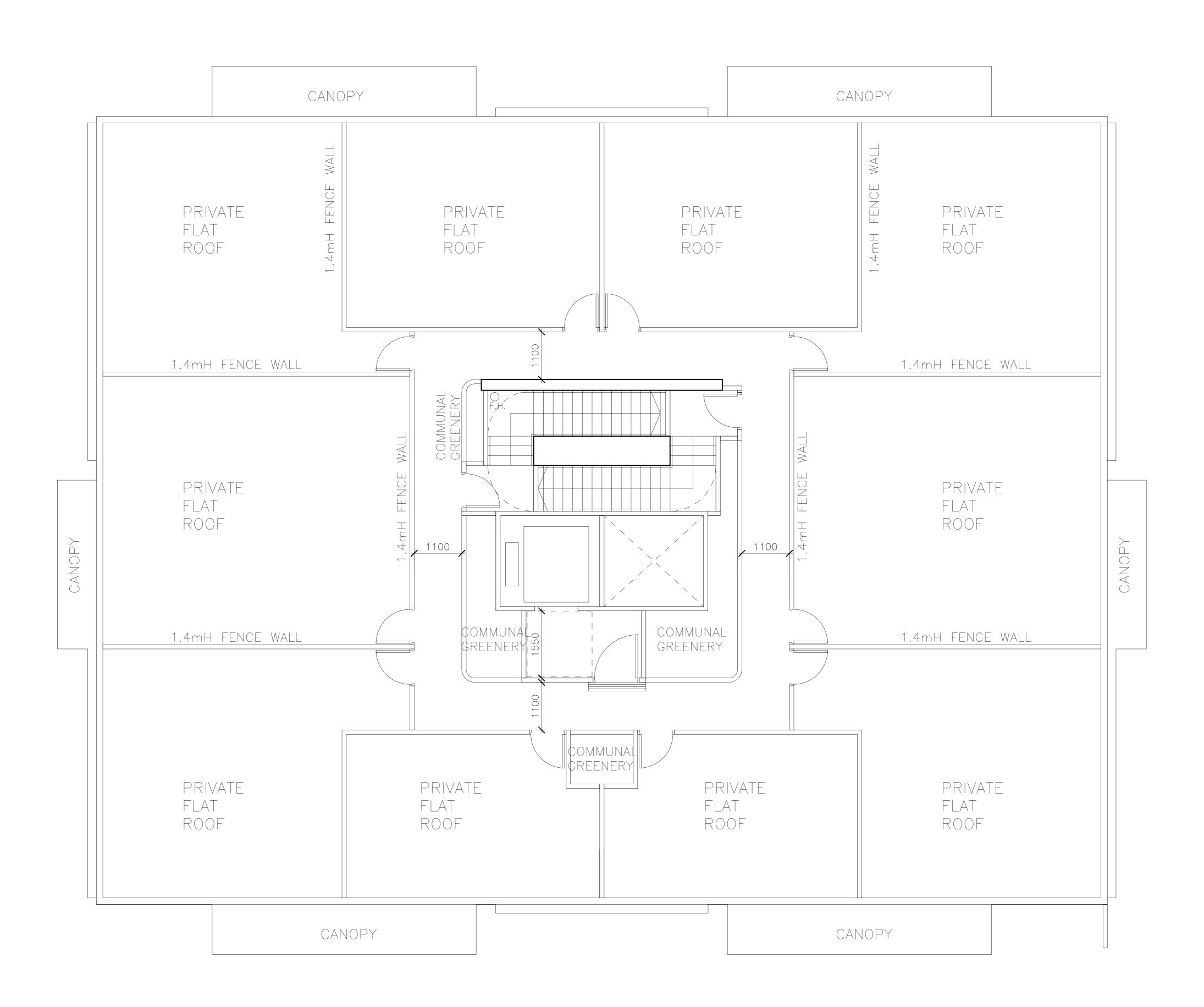


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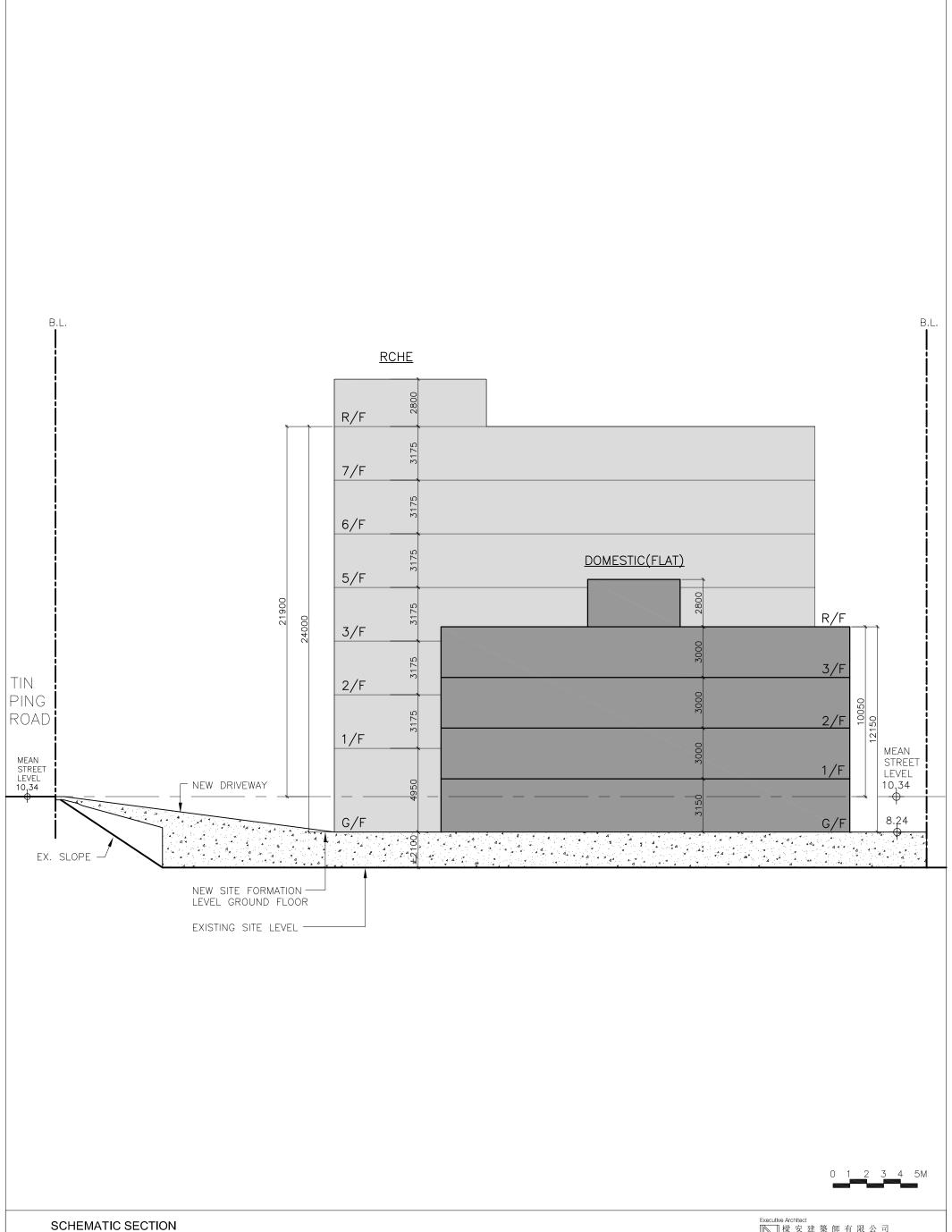


1/F-3/F PLAN

SITE COVERAGE: 442.661s.m. / GFA: 435.258s.m.



R/F PLAN



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

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Appendix | II

Tree Preservation and Landscape Proposal

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- 6.0 Planting Proposal
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APPENDICES

Appendix A Tree Survey Plan, Tree Assessment Schedule and Photographic Record of Existing Trees

Appendix B Landscape Master Plan and Landscape Details

Appendix C Planting Plans

Appendix D Common Greenery Provision and Communal Open Space Provision

1.0 Introduction

- 1.1 The proposed residential block (flats) and Residential Care Homes for the Elderly (RCHE) (The Proposed Development) is located at Lots 834 and 838 RP in D.D. 52 and the Adjacent Government Land in D.D. 52, Tin Ping Road, Sheung Shui, New Territories. This report is prepared in support of the Proposed Development under this S16 planning application.
- 1.2 This report describes the concepts and principles underlying the Landscape Master Plan of the Proposed Development. It describes the proposed RCHE, residential block (flats) and the associated landscape design as well as tree preservation strategies. A more comprehensive package of proposals will be formulated during the detailed design stage of the project.
- 1.3 This landscape proposal presents:
 - · The existing tree vegetation;
 - · The Landscape Master Plan;
 - · Planting Proposal of the Proposed Development; and
 - Tree Preservation Proposal.

2.0 The Site and Its Context

- 2.1 The Site is situated at Lots 834 and 838 RP in D.D. 52 and the adjoining Government Lands in D.D. 52, Ting Ping Road, Sheung Shui, New Territories. Shek Wu Hui Sewage Treatment Works is located to its west while Sheung Shui Railway Station is located to its south. There is no direct vehicular access connecting the Proposed Development to the existing road network. It is bounded by Tin Ping Road to its south and is separated by pedestrian and cycle track.
- 2.2 The Site is gentle flat land at **+6.50**mPD and is occupied by temporary structures, paddle fields and abandoned lands. Trees are mainly growing along the southern boundary. They are generally in semi-mature size but few nos. of mature species were identified. Most of them exhibited poor tree form and health conditions. In accordance with the DEVB TCW No. 5/2020 Registration and Preservation of Old and Valuable Trees (OVT) and the Forests and Countryside Ordinance, no OVT or protected species has been identified within the Site.
- 2.3 The landscape character of the Site and its surrounding is mixed and comprised of villages, i.e. Sheung Shui Heung, Po Sheung Tsuen, public housing estates, i.e. Ting Ping Estate, Choi Yuen Estate and recreational grounds, i.e. North District Sport Ground, North District Park.

3.0 The Proposed Development

- 3.1 The development proposal comprises of one 7-storey RCHE, one 4-storey residential block (flats), parking lots, communal open spaces and greenery. Drawings of the Proposed Development could be referred to Architect's drawings submitted under the same application.
- 3.2 There is no direct vehicular access to the Site. A new 8.9m wide access comprising of pedestrian walkway and driveway is proposed to make connection to Tin Ping Road. Besides, as the ground surface within the Site needs to be recontoured and some of the vegetation would be affected by the site formation work. The detailed tree assessment shall refer to the **Para 4.0** below. The architectural layout has overlaid on the Tree Survey Plan to illustrate the impact of the Proposed Development on existing vegetation. The tree survey plan, tree assessment schedule and photographic record of the trees are included in **Appendix A** for reference.

4.0 Existing Vegetation

A tree survey was carried out on **21 November 2020** in accordance with LAO PN No. 2/2020. In order to investigate the landscape impact on existing vegetation within the Site and adjoining areas, trees located within **3m** from the Site boundary are included in the tree survey. A total of **41** trees were recorded (i.e. **16** within and **25** outside the Application Site Boundary). The tree survey schedule, tree survey plan and photographic record of existing trees are shown in **Appendix A** and are outlined below:

Table 1.0 Species Composition of Existing Trees

Scientific Name	Chinese Name	Quantity	Tree No.
Acacia confusa	台灣相思	9	T08, T10, 11, T12, T14, T15, 16, T18, T20
Bauhinia spp.	羊蹄甲屬	4	T05, T06, T07, T13
Bridelia tomentosa	土蜜樹	2	T09, T22
Celtis sinensis	朴樹	1	T21
Dimocarpus longan	龍眼	5	T23, T29, T30, T35, T36
Ficus virens	大葉榕	5	T01, T02, T03, T04, T25
Litchi chinensis	荔枝	9	T24, T26, T27, T28, T31, T32, T33, T34, T37
Macaranga tanarius	血桐	1	T41
Mangifera indica	杧果	1	T40
Manilkara zapota	人心果	1	T38
Schima superba	木荷	2	T17, T19
Syzygium samarangense	南洋蒲桃	1	T39
	Total:	41	

- 4.2 The Site is dominated by *Acacia confusa* 台灣相思 (**9** nos.), *Litchi chinensi*s 荔枝 (**9** nos.) and *Ficus virens* 大葉榕 (**5** nos.) which are common hillside species in Hong Kong.
- 4.3 The health condition of these trees is generally in <u>Poor</u> condition (**73.13**%) and the remaining trees are in <u>Fair</u> condition (**26.83**%).
- 4.4 No OVT or protected species has been identified in accordance with the DEVB TCW No. 5/2020 Registration and Preservation of Old and Valuable Trees and the Forests and Countryside Ordinance respectively.

Impact of the Proposed Development

4.5 Impact of the Proposed Development is generally caused by the site formation works, construction of the building, removal of existing vegetation for the build element and the related construction activities, excavation works for E&M reserves and structural footings. The proposed building layout has been overlaid on **Tree Survey Plan** in **Appendix A** to illustrate the impact on the existing trees.

Retention of Trees

4.6 **16** out of total **41** surveyed existing trees within the Site will be in conflict with the proposed works. In this proposal, **25** existing trees outside Site will be unaffected by the Proposed Development. The retained trees will be protected and maintained in accordance with the details in Section 25 – Landscape Work in the General Specification for Building (2017) and relevant guidelines promulgated by DEVB.

Felling and Transplantation of Trees

- 4.7 For trees that will be in conflict with the proposed works shall be proposed to be transplanted if they fulfil all the criteria below:
 - Trees have high amenity value;
 - b. Trees with good form and health;
 - c. Suitable access;
 - d. Tree species able to be transplanted easily;
 - e. Trees have suitable size and;
 - f. Trees are young to semi-mature.
- 4.8 In this project, **16** existing trees within the Site Boundary are in direct conflict with the proposed works and cannot be retained in situ. None of the disturbed trees fulfil the above criteria and none of them is recommended for transplantation.
- 4.9 **8** fruit trees including **T33**, **T34**, **T37** *Litchi chinensis*, **T35**, **T36** *Dimocarpus longan*, **T38** *Manilkara zapota*, **T39** *Syzygium samarangense* and **T40** *Mangifera indica* are in conflict with the proposed works. Due to the nature of fruit tree species, their anticipated survival rate after transplantation are generally low. Therefore, all of them are proposed to be felled, instead of transplanted.
- 4.10 **7** affected trees including **T12**, **T14**, **T15** *Acacia confusa*, **T02**, **T03**, **T25** *Ficus virens* and **T41** *Macaranga tanarius* are common hillside species in Hong Kong. As their root systems are susceptible to environmental change and this renders them a relatively low survival rate after transplantation. Hence, all of these trees are also proposed to be felled.
- 4.11 It is important to mention that tree nos. **T02** and **T03** *Ficus virens* are mature specimens, i.e. over 13m high, and are growing at the roadside planter verges. They will be conflict with the proposed right-of-way (ROW) to the Site. Due to their maure size, it is not possible to form a sufficient-sized rootballs in a confined roadside planter. They will be felled and compensated by quality trees.
- 4.12 Tree no. **T13** Bauhinia spp. exhibited poor tree form and health condition. It is very difficult to form a well-balanced rootball of them for transplantation. It will also be felled.
- 4.13 A summary of the tree proposals for the Proposed Development is provided in Table 2.0 below.

Table 2.0 Summary of Proposed Treatment for Existing Trees

Area	Number of	Number of	Number of	Number of
	Trees to be	Trees to be	Trees to be	Trees in
	Retained	Felled	Transplanted	Survey
	(Percentage)	(Percentage)	(Percentage)	(Percentage)
Within Application Site Boundary	0	16	0	16
Outside Application Site Boundary	25	0	0	25
Total:	25	16	0	41
	(60.98%)	(30.02%)	(0%)	(100%)

5.0 Landscape Proposals (Refer to Appendix B)

- 5.0.1 The aim of the landscape proposals is to respond to site conditions, building form and function of the Proposed Development and to provide a quality landscape scheme. The main factors to be taken into consideration are:
 - · Response to the site context, both in terms of landscape character and visual amenity;
 - Response to the proposed building and its architectural style;
 - Creation of a green setting by maximising the opportunity for soft landscape;
 - Establishment of pleasant landscape areas which meets the varying needs of occupants and satisfy the recreational requirements of them; and
 - Minimization of future maintenance requirements.
- 5.0.2 Landscape drawings showing the proposed landscape treatment for the Proposed Development, and their underlying principles have been attached in **Appendix B** for ease of reference.
 - · Hong Kong Planning Standards and Guidelines;
 - Technical Guidelines on Landscape Treatment for Slopes (GEO Publication No. 1/2011);
 - Design Manual: Barrier Free Access 2008 (Buildings Department);
 - LAO Practice Note No. 2/2020 Tree Preservation and Tree Removal Application for Building Development in Private Projects Compliance of Tree Preservation Clause under Lease; and
 - BD PNAP APP-152 Sustainable Building Design Guidelines (2019 version).

5.1 Landscape Design Concept

5.1.1 The landscape concept mentioned below describe considerations, which had been considered as being general to the whole landscape design.

Screening Plantation of the Proposed Development

5.1.2 The level of the Site is at approx. **+6.50mPD** which is lowered than Tin Ping Road at **+10.34mPD**. It is proposed that the Site should be levelled up at **+8.24mPD** to avoid flooding and connected by the proposed ROW with steep gradient, i.e. 1:7 to to Tin Ping Road. In order to provide a smooth transition between the Proposed Development and the surrounding, soft landscape measures like provision of heavy standard trees, shrubs, groundcover and climbing plants are proposed along the Site boundary. The intention is to form a soft-planted edges along the periphery of the Site. Please refer to the landscape section, dwg. No. **LD101 and LD102** in **Appendix B** for reference.

Landscaped Garden at G/F and R/F

5.1.3 Several landscaped zones are proposed at vacant spaces at G/F and R/F of proposed RCHE. Outdoor furniture, recreational facilities and planting are provided at these gardens for the enjoyment of the users and visitors as well as to cater for the recreational need of them. The refined paving and selection of plant combination enrich the colour complexity and visual gradation of the development.

Tree Plantings along the internal access

5.1.4 In order to soften visually the hard lines of the buildings and break down the scale of the building height, opportunity has been explored to provide tree and shrub planting along the internal vehicular access and common landscaped areas. The development proposal has allowed heavy standard trees to be planted along the residential block (flats) front in order to form a green boulevard along the internal road. They will be planted at on-grade planting beds for sustainable growth. Ultimately, they will be protected and maintained by the management office of the proposed development.

Planting Design

- 5.1.5 A majority of proposed plantings will be planted along the internal access, common planting beds, and planting strips along the periphery of the Site. This will create a tranquil and harmonic environment for enjoyment of future residents. The use of tree planting in heavy standard size and in good quality would be encouraged to provide a more instant effect.
- 5.1.6 Where practicable and feasible, heavy standard trees, medium shrubs and foliage plants are proposed. These soft landscape measures will enable to soften the hard lines of the Proposed Development. The use of planting heavy standard sized vegetation would offer a more instant greening effect. Planting Plans shall refer to **Appendix C**.
- 5.1.7 In order to enhance the local biodiversity, local species or broad-leaf species will be selected for tree planting.
 - Compensation for Vegetation Disturbed due to the Development
- 5.1.8 The Proposed Development will require vegetation clearance for construction of the podium and residential tower. Existing trees will inevitably be disturbed. The proposal aims to compensate the loss of vegetation, in particular, through planting of new trees. Further details of the compensatory planting proposal are in **Section 6.0** and **Appendix C**.
- 5.1.9 **35** new trees with average **100mm** DBH are proposed to be planted to compensate the loss of **16** existing trees. All proposed trees will be maintained by the future management office of the Proposed Development.

5.2 Recreational Facilities

- 5.2.1 As the open space will be located adjacent to the building blocks and, in essence, the overall built form, it will be generally formal in design. Sitting gardens are provided G/F and R/F of RCHE for enjoyment of the occupants and visitors.
- 5.2.2 For the entire landscape area, ornamental trees, flowering shrubs and foliage plants with different textures will also be proposed. Planting proposed not only to create enclosure and sense of privacy to the residents but also provide visual enjoyment to the neighbours.
- 5.2.3 It is expected that there will be mini. **324** occupants (i.e. **210** nos. from RCHE and **114** nos. from residential block) at the proposed development while the area of the communal open spaces is approx. **371.4** m². Hence, the provision of the communal open space can meet the requirement under HKPSG, i.e. 1 m² per person. Please refer to the Communal Open Space Provision, dwg. No. **OS01** in **Appendix D**.

5.3 Common Greenery Provision

5.3.1 The landscape proposal aims to strengthen the local greenery within the Site. The common greenery calculation is based on BD PNAP-APP 152 – Sustainable Building Design Guidelines the present scheme is shown in the schedule below, and drawing showing the greenery calculation shall refer to dwg. No. **GR01** in **Appendix D**.

Table 4.0 Common Greenery Calculation

Site Area:	2,092.635 m ²
Required Total Common Greenery	2,092.635 m ² x 20%
	= 418.53 m ²
Required Common Greenery at	2,092.635 m ² x 10%
Primary Zone	$= 209.26 \text{ m}^2$
Allowable Greenery Features:	418.53 m ² x 30%
	= 125.56 m ²
Provided Common Greenery:	
Uncovered Horizontal Planting Area	287.70 m ² (>209.26 m ²)
at Primary Zone (G/F):	
Uncovered Horizontal Planting Area	291.70 m ²
at Other Area (R/F):	
Total Common Greenery:	(287.70 + 291.70) m ²
	= 579.40 m ² (>418.53 m ²)
Common Greenery Ratio	579.40/2,092.635 x 100%
	= 27.69%

5.3.2 Total common greenery area is approx. **579.40m²** (i.e. more than the required 20% greenery requirement, **418.53m²**), as set out in PNAP APP-152 – Sustainable Building Design Guidelines. Besides, the proposed greenery areas are easily accessible by the public is referred to "Common Greenery at Primary Zone", i.e. **287.70m²** (i.e. more than the required **209.26m²**).

5.4 Soil Depth and Drainage for Planting

5.4.1 The requirement of soil depth is directly related to the planting design and its associated loading requirement upon structure. In general, the soil depth provided, with all drainage layers, water-proofing and protective screeding exclusive is listed below:

Table 5.0 Planting Medium (Soil Depth)

Planting Type	Soil Depth (Minimum)
Tree/ Palm tree	1200mm
Shrub/ Climbers	600mm
Groundcover/ Turf	300mm

5.4.2 All Planting areas on slab shall be provided with sub-soil drainage system.

5.5 Irrigation

5.5.1 The proposed irrigation system will be by tap water pipe for manual operation. Lockable water points will be provided at 40m centres covering the entire site. The proposed source of water supply is subject to final approval from the Water Services Department.

5.6 Future Maintenance

Hard Landscape Elements

- 5.6.1 Maintenance for hard landscape elements shall be carried out by the future management office of the Proposed Development with maintenance intention as follows:
 - I Routine Maintenance (Daily Weekly)
 - a. Rubbish and litter removal
 - b. Sweeping and cleaning
 - c. Damage inspection and repair for site furniture and light bulb replacement
 - II Annual/ Long Term Maintenance
 - a. Repainting
 - b. Resurfacing of worn pavements
 - c. Replacing worn parts site furniture, lighting fixture and other facilities
 - d. Replacement of worn landscape furniture.

Soft Landscape Element

- 5.6.2 The softworks contractor will be responsible for maintenance of the planting during the establishment period allowed for in the construction contract, usually for the first year after the beginning of the schemes operational phase. This will ensure that the soft landscape measures are in a healthy condition prior to the finished scheme being handed back to the lot owner.
- 5.6.3 Ultimately the future management office will employ skilled maintenance staff to take care of all landscape areas within the Site.

6.0 PLANTING PROPOSALS (Refer to Appendix C)

- 6.1 In order to provide quality landscape for the Proposed Development, soft landscape works will be the major landscape element of the landscaping proposal and satisfy the following criteria:
 - To compensate the loss of affected trees;
 - To screen the proposed building and reduce the visual impact to the nearby residents/ visitors;
 - To minimize future maintenance; and
 - To be compatible with the hillside environment.
- 6.2 The proposed planting species list is shown as follows and details shall refer to the Planting Plans in **Appendix C.**

Table 6.0 Proposed Planting Schedule

Botanical Name	Chinese Name	Size (mm)	Spacing (mm)		
TREES		Height x Spread x DBH (mm)			
Bauhinia blakeana	洋紫荆	4500x2000x100	4000		
Bischofia javanica	秋楓	3500x1500x100	4000		
Osmanthus fragans	桂花	3000x1500x100	4000		
Sterculia lanceolata	假蘋婆	4500x2000x100	4000		
SHRUBS		Height x Spread (mm)			
Carmona microphylla	福建茶	450x400	400		
Codiaeum variegatum	洒金榕	350x300	300		
Iris tectorum	鳶尾	500x350	200		
Ixora chinensis	龍船花	500x450	450		
Melastoma candidum	野牡丹	350x300	300		
Madagascar jasmine stephanotis floribumda	非洲茉莉	500x500	400		
Rhapis excelsa	小葉棕竹	1200x600	600		
Ruellia coerulea	翠蘆莉	400x400	350		
Schefflera arboricola	鵝掌藤	600x500	450		
Schefflera arboricola "Trinette"	黃金鵝掌藤	500x500	450		
GROUNDCOVERS		Height x Spread (mm)			
Caladium bicolosr	彩葉芋	350x300	250		
Nephrolepis auriculata	腎蕨	250x150	150		
Ophiopogon bodinieri	沿階草	250x250	200		
Phyllanthus myrtifolius	錫蘭葉下珠	200x300	300		
GRASS					
Zoysia japonica	朝鮮草	-	-		

- In this study area, a total of **41** trees (i.e. **16** within and **25** outside the Site Boundary) were recorded. The **25** trees will be retained in-situ while the **16** trees inside the Site will be felled due to in conflict with the Proposed Development and the associated works.
- 6.4 **35** heavy standard trees with average DBH approx. **100**mm are proposed to be planted to compensate the loss of the **16** existing trees. They will be planted at the common landscape areas, peripherical planting strips and roadside planting verge within the site boundary. All these new trees within the lot boundary will all be maintained by the future management office and the individual Lot owners of the Proposed Development.
- 6.5 Upon the above, the compensation ratio in terms of quantity and quality is shown as follows:

Quantity of loss of trees:16 nos.Accumulated DBH loss of trees:6.94 mQuantity of compensatory trees:35 nos.Quantity compensation ratio:1: 2.19DBH compensation:3.50mDBH compensation ratio:1:0.50

7.0 PROPOSAL FOR TREE PRESERVATION

- 7.1 In this project, **25** existing trees outside the Application Site Boundary is proposed to be retained. The following measures should be undertaken:
- 7.2 In order to determine the impact to the existing vegetation by the proposed development, a full Tree Felling Application in accordance with and LAO Practice Note No. 2/2020 "Tree Preservation and Tree Removal Application for Building Development in Private Projects Compliance of Tree Preservation Clause under Lease" should be undertaken and submitted to the relevant Government departments for approval.
- 7.3 Retention of all trees where possible. It is proposed that unaffected trees are to be retained on site due to their amenity and conservation value. The contractor will need to be made aware of the need to minimize the encroachment of the construction works on the trees, so as to minimize the impact on them. The area under the drip line of the tree canopy will be fenced by 1.2m high temporary protective fencing during construction stage. Besides, all provisions for tree preservation and protection measures of retained trees should follow the details in Section 25 Landscape Work in the General Specification for Building (2017).
- 7.4 Appropriate protection to these trees, e.g. wrapping of the tree stems with protective cover will be adopted during the construction process. As a precautionary measure and only if necessary, pruning of branches of existing trees identified for retention will be on an absolute need basis and strictly adhere to the principle of crown thinning in maintaining their form and amenity value. The tree preservation works will be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. The site situation will be carefully monitored, including the key stages in the preparation of the trees, the implementation of protection measures and health monitoring throughout the construction period. A tree protection specification would be included within the contract document.
- 7.5 The softworks contractor will be responsible for maintenance of the planting during the establishment period allowed for in the construction contract, usually for the first year after the beginning of the schemes operational phase. This will ensure that the soft landscape measures within lot boundary and at open space are in a healthy condition prior to the finished scheme being handed back to management office of the site.

Section 16 Planning Application for Proposed Social Welfare Facility
(Residential Care Home for the Elderly) and Flat with Minor Relaxation
of Building Height Restriction at Lots 834 and 838 RP in D.D. 52
and adjoining Government Land, Ting Ping Road, Sheung Shui, New Territories

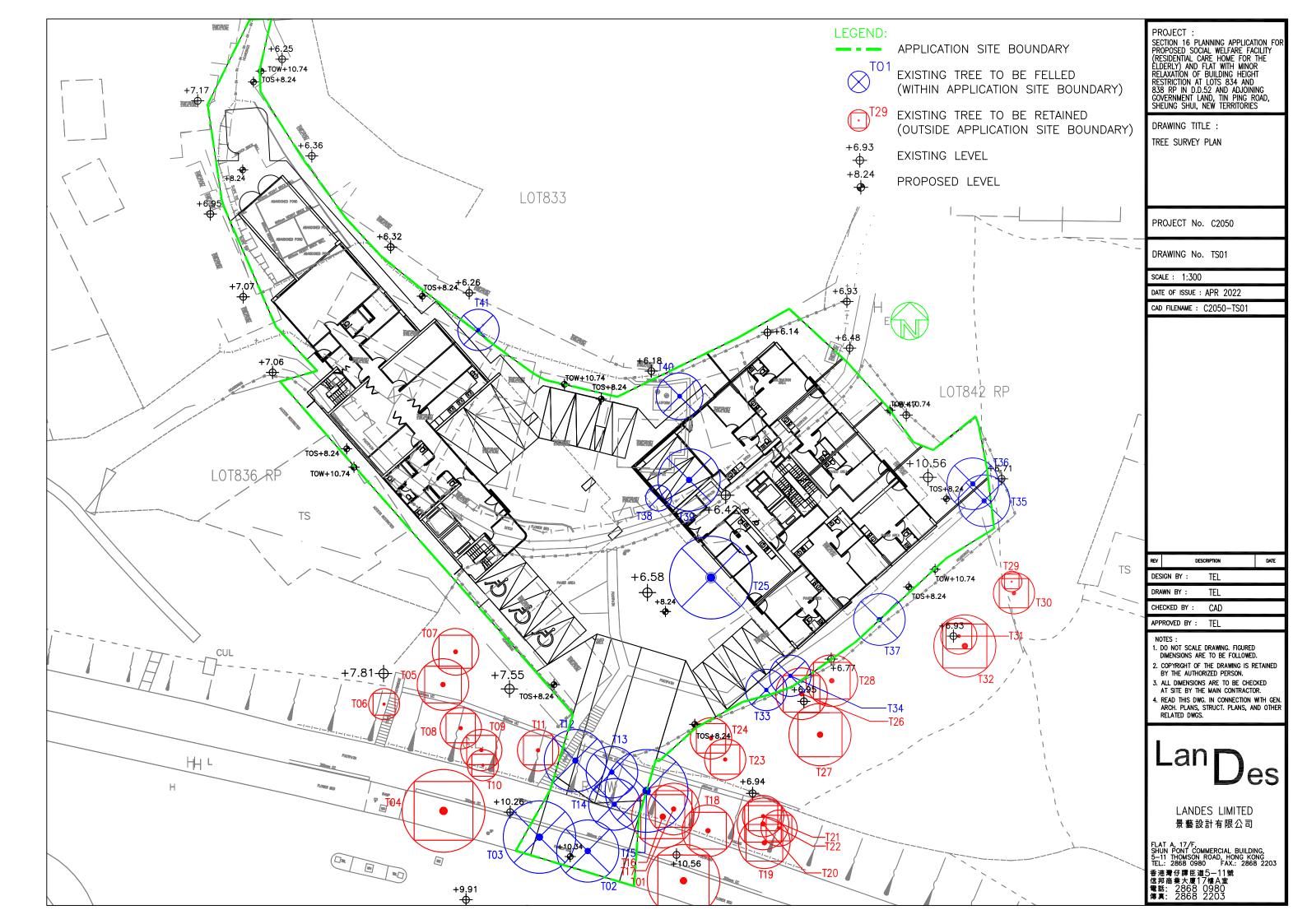
Tree Preservation and Landscape Proposal

Appendix A

Tree Survey Plan, Tree Assessment Schedule

and

Photographic Record of Existing Trees



Tree Assessment Schedule at
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Ting Ping Road, Sheung Shui, New Territories
Prepared by Ted Lam (R.L.A. No. R-073) on 21.11.2020
To be read in conjunction with Tree Survey Plan, dwg. no. C2050-TS01

											Survival Rate			
Tree	Name		Location			Size		Form	Health	Amenity Value	after Transplantation	Proposed Treatment	Justification	Remark
No.	Botancial Name	Chinese Name	(Within/Outside Application Site Boundary)	Level at Root Collar (mPD)	DBH (m)	Height (m)	Spread (m)	(Good/Fair/Poor)	(Good/Fair/Poor)	(High/Med/Low)	(High/Med/Low)	(Retain/Fell/Tra nsplant)		
T01	Ficus virens	大葉榕	Outside Application Site Boundary	10.57	0.69	12.00	7.00	Poor	Fair	Med	Low	Retain	-	asymmetrical form, growing in roadside planting verge
T02	Ficus virens	大葉榕	Within Application Site Boundary	10.41	0.73	13.00	6.00	Poor	Fair	Med	Low	Fell	1,2,4,6	asymmetrical form, exposed root, cavity, growing in roadside planting verge
Т03	Ficus virens	大葉榕	Within Application Site Boundary	10.36	0.65	14.00	7.00	Poor	Fair	Med	Low	Fell	1,2,4,6	asymmetrical form, exposed root, cavity, codominant trunk with included bark, growing in roadside planting verge
T04	Ficus virens	大葉榕	Outside Application Site Boundary	10.34	0.84	14.00	8.00	Poor	Fair	Med	Low	Retain	-	asymmetrical form, exposed root, growing in roadside planting verge
T05	Bauhinia spp.	羊蹄甲屬	Outside Application Site Boundary	7.51	0.37	8.00	5.00	Poor	Fair	Low	Low	Retain	-	leaning form, waterspouts, hangers, growing on slopes
T06	Bauhinia spp.	羊蹄甲屬	Outside Application Site Boundary	8.24	0.18	4.00	3.00	Poor	Poor	Low	Low	Retain	-	collapsed tree
T07	Bauhinia spp.	羊蹄甲屬	Outside Application Site Boundary	7.66	0.30	7.00	4.50	Poor	Poor	Low	Low	Retain	-	wilted branches, covered by weeds, waterspouts, topped trunk
T08	Acacia confusa	台灣相思	Outside Application Site Boundary	8.88	0.45	10.00	4.00	Poor	Poor	Low	Low	Retain	-	imbalanced form, codominant trunk, wilted branches, dieback twigs, growing on slopes
T09	Bridelia tomentosa	土蜜樹	Outside Application Site Boundary	9.42	0.28	7.00	4.00	Poor	Poor	Low	Low	Retain	-	twisted form, bark detachment, growing on slopes
T10	Acacia confusa	台灣相思	Outside Application Site Boundary	10.07	0.42	12.00	3.00	Poor	Poor	Low	Low	Retain	-	bent at leader, sparse foliage, wilted branches, decay on trunk, sap flow
T11	Acacia confusa	台灣相思	Outside Application Site Boundary	8.81	0.55	10.00	4.00	Poor	Poor	Low	Low	Retain	-	bent at leader, sparse foliage, wilted branches, growing on slopes
T12	Acacia confusa	台灣相思	Within Application Site Boundary	8.73	0.63	9.00	6.00	Poor	Poor	Low	Low	Fell	1,2,4,6,7	serious leaning form, codominant trunk, bent at leader, wilted branches, dieback twigs
T13	Bauhinia spp.	羊蹄甲屬	Within Application Site Boundary	8.44	0.28	6.00	5.00	Poor	Poor	Med	Low	Fell	1,2	decayed at trunk base, leaning form, growing on slopes
T14	Acacia confusa	台灣相思	Within Application Site Boundary	10.37	0.62	10.00	5.00	Poor	Poor	Low	Low	Fell	1,2,4,6	twisted form, multi-stems, wilted branches, growing on slopes
T15	Acacia confusa	台灣相思	Within Application Site Boundary	8.86	0.49	12.00	8.00	Poor	Fair	Low	Low	Fell	1,2,4,6	leaning form, codominant trunk, growing on slopes
T16	Acacia confusa	台灣相思	Outside Application Site Boundary	10.31	0.58	12.00	6.00	Poor	Poor	Low	Low	Retain	-	bark, wilted branches, dieback twigs, growing on
T17	Schima superba	木荷	Outside Application Site Boundary	9.34	0.25	6.00	5.00	Fair	Poor	Low	Low	Retain	-	Sparse foliage, bark detachment, decay on trunk,growing on slopes
T18	Acacia confusa	台灣相思	Outside Application Site Boundary	10.25	0.40	7.00	5.00	Poor	Poor	Low	Low	Retain	-	bent at leader, wilted branches, dieback twigs, decay on trunk, growing on slopes
T19	Schima superba	木荷	Outside Application Site Boundary	9.67	0.40	8.00	5.00	Fair	Fair	Med	Low	Retain	-	growing on slopes
T20	Acacia confusa	台灣相思	Outside Application Site Boundary	8.81	0.84	11.00	5.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, wilted branhces, growing on slopes
T21	Celtis sinensis	朴樹	Outside Application Site Boundary	8.58	0.40	8.00	4.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, wilted branches, growing on slopes
T22	Bridelia tomentosa	土蜜樹	Outside Application Site Boundary	8.58	0.13	5.00	3.50	Poor	Poor	Low	Low	Retain	-	asymmetrical form, covered by weeds, wilted branches, growing on slopes
T23	Dimocarpus longan	龍眼	Outside Application Site Boundary	7.09	0.28	6.00	4.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, covered by weeds, wilted branches, growing on slopes
T24	Litchi chinensis	荔枝	Outside Application Site Boundary	7.11	0.25	5.00	4.00	Poor	Poor	Low	Low	Retain	-	twisted form, codominant trunk, growing on slopes
T25	Ficus virens	大葉榕	Within Application Site Boundary	6.82	0.90	12.00	8.00	Poor	Poor	Low	Low	Fell	1,2,4,6,7	leaning and asymmetrical form, wilted branches, pruned root, dieback twigs
T26	Litchi chinensis	荔枝	Outside Application Site Boundary	6.95	0.19	6.50	5.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, wilted branches, dead stub on trunk
T27	Litchi chinensis	荔枝	Outside Application Site Boundary	6.95	0.20	8.00	6.00	Poor	Poor	Low	Low	Retain	-	twisted brom, codominant trunk, sparse foliage
T28	Litchi chinensis	荔枝	Outside Application Site Boundary	6.92	0.17	6.00	5.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, wilted branches, codominant trunk
T29	Dimocarpus longan	龍眼	Outside Application Site Boundary	10.68	0.29	4.00	2.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, sparse foliage
T30	Dimocarpus longan	龍眼	Outside Application Site Boundary	10.68	0.19	3.00	4.00	Poor	Poor	Low	Low	Retain	-	asymmetrical form, hangers

Tree	Name		Location			Size		Form	Health	Amenity Value	Survival Rate after Transplantation	Proposed Treatment	Justification	Remark
No.	Botancial Name	Chinese Name	(Within/Outside Application Site Boundary)	Level at Root Collar (mPD)	DBH (m)	Height (m)	Spread (m)	(Good/Fair/Poor)	(Good/Fair/Poor)	(High/Med/Low)		(Retain/Fell/Tra		
T31	Litchi chinensis	荔枝	Outside Application Site Boundary	6.93	0.22	4.00	3.50	Poor	Poor	Low	Low	Retain	-	bent at leader, wilted branches, dieback twigs
T32	Litchi chinensis	荔枝	Outside Application Site Boundary	6.98	0.22	6.00	6.00	Poor	Poor	Low	Low	Retain	-	twisted form, wilted branches
T33	Litchi chinensis	荔枝	Within Application Site Boundary	6.68	0.18	5.00	4.00	Poor	Poor	Low	Low	Fell	1,2,6	asymmetrical form, codominant trunk, broken branches and trunk
T34	Litchi chinensis	荔枝	Within Application Site Boundary	6.65	0.19	5.00	4.00	Fair	Poor	Med	Low	Fell	1,2,6	-
T35	Dimocarpus longan	龍眼	Within Application Site Boundary	6.79	0.23	5.00	5.00	Poor	Fair	Low	Low	Fell	1,2,4	leaning form
T36	Dimocarpus longan	龍眼	Within Application Site Boundary	6.79	0.48	6.00	5.00	Poor	Fair	Low	Low	Fell	1,2,4,6	slight leaning form
T37	Litchi chinensis	荔枝	Within Application Site Boundary	6.82	0.18	3.50	5.00	Poor	Poor	Low	Low	Fell	1,2,4	bent at leader, waterspouts
T38	Manilkara zapota	人心果	Within Application Site Boundary	6.59	0.42	3.00	2.50	Poor	Poor	Low	Low	Fell	1,2,4,6,7	leaning form, broken branches, bark detachment, decay on trunk
T39	Syzygium samarangense	南洋蒲桃	Within Application Site Boundary	6.59	0.26	5.00	6.00	Poor	Poor	Low	Low	Fell	-	asymmetrical form, waterspouts, bark detachment
T40	Mangifera indica	杧果	Within Application Site Boundary	6.54	0.40	6.00	4.50	Poor	Fair	Low	Low	Fell	-	asymmetrical form
T41	Macaranga tanarius	血桐	Within Application Site Boundary	6.32	0.30	5.00	4.00	Poor	Poor	Low	Low	Fell	1,2,4,6,7	bent at basal, bark detachment, dieback twigs, abnormal bark crack, cavity on trunk

*Justification for Tree felling:

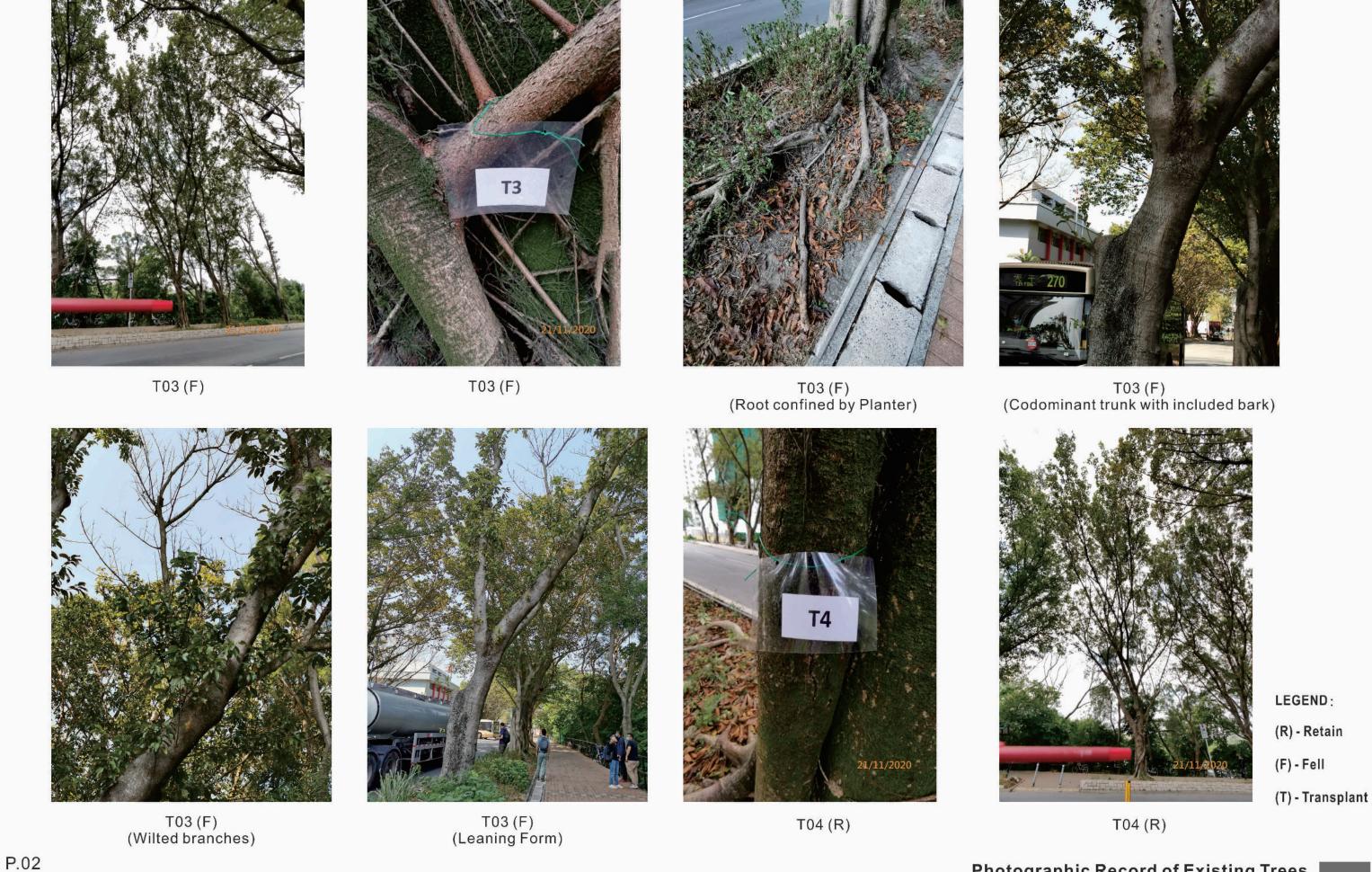
- Tree is in direct conflict with the proposed works.
 Preparation of intact and sufficient-sized root ball not practical due to the topography (e.g. no rock, steep slope, shallow substratum, structures).
 Weedy species without special ecological significance or species creating maintenance problem.
 Tree by the poor health and/or form for transplantation.

- Lack of access for transplantation machinery or vehicle.
 Species of low post-transplantation survival rate.
- 7. Tree has structural problem and may create hazard to public during root ball preparation and/or after transplantation, while auxiliary support will not be sufficient / practical.

Summary of Proposed Treatment of Existing Trees

Nos. of Surveyed Trees:	41						
Nos. of Tree to be Retained:	25						
Nos. of Tree to be Felled:	16						
Nos. of Tree to be Transplanted:	0						
Aggregate Loss of DBH	6.94m						
Nos. of Compensatory Trees:	35						
DBH Compensation:	3.50m						



































T41 (F) (Cavity on trunk)



T41 (F) (Abnormal bark crack)

LEGEND:

(R) - Retain

(F) - Fell

(T) - Transplant

Section 16 Planning Application for Proposed Social Welfare Facility
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of Building Height Restriction at Lots 834 and 838 RP in D.D. 52
and adjoining Government Land, Ting Ping Road, Sheung Shui, New Territories

Tree Preservation and Landscape Proposal

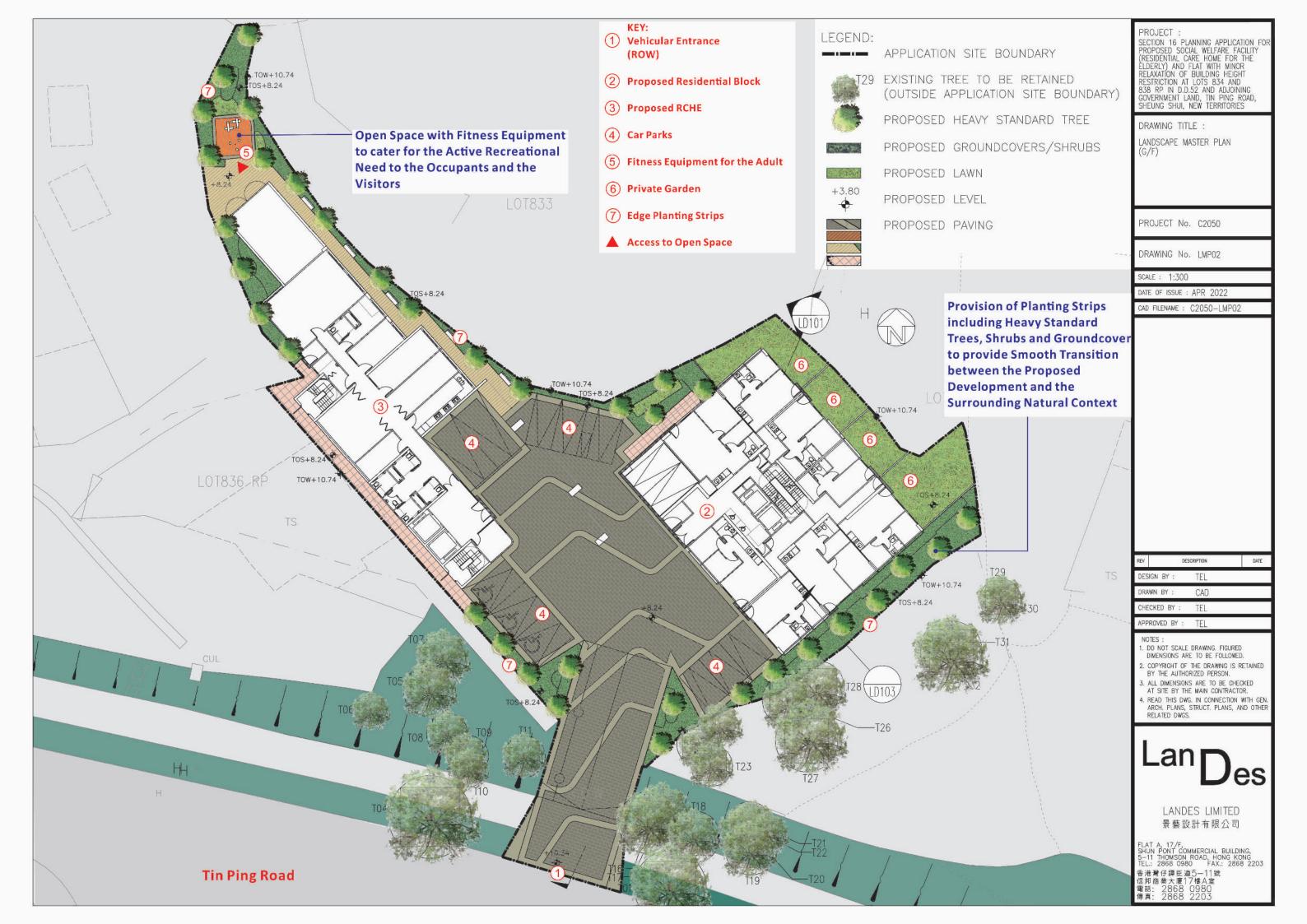
Appendix B

Landscape Master Plan

And

Landscape Details







PROJECT:
SECTION 16 PLANNING APPLICATION FOR PROPOSED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND FLAT WITH MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION AT LOTS 834 AND 838 RP IN D.D.52 AND ADJ

DRAWING TITLE :

LANDSCAPE MASTER PLAN (R/F)

PROJECT No. C2050

DRAWING No. LMP03

SCALE: 1:300

DATE OF ISSUE : APR 2022

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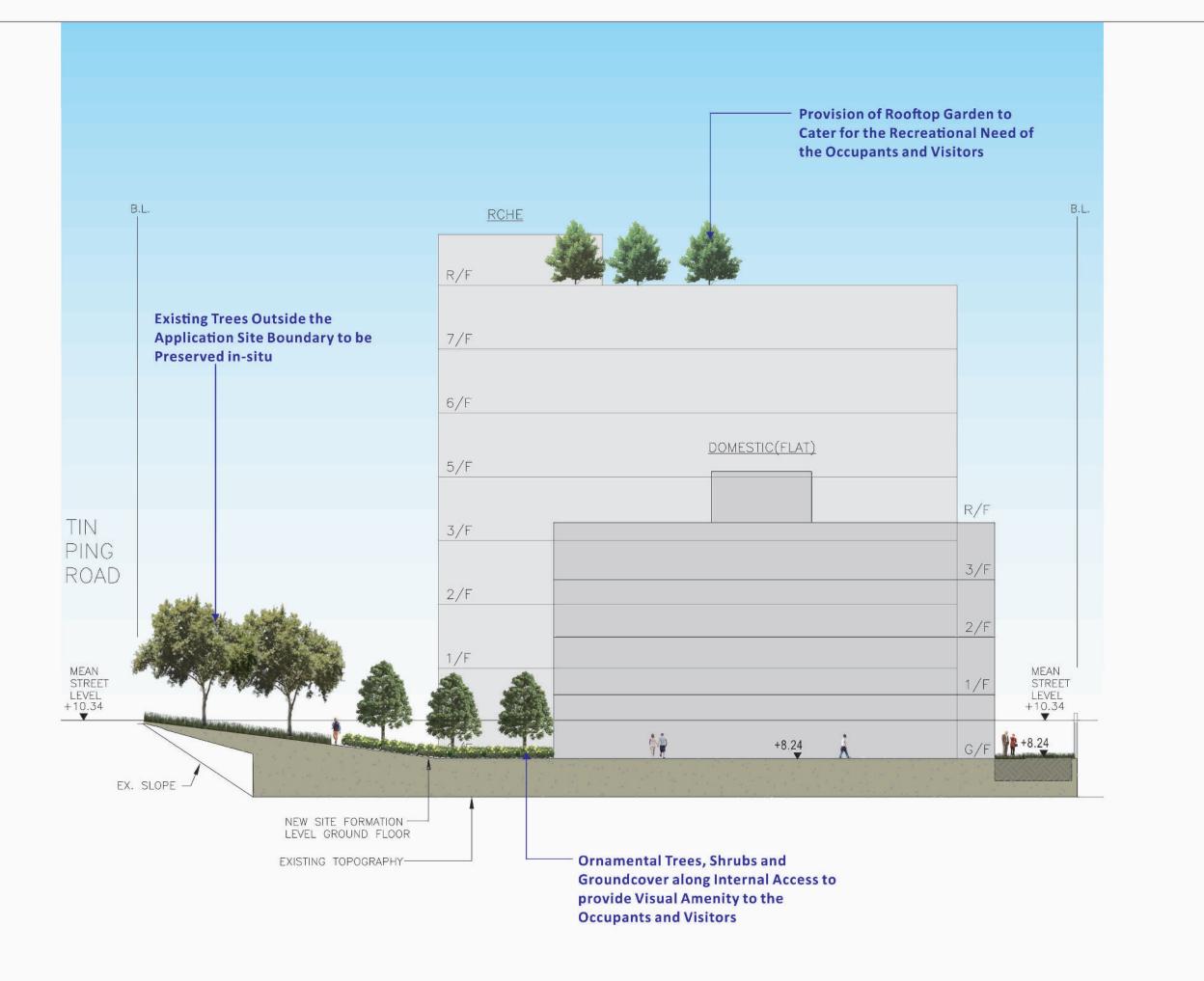
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PROJECT:
SECTION 16 PLANNING APPLICATION FOR
PROPOSED SOCIAL WELFARE FACILITY
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RELAXATION OF BUILDING HEIGHT
RESTRICTION AT LOTS 834 AND
838 RP IN D.D.52 AND ADJOINING
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SHEUNG SHUI, NEW TERRITORIES

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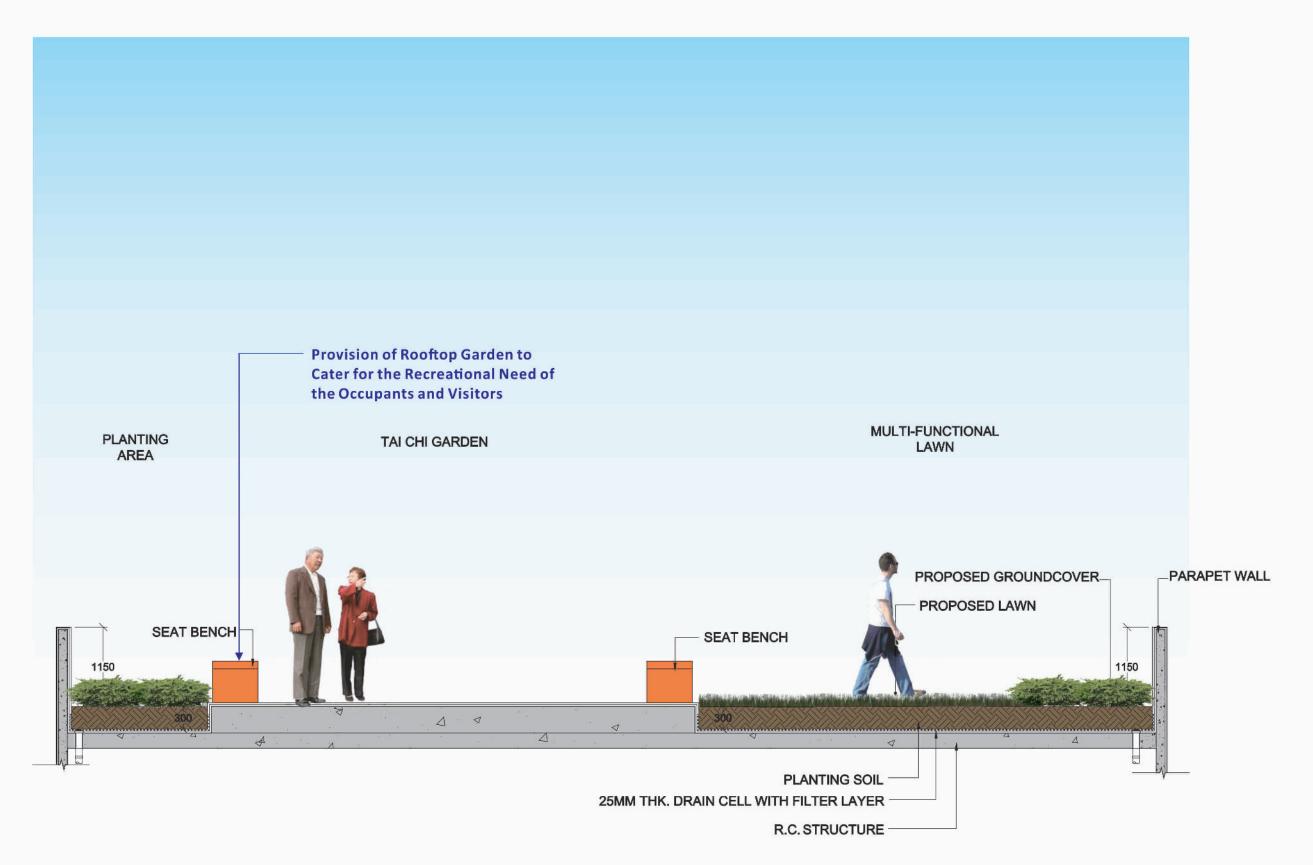
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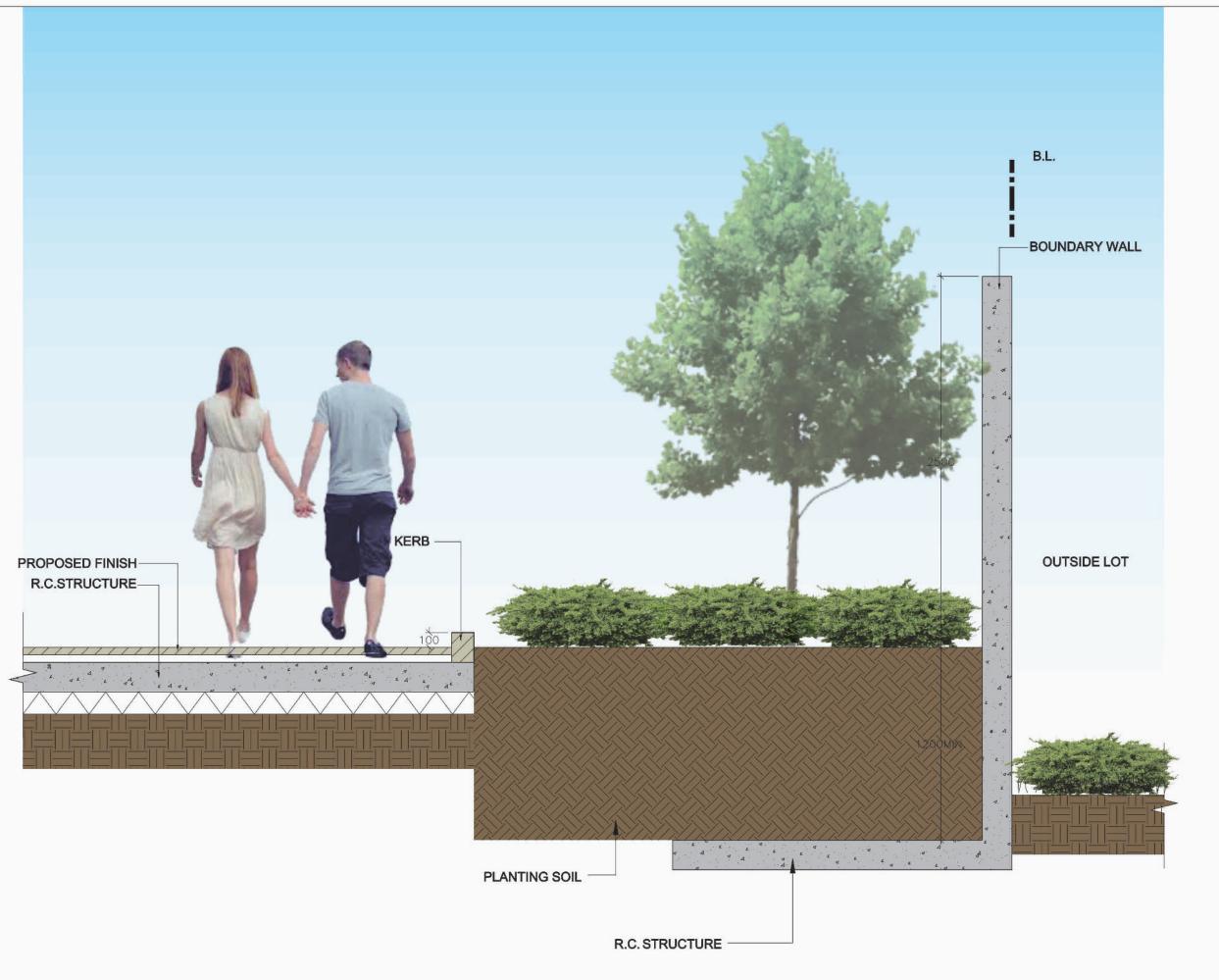
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TYPICAL PLANTER DETAILS (GROUND FLOOR)

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DRAWING No. LD103

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(Residential Care Home for the Elderly) and Flat with Minor Relaxation
of Building Height Restriction at Lots 834 and 838 RP in D.D. 52
and adjoining Government Land, Ting Ping Road, Sheung Shui, New Territories

Tree Preservation and Landscape Proposal

Appendix C

Planting Plans

Quantity	Code	Chinese Name	Botanical Name	Height (mm)	Spread (mm)	DBH (mm)	Spacing (mm)	Remark
HEAVY STA	NDARD TR	LEES						
1 3	ВВ	洋紫荆	Bauhinia blakeana	4500	2000	100	4000	Abundance of Foliage, Well-Formed, Full Spread Formed
10	BJ	秋楓	Bischofia javanica	3500	1500	100	4000	straight trunk and balanced form
6	OS	桂花	Osmanthus fragans	3000	1500	100	4000	straight trunk and balanced form
6	SL	假蘋婆	Sterculia lanceolata	4500	2000	100	4000	Straight trunk, balanced form
SHRUBS								
	Cam	福建茶	Carmona microphylla	450	400	=	400	Abundance of Foliage, Full Spread Formed
4	Cov	洒金榕	Codiaeum variegatum	350	300	#	300	Abundance of Foliage, Full Spread Formed
0 ≡ 4	Ite	鳶尾	Iris tectorum	500	350	=	200	upright form
320	lxo	龍船花	Ixora chinensis	500	450	≅	450	Abundance of Foliage, Full Spread Formed
800	Mec	野牡丹	Melastoma candidum	350	300	8	300	Abundance of Foliage, Full Spread Formed
%±0	Mj	非洲茉莉	Madagascar jasmine stephanotis floribumda	500	500	<u>-</u>	400	
454	Rhe	小葉棕竹	Rhapis excelsa	1200	600	70	600	
1/21	Rue	翠蘆莉	Ruellia coerulea	400	400	=	350	
8 7 0	Sar	鵝掌藤	Schefflera arboricola	600	500	5	450	Abundance of Foliage, Full Spread Formed
8 = 0	Sch	黃金 <mark>鵝掌藤</mark>	Schefflera arboricola "Trinette"	500	500	-	450	Abundance of Foliage, Full Spread Formed
GROUNDO	OVERS							
2 2 1	Cab	彩葉芋	Caladium bicolosr	350	300	=	250	
320	Nau	腎蕨	Nephrolepis auriculata	250	150	≅	150	
27.	Opb	沿階草	Ophiopogon bodinieri	250	250	₹.	200	
-	Pmy	錫蘭葉下珠	Phyllanthus myrtifolius	200	300	2	300	Abundance of Foliage, Full Spread Formed
GRASS								
9 <u>12</u> 9	Zja	朝鮮草	Zoysia japonica	3 <u>12</u> 1	=2	말	(2)	

PROJECT :

PROJECT:
SECTION 16 PLANNING APPLICATION FOR PROPOSED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND FLAT WITH MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION AT LOTS 834 AND 838 RP IN D.D.52 AND ADJOINING GOVERNMENT LAND, TIN PING ROAD, SHEUNG SHUI, NEW TERRITORIES

DRAWING TITLE : PLANTING SCHEDULE

PROJECT No. C2050

DRAWING No. PS01

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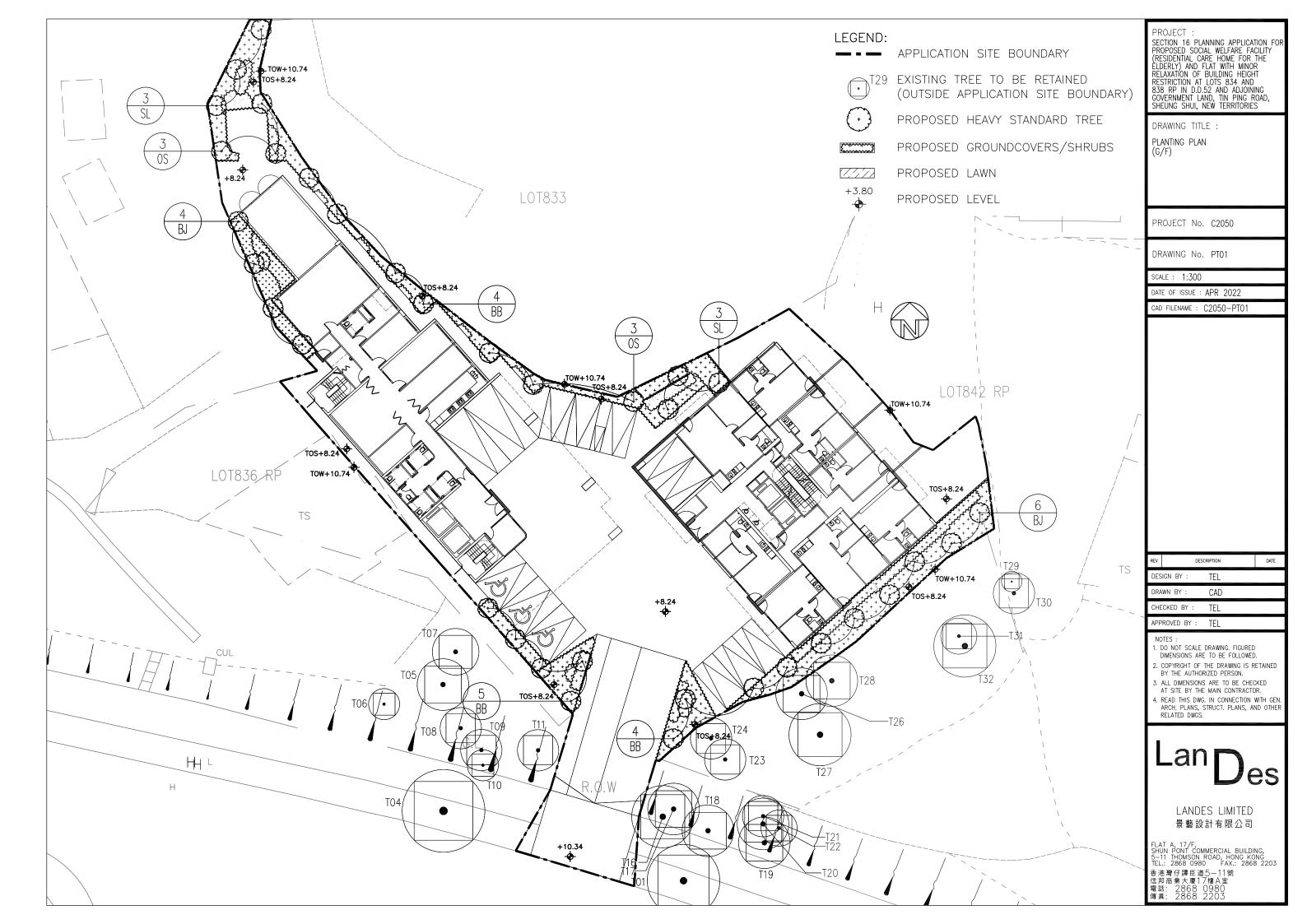
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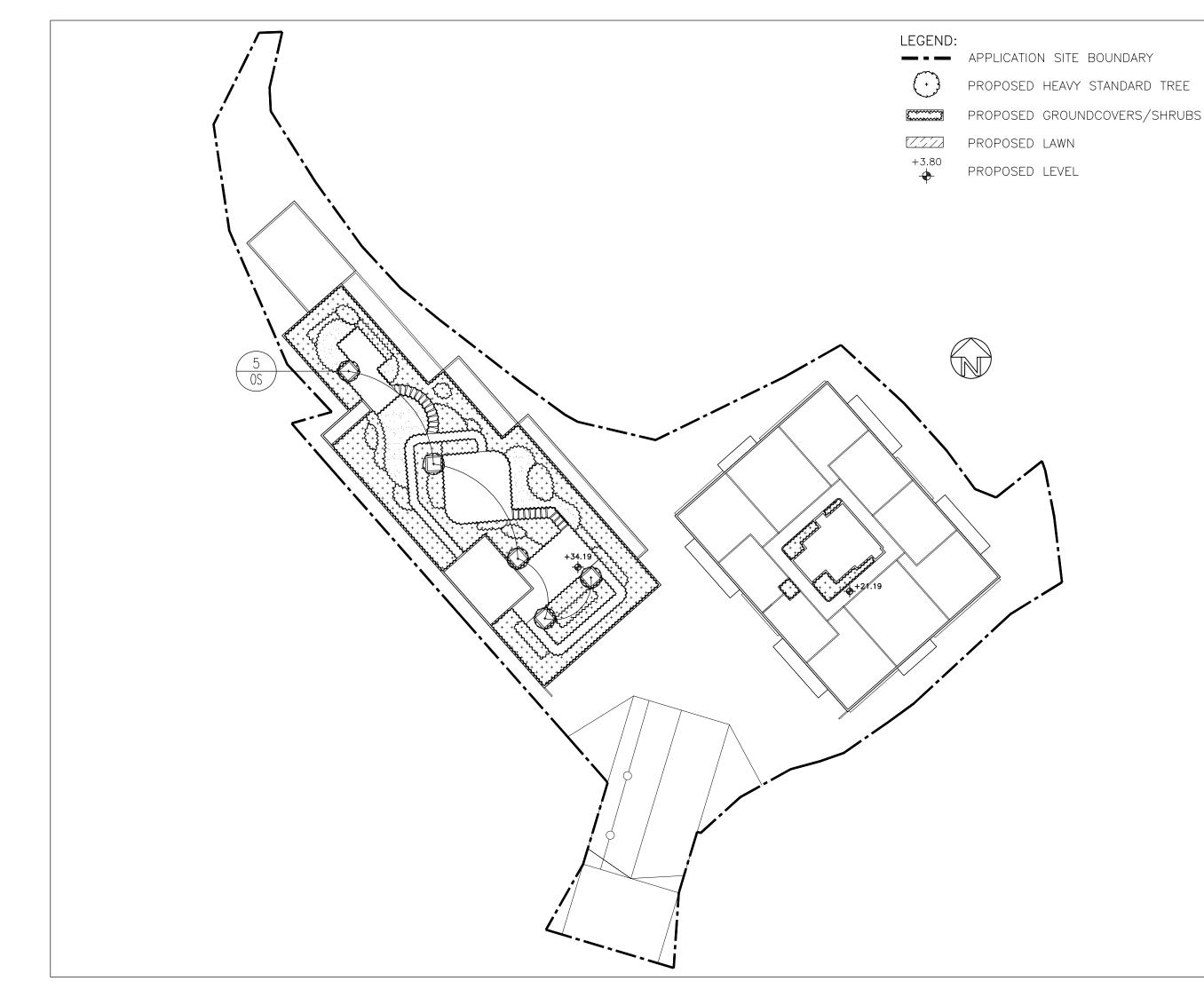
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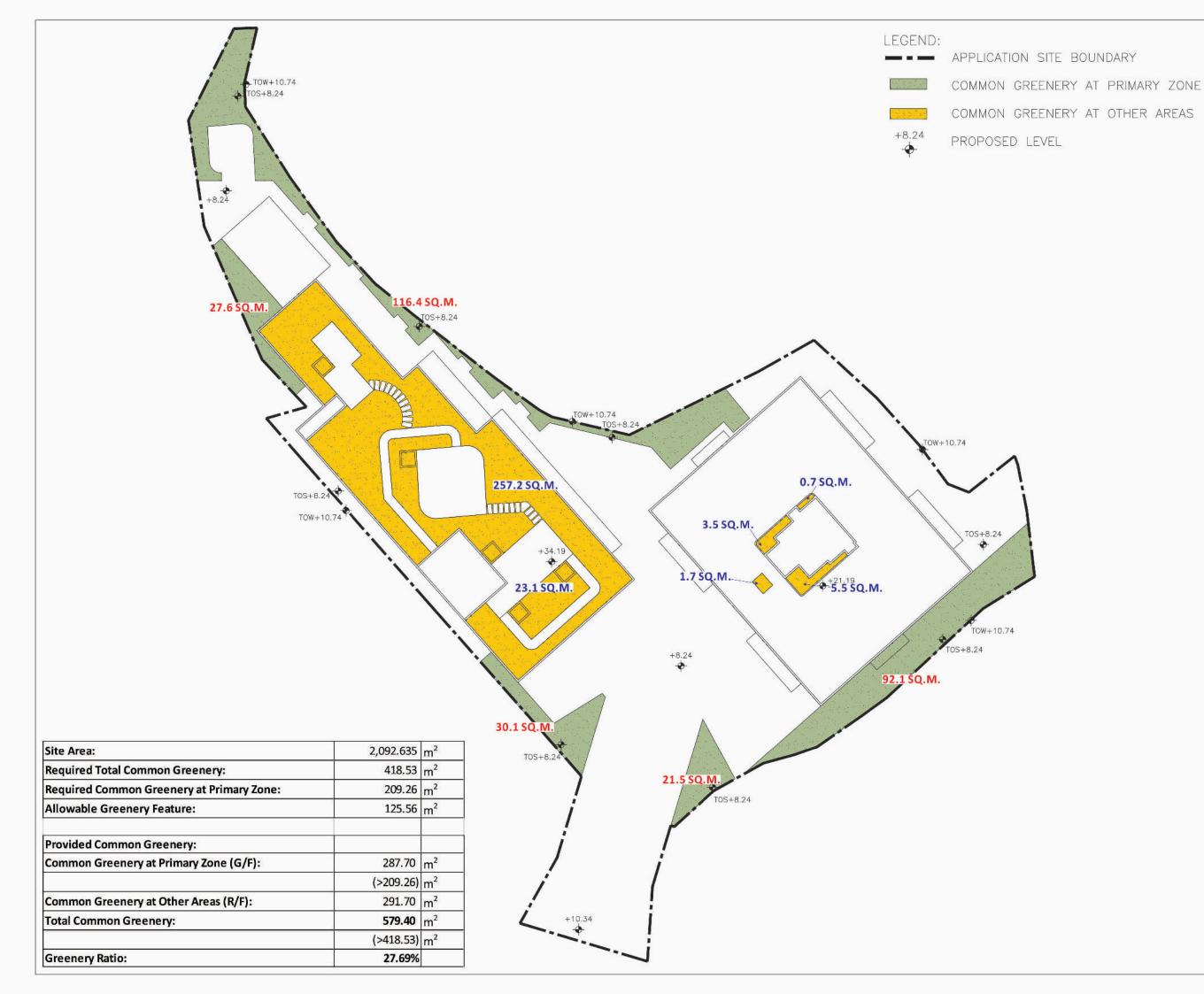
Tree Preservation and Landscape Proposal

Appendix D

Common Greenery Provision

And

Communal Open Space Provision



PROJECT

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SECTION 16 PLANNING APPLICATION FOR
PROPOSED SOCIAL WELFARE FACILITY
(RESIDENTIAL CARE HOME FOR THE
ELDERLY) AND FLAT WITH MINOR
RELAXATION OF BUILDING HEIGHT
RESTRICTION AT LOTS 834 AND
838 RP IN D.D.52 AND ADJOINING
GOVERNMENT LAND, TIN PING ROAD,
SHEUNG SHUI, NEW TERRITORIES

DRAWING TITLE :

COMMON GREENERY CALCULATION (OVERALL)

PROJECT No. C2050

DRAWING No. GC01

SCALE: 1:300

DATE OF ISSUE : APR 2022

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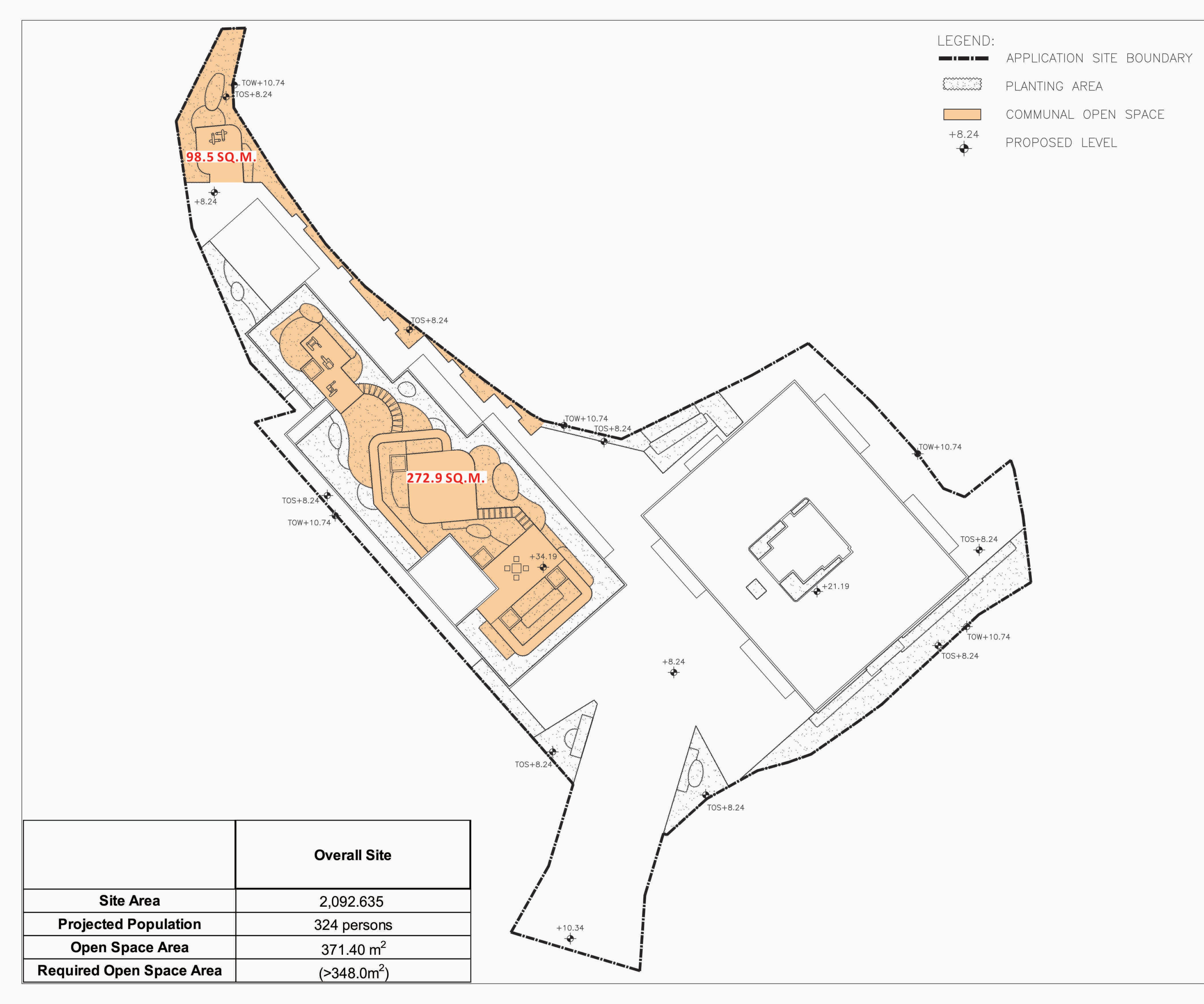
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DRAWING TITLE :

OPEN SPACE PROVISION (OVERALL)

PROJECT No. C2050

DRAWING No. OS01

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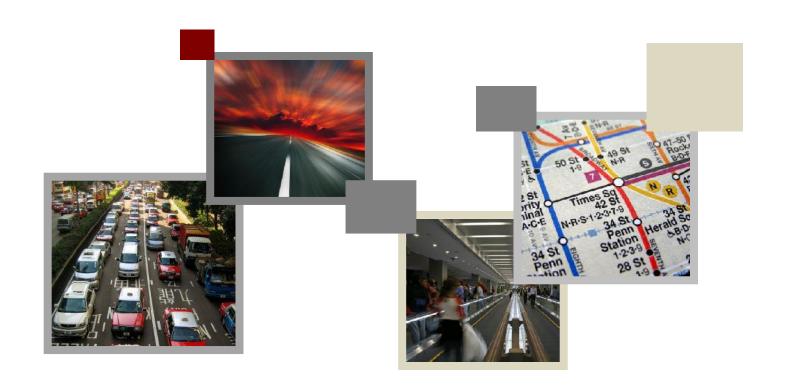
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Ref.: ADCL_PLG_10238_R001a

Appendix | III

Traffic Impact Assessment



TRAFFIC IMPACT ASSESSMENT REPORT

Reference: 30958-R01-03 Date: June 2022



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Appendix A Junction Calculation Sheets

Appendix B Excerpt of Legislative Council paper No. CB(1)499/18-19(01)

Appendix C Excerpt of Outline Development Plan no. D/FLN/1 and

Outline Zoning Plan no. S/FLN/2 of Fanling North

Appendix D Planning Data from Planning Department

1 Introduction

1.1 Background

The Applicant intends to develop Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land for residential use (flats) and social welfare facility (Residential Care Home for the Elderly).

Under the draft Fanling/Sheung Shui Outline Zoning Plan (S/FSS/25), the Site is mainly zoned as "Village Type Development" with a small portion falls within an area shown as "Road". The use for "Flat" and "Social Welfare Facility" and Minor Relaxation of Building Height Restriction for Flat requires planning permission from the Town Planning Board ("TPB").

For supporting the planning application, a Traffic Impact Assessment ("TIA") report is required to assess the traffic impact of the proposed development. AXON Consultancy is therefore commissioned by the Applicant to prepare the TIA report.

1.2 Objectives

The objectives of the TIA report are as follows:

- to estimate the potential traffic generation due to the development;
- to assess the future traffic situation in the surrounding network;
- to appraise the potential traffic impact of the development;
- to evaluate the internal transport facilities of the development; and
- to consider road improvement proposals, if feasible.

2 The Proposed Development

2.1 The Site

The Site is located at the north of Tin Ping Road, as shown in **Figure 2.1**. The site area is about 2,093m².

Under the draft Fanling/Sheung Shui Outline Zoning Plan (S/FSS/25), the Site is mainly zoned as "Village Type Development" with a small portion falls within an area shown as "Road".

2.2 Development Schedule

The proposed development will comprise of 38 private residential units, and a Social Welfare Facility for Residential Care Home for the Elderly ("RCHE"). The tentative completion year of the proposed development is year 2031.

The latest development schedule is presented in **Table 2.1**.

Table 2.1 Proposed Development Schedule

Item	Parameter					
Overview						
Site Area	About 2,093m ²					
Total GFA	About 4,972m ²					
Actual Plot Ratio	2.38					
1. Residential Block (Flats)						
Total GFA	About 1,691m ²					
Number of Storey	4					
Number of Residential Units	38					
2. RCHE						
Total GFA	About 3,281m ²					
Number of Storey	7					
Number of Bed Space	210					

2.3 Access Arrangement / Pedestrian Facilities

At present, the Site has no direct access from the local road network. Hence, an 8.9m-wide site access is proposed at Tin Ping Road, as shown in **Figure 2.2**, to connect the site with the local road network. In consideration of the nearby land status, the proposed site access will be the only possible ingress/egress point of the Site.

Swept path analyses for private cars, light goods vehicles ("LGV") and large fire appliances are carried out at the proposed vehicular access and the results are considered satisfactory as shown in **Figure 2.2-SP1** to **SP14**. Assessment on the visibility distance of the proposed vehicular access is carried out as shown in **Figure 2.3**, and the results are in accordance with Transport Planning and Design Manual ("TPDM") Volume 2 Chapter 3.6 Table 3.6.3.1.

Considering the circulation of vehicles into and out of the Site will be maintained as demonstrated in the swept path analysis, queuing of vehicles is not anticipated outside the Site under the proposed access arrangement. Since the nearest bus stop of the Site is located about 29m east of the proposed vehicular access. The manoeuvring of vehicles entering to/ existing from the site will not disrupt the existing operation of the nearby bus stop (including manoeuvring of buses and passenger pick-up/drop-off activities at the bus stop) under the proposed vehicular access arrangement. Therefore, the existing bus stop is considered not affected by the proposed vehicular access.

Pedestrians can assess the site via the proposed 1.5m-wide pedestrian path connecting the existing footpath at Tin Ping Road, as shown in **Figure 2.2**. To enhance the safety of pedestrians and motorists on the Site, the following measures are proposed:

- The proposed pedestrian path will be separated from the driveway by railings to minimise vehicle-pedestrian conflicts at the site access.
- Traffic sign will be labelled "Beware of Vehicles", which is erected on site to alert the pedestrians.
- Amber revolving lanterns with audible alarms will be installed on both sides of the site entrance to alert pedestrians when there are vehicles leaving the Site.
- Proper road markings will be provided on site to guide the motorists.

2.4 Internal Transport Facilities

The parking provision for the residential use of the proposed development will be provided with reference to Hong Kong Planning Standards and Guidelines ("HKPSG"), as shown in **Table 2.2**.

Table 2.2 Required and Proposed Parking Provision for Residential Use

	Parking Requirements Under HKPSG	Proposed		
Туре	Standard	Standard Required Provision		
Private Car	Parking Requirement = GPS x R1 x R2 x R3 Flat Number = 17 GPS: 1 parking space in 4-7 flats = $3 - 5$ R1 (for average flat size $\leq 40m^2$) = 0.5 R2 (for outside a 500m-radius of rail station) = 1 R3 (for plot ratio $<$ 2.0 and \leq 5.00) = 1	5 0	5	
Parking Space	Parking Requirement = GPS x R1 x R2 x R3 Flat Number = 21 GPS: 1 parking space in 4-7 flats = $3 - 6$ R1 (for average flat size $40m^2$ < flat size $\le 70m^2$) = 1.2 R2 (for outside a 500m-radius of rail station) = 1 R3 (for plot ratio <2.0 and ≤ 5.00) = 1	5 – 9	5	
Private Car Parking Space (Accessible)	1 for every 1 – 50 parking spaces	1	1	
Visitor Parking Space (Accessible)	-	-	1 ⁽¹⁾	
Motorcycle Parking Space 1 for every 100 – 150 flats		1	1	
Goods Vehicle Loading/unloading Bay	1 for every 800 flats	1	1	

Remark: (1) In compliance with the requirements of the Transport Department for the approved case A/FSS/279.

Since there is currently no specific requirement of parking provisions for RCHE under HKPSG, the parking provision of the proposed RCHE is determined with reference to the other similar RCHE and the operation needs of the proposed RCHE.

A recent project "Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Tin Ping Road, Sheung Shui" (no. A/FSS/279) had been approved in 2021. The project would provide 1 no. loading/unloading bay and 3 nos. private car parking spaces for the exclusive use of the welfare facilities. With reference to the RCHE of this project, the parking provision of private car parking spaces for RCHE was found to be 1 private car parking space for every 100 bed spaces.

Considering the operation needs of the proposed RCHE, a total of 4 nos. of private car parking spaces (3 parking spaces designated for staff and 1 for visitors) and 1 no. of loading/unloading bay are proposed, as shown in **Table 2.3**.

Table 2.3 Required and Proposed Parking Provision for RCHE

	Parking Requirements Under HKPSG			
Туре	Standard	Required Provision	Proposed Provision	
Private Car Parking Space		-	3	
Visitor Parking Space (Accessible)	No standards specified in HKPSG. The proposed parking provisions are determined with reference to other similar RCHE and limited to the operation needs	-	1	
Goods Vehicle Loading/unloading Bay	of the proposed RCHE.	-	1 ⁽¹⁾	

Remark:

The dimensions of the proposed parking provisions are in accordance with HKPSG, as shown in **Table 2.4**.

Table 2.4 Dimensions of Proposed Parking Provision

Type of Parking Space	Size	References
Private Car Parking Space	2.5m(W) x 5.0m(L) x 2.4m(H)	
Accessible Car Parking Space	3.5m(W) x 5.0m(L) x 2.4m(H)	Lladar IIVDCC
Motorcycle Parking Space	1.0m(W) x 2.4m(L) x 2.4m(H)	Under HKPSG
LGV Loading/unloading Bay	3.5m(W) x 7.0m(L) x 3.6m(H)	

The layout of the proposed parking provisions is shown in Figure 2.2.

⁽¹⁾ The proposed goods vehicle loading/ unloading bay will also serve as layby for ambulance when an emergency occurs.

3 Existing Traffic Conditions

3.1 Existing Road Networks

The major road networks in the vicinity of the Site are listed as follows:

- Tin Ping Road is a single-two lane local distributor running in the east-west direction. It joins Lung Sum Road on the east and Jockey Club Road on the west. It provides major access to the site.
- Fung Nam Road is a single-two lane local distributor running in the east-west direction. It connects with Tin Ping Road at both ends.
- Lung Sum Avenue is a single-two lane district distributor running in the northsouth direction. It links Tin Ping Road on the north and Jockey Club Road on the south.
- Jockey Club Road is a dual-two lane primary distributor connecting to Man Kam To Road and Fanling Highway at the junction of Pak Wo road.
- **Po Shek Wu Road** is a dual-two lane primary distributor running in the north-south direction. It connects to the junction with Jockey Club Road on the north and the Fanling Highway Interchange on the south.

3.2 Existing Public Transport Facilities

The site is well served by Franchised Bus Services and GMB Services in close vicinity. A summary of public transport services in the vicinity of the site is presented in **Table 3.1**, and the location of nearby bus stops and GMB stops are shown in **Figure 3.1**.

Table 3.1 Existing Public Transport Services

Route No.		Origin - Destination	Frequency (min)	Remarks
	70K	Fanling (Wah Ming) ↔ Ching Ho	15 - 20	Circular Route
	73K	Sheung Shui ↔ Man Kam To	10 - 30	-
	79K	Sheung Shui ↔ Ta Kwu Ling (Tsung Yuen Ha)	15 - 30	-
	270	Tsui Lai Garden ↔ Tin Ping Estate	7 - 20	Circular Route
	270S	Tsim Sha Tsui East ↔ Fanling (Luen Wo Hui)		Night Route
Bus	277E	Sheung Shui (Tin Ping) ↔ Lam Tin Station	12 - 30	-
	277P	Sheung Shui (Tin Ping) ↔ Lam Tin Station	-	Monday to Friday peak hour service only
	673P	Sheung Shui ←Central (Rumsey Street)	-	Monday to Saturday peak hour service only
	T277	Sheung Shui ↔ Lam Tin Station	-	Monday to Friday morning peak hour service only
	373	Sheung Shui ↔ Central (Hong Kong Station)	-	Monday to Friday morning peak hour service only
	N373	Fanling (Luen Wo Hui) ↔ Central (Macau Ferry)	20 - 30	Night Route
GMB	59K	Sheung Shui Station ↔ Lin Ma Hang	30	-

3.3 Traffic Count Surveys

In order to appraise the existing traffic conditions, classified vehicle count surveys were conducted at the key road links and junctions of the study area, as presented in **Figure 3.2**, on 4 January 2022 (TUE) during the periods of 0730 – 1030 and 1600 – 1900 hours.

The traffic counts were recorded in a 15-minutes interval; and to be converted into passenger car unit (pcu) values. The highest consecutive 15-minutes hourly traffic volume is adopted as the peak-hour traffic flow.

The AM and PM peak hours of the road network during the survey period were identified as 0730 - 0830 and 1715 - 1815 hours respectively. The 2022 observed peak hours traffic flows at the key junctions are presented in **Figure 3.3**.

3.4 Existing Capacity Assessment

Based on the traffic flows during the AM and PM peak hours at the key road links, the corresponding performances in terms of volume-to-capacity ("V/C") ratio are assessed in accordance with TPDM Volume 2, and the results are summarised in **Table 3.2**.

Considering the width, road type and observed traffic composition of the key road links, it is assumed that:

- the carriageway capacity of road link no. L1 at Jockey Club Road is equivalent to a 7.3m dual-two lane primary distributor with a reduction of peak hourly flows for 25% of heavy vehicles in the traffic, i.e. 2800 x (1-10%) = 2520 veh/hr, for one direction of flow;
- the carriageway capacity of road link no. L2 at Tin Ping Road is equivalent to a 10.0m single-two lane district distributor with a reduction of peak hourly flows for 18% of heavy vehicles in the traffic, i.e. 2200 x (1-7%) = 2046 veh/hr, for both directions of flow.

A V/C ratio equal to or less than 0.85 indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays.

Table 3.2 Year 2022 Link Capacity Assessment

No.	Key Road Link	Key Road Link Direction		Carriageway Capacity	2022 Observed Flows (veh/hr)		V/C Ratio	
			(veh/hr)	AM Peak PM Peak	AM Peak	PM Peak		
14	L1 Jockey Club Road	N/B	2,520	995	663	0.39	0.26	
L1		S/B	2,520	861	957	0.34	0.38	
1.0	Tip Ding Dood	E/B	1,023	242	195	0.24	0.19	
L2	Tin Ping Road	W/B	1,023	277	248	0.27	0.24	

Junction capacity assessments are carried out at the key junctions in accordance with TPDM Volume 2 and 4. Results of the capacity assessment are summarised in **Table 3.3** and the detailed calculation sheets are enclosed in **Appendix A**.

The performance of a priority junction or roundabout is indicated by its design flow/capacity ratio ("DFC"). A DFC value of 0.85 or below is considered within acceptable level without causing undue delay to motorists passing through the concerned junctions.

The Performance of a traffic signalised junction is indicated by its reserve capacity ("RC"). A RC value of 15% or above is considered within acceptable level without causing undue delay to motorists passing through the concerned junctions.

Table 3.3 Year 2022 Junction Capacity Assessment

No.	Junction Location	Type / Capacity Index	AM Peak	PM Peak
J1	Jockey Club Road / Tin Ping Road	Signalised Junction / RC	>100%	>100%
J2	Tin Ping Road / Fung Nam Road (1)	Priority Junction / DFC	0.21	0.15
J3	Tin Ping Road / Fung Nam Road (2)	Priority Junction / DFC	0.21	0.10
J4	Tin Ping Road / Access Road of Woodland Crest	Priority Junction / DFC	0.13	0.09
J5	Tin Ping Road / Lung Sum Avenue	Signalised Junction / RC	61.8%	64.2%
J6	Jockey Club Road / Po Shek Wu Road	Roundabout / DFC	0.45	0.45

As shown in **Table 3.2** and **Table 3.3**, all key road links and junctions are currently operating with spare capacities during the identified AM and PM peak hours.

4 Future Traffic Conditions

4.1 Design Year of Traffic Forecast

The completion year of the proposed development is expected to be year 2031. As a result, the design year of the traffic impact assessment should be three years after the completion year, i.e., year 2034.

4.2 Traffic Generation from the Proposed Development

The traffic generation and attraction for private residential use of the proposed development are estimated with reference to TPDM Volume 1, while the traffic generation and attraction for the proposed social welfare facility (RCHE) are estimated with reference to the recently approved TIA which involves RCHE development, including planning application no. A/YL/TYST/870, the proposed Hong Kong Housing Society Subsidized Housing Development at Jockey Club Road, and A/FSS/279 as shown in **Table 4.1.**

Table 4.1 Identified Trip Rates with Reference to the Recent RCHE Developments

		Generation		Attraction	
		AM Peak	PM Peak	AM Peak	PM Peak
	Trip rates	(pcu/hr/bed)			
Proposed RCHE under planning application no. A/YL/TYST/870 at	Traffic Generation (pcu/hr)	13	11	13	11
Yuen Long (300 bed spaces)	Trip Rates (pcu/hr/bed)	0.0434	0.0367	0.0434	0.0367
Proposed RCHE under Hong Kong Housing Society Subsidized	Traffic Generation (pcu/hr)	3	3	3	3
Housing Development at Jockey Club Road, Sheung Shui (100 bed spaces)	Trip Rates (pcu/hr/bed)	0.05	0.05	0.05	0.05
Proposed RCHE under planning application no. A/FSS/279 at	Traffic Generation (pcu/hr)	8	8	8	8
Sheung Shui (143 bed spaces)	Trip Rates (pcu/hr/bed)	0.05	0.05	0.05	0.05
Adopted Trip Rates	s (pcu/hr/bed) ⁽¹⁾	0.05	0.05	0.05	0.05

Remark:

(1) For conservative purposes, the higher trip rates of the proposed RCHE under planning application no. A/FSS/279 at Sheung Shui will be adopted.

The overall traffic generation and attraction rates of the proposed development are presented in **Table 4.2**.

Table 4.2 Overall Traffic Generation and Attraction of the Proposed Development

Overall Traffic Generation and Attraction of the Proposed Development								
Doy	velopment Parameters	Generation		Attraction				
Dev	reiopinent Farameters	AM Peak	PM Peak	AM Peak	PM Peak			
	Trip rates (pcu/hr/flat)							
Private Housin	ng: High-Density Density / R(A) (1)	0.1021	0.0415	0.0709	0.0464			
	Trip rates (pcu/hr/bed)						
	Proposed RCHE	0.05	0.05	0.05	0.05			
	Traffic Tri	p (pcu/hr)						
Proposed Development	Trip generation from Residential Development with 38 nos. Flats (Average flat size <60m²; car park ratio = 4.0)	4	2	3	2			
Development	Trip generation from Social Welfare Facility (RCHE) with 210 nos. bed space	11	11	11	11			
	Total	15	13	14	13			

Remark:

(1) The trips rates are quoted from TPDM Volume 1 Appendix 1. Considering the type, average flat size and car park ratio of the proposed residential use, the upper limit traffic generation/attraction rates for "PrivateHousing: High-Density / R(A)" with average flat size of 60m² are adopted for assessment purposes.

4.3 Traffic Generation from the Fanling North NDA Development

It is noted that the Fanling North New Development Area ("NDA") Development, which has a target completion year of 2031, will induce additional traffic on the appraised road network in the design year.

For the sake of comprehensiveness, the traffic generated from the Fanling North NDA area are estimated with reference to TPDM Volume 1 and incorporated in the assessment. The respective development parameters are referred to the Outline Development Plan no. D/FLN/1 and Outline Zoning Plan no. S/FLN/2 of Fanling North (the excerpts are enclosed in **Appendix B**), and the estimated traffic generation and attraction from those developments are summarised in **Table 4.3**.

Table 4.3 Estimated Traffic Generation and Attraction from Fanling North NDA

Developments with Reference to the corresponding ODP and OZP

Development		Gene	ration	Attraction			
Development	AM Peak	PM Peak	AM peak	PM Peak			
Trip rates ¹ (pcu/hr/flat)							
Subsidised Housing: HOS (50m² averaç	ge flat size)	0.0761	0.0350	0.0573	0.0451		
Private Housing: High-Density (70m ² av	erage flat size)	0.1117	0.0454	0.0729	0.0551		
Private Housing: Medium-Density (140	m² average flat size)	0.3042	0.1626	0.1756	0.2207		
	Trip rates1 (pcu/hr/10	0 sqm GFA)					
Retail / Shopping Complex		0.3307	0.3839	0.3342	0.4504		
	Traffic Trips (po	cu/hr)					
"RS/HOS" Site in Northwest of Area 6	1,457 flats	111	51	83	66		
"RS/HOS" Site in Southwest of Area 6	1,152 flats	88	40	66	52		
"RS/HOS" Site in Northeast of Area 6	1,446 flats	110	51	83	65		
"RS/HOS" Site in Southeast of Area 6	1,090 flats	83	38	62	49		
"R3" Site in of Area 7	161 flats	49	26	28	36		
"RS/HOS" Site in North of Area 8	653 flats	50	23	37	29		
"RS/HOS" Site in South of Area 8	873 flats	66	31	50	39		
"R2" Site in of Area 10	434 flats	48	20	32	24		
"OU (Commercial and Residential Development Incorporating Public Transport Terminus)" Site in South of Area 10	307 flats; Non Domestic GFA: 8,598m ²	63	47	51	56		
"R2" Site in West of Area 10	439 flats	49	20	32	24		
Total		717	347	524	440		

Remark: (1) The trip rates as demonstrated in **Table 4.3** are quoted from TPDM Volume 1.

4.4 Future Road Improvements

Under the North East New Territories New Development Areas Planning and Engineering Study, Fanling Bypass ("FLBP") is proposed as a regional highway which connects the Fanling North New Development Area ("NDA") with Fanling Highway (Tai Po Section) to reduce traffic impacts on the Fanling/Sheung Shui Areas. The proposed FLBP will allow traffic from Man Kam To and Fanling North NDA to bypass the Sheung Shui town centre and prevent overloading at Fanling Highway (Sheung Shui Section) and its interchanges. In view of the above, it is estimated that the traffic flows on the surrounding road networks of the Site, such as Jockey Club Road and Po Shek Wu Road in particular, will be reduced after the completion of FLBP.

According to the Legislative Council Paper No. CB(1)499/18-19(01) as shown in **Appendix C**, the construction of FLBP is divided into two phases:

- **FLBP Eastern Section**: to be constructed under PWP Item No. 7747CL, which has a tentative completion year of 2026.
- **FLBP Western Section**: to be constructed under PWP Item No. 7828CL, which has a tentative completion year of 2031.

Considering the FLBP is anticipated to be completed within the design year of the TIA, the traffic mitigating effect of FLBP will be incorporated into the assessment. The sensitivity analysis of FLBP for the concerned road links and junctions are detailed in the later section of the TIA.

4.5 Annual Traffic Growth

To estimate the traffic flows in the design year 2034, it is proposed to adjust the existing traffic flows with a natural traffic growth factor which is related to the increase in car usage. The growth factor is derived with reference to the historical traffic data from Annual Traffic Census ("ATC") and the projected population data from "Projections of Population Distribution 2021 – 2029".

Projected Population Data

According to the report "Projections of Population Distribution 2021-2029" published by the Planning Department, the population growth from the base year 2019 to 2029 in North District is shown in **Table 4.4** and an excerpt of the report is enclosed in **Appendix D.**

Table 4.4 Projected Population in North District, 2019 – 2029

| Year |
|---------|---------|---------|---------|---------|---------|---------|---------|
| 2019* | 2020* | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| 317,900 | 318,500 | 323,600 | 357,000 | 359,800 | 361,600 | 366,500 | 372,400 |

Year	Year	Year	Growth
2027	2028	2029	Rate p.a.
393,900	417,200	426,900	2.8%

^{*}Base year estimates

The data indicate an increase in population at a rate of +2.8% per annum in the North District between 2019 and 2029.

Historical Traffic Data

According to the 2011 – 2020 ATC Reports published by Transport Department, the details of the counting stations in the study area and the corresponding annual average daily traffic ("AADT") data are shown in **Table 4.5**.

Table 4.5 Annual Traffic Census Data

Station No. / Road Name	2011	2012	2013	2014	2015	2016
5218/ Jockey Club Road (from Po Shek Wu Road to Man Kam To Road)	21,020	20,820	21,550	20,860	21,830	23,060
5822/ Jockey Club Road (from Lung Sum Avenue to Man Kam To Road)	13,280	13,990	14,580	14,490	15,160	14,100
6018/ Po Shek Wu Road (from Choi Yuen Road to Jockey Club Road)	32,180	32,700	32,860	32,650	34,160	36,090
6624/ Tin Ping road (from Jockey Club Road to Lung Sum Road)	2,920	2,760	3,660	2,910	3,130	3,240

Station No. / Road Name	2017	2018	2019	2020	G.P.A
5218/ Jockey Club Road (from Po Shek Wu Road to Man Kam To Road)	22,890	24,520	26,450	25,180	2.0%
5822/ Jockey Club Road (from Lung Sum Avenue to Man Kam To Road)	14,560	15,030	15,620	14,870	1.3%
6018/ Po Shek Wu Road (from Choi Yuen Road to Jockey Club Road)	36,210	36,460	37,910	36,090	1.3%
6624/ Tin Ping road (from Jockey Club Road to Lung Sum Road)	3,040	3,090	3,230	3,540	2.2%
	1.5%				

Average annual growth of +1.5% is found between 2011 and 2020 from the historical traffic data.

For conservative purposes, an annual growth rate of **+2.8%** is adopted in the traffic forecast to project the existing traffic flows to the design year 2034.

4.6 Reference and Design Flows

The Year 2034 reference and design flows are calculated by the following equations:

2034 Reference Flows = 2022 Observed Flows $x (1 + 2.8\%)^{12}$

2034 Design Flows = 2034 Reference Flows + Net Development Traffic Flows

Based on the observed traffic flows and pattern of the existing road network, the Year 2034 reference flows, design flows and net development traffic flows at the key junctions during the identified AM and PM peak hours are presented in **Figures 4.1**, **4.2** and **4.3** respectively.

4.7 Future Capacity Assessment

Capacity assessments are carried out for the key road links and junctions under 2034 reference and design scenarios. The results are shown in **Table 4.6** and **4.7**, and the detailed junction calculation sheets are enclosed in **Appendix A**.

Table 4.6 Year 2034 Link Capacity Assessment

				Traf	atio]			
No.	Key Road Link	Direction	Carriageway Capacity (veh/hr)	2034 Re	2034 Reference 2034 Design Scenario Scenario			
			(AM Peak	PM Peak	AM Peak	PM Peak	
L1	Jackey Club Bood	N/B	2,520	1,386 [0.55]	923[0.37]	1,386[0.55]	923[0.37]	
LI	Jockey Club Road	S/B	2,520	1,199[0.48]	1,333[0.53]	1,208[0.48]	1,341[0.53]	
L2 Tiı	T D' D I	E/B	1,023	337[0.33]	272[0.27]	343[0.34]	277[0.27]	
	Tin Ping Road	W/B	1,023	338[0.33]	345[0.34]	352[0.34]	358[0.35]	

Table 4.7 Year 2034 Junction Capacity Assessment

No.	Junction Location	Type / Capacity	2034 Re Scer	eference nario	2034 Design Scenario	
		Index	AM Peak	PM Peak	AM Peak	PM Peak
J1	Jockey Club Road / Tin Ping Road	Signalised Junction / RC	54.6%	48.7%	51.7%	43.9%
J2	Tin Ping Road / Fung Nam Road (1)	Priority Junction / DFC	0.30	0.21	0.30	0.21
J3	Tin Ping Road / Fung Nam Road (2)	Priority Junction / DFC	0.31	0.19	0.31	0.19
J4	Tin Ping Road / Access Road of Woodland Crest	Priority Junction / DFC	0.20	0.13	0.20	0.13
J5	Tin Ping Road / Lung Sum Avenue	Signalised Junction / RC	16.3%	18.0%	15.0%	17.0%
J6	Jockey Club Road / Po Shek Wu Road	Roundabout / DFC	0.71	0.73	0.71	0.73

As shown in **Table 4.5** and **4.6**, all key road links and junctions are expected to operate with spare capacities during the identified AM and PM peak hours under the year 2034 reference and design Scenarios.

4.8 Sensitivity Analysis of Fanling Bypass

For analysis purposes, it is estimated that 10% of traffic flows at the section of Jockey Club Road between Man Kam To Road and Po Shek Wu Road, and the section of Po Shek Wu Road between Jockey Club Road and Po Wan Road will be diverted via FLBP upon its completion. That will improve the operating performance of key road link no. **L1** and junction nos. **J1** and **J6**. The link and junction capacity assessment results for those road link and junctions with and without the traffic mitigating effect of FLBP are summarised in **Table 4.8** and **4.9**. The detailed junction calculation sheets are enclosed in **Appendix A**.

Table 4.8 Year 2034 Link Capacity Assessment under Design Scenario – With & Without FLBP

No.			Carriageway	Traf	fic Flows (ve	eh/hr) [V/C Ratio]		
	Key Road Link	Direction	Capacity Without FLBP With FLBF		Without FLBP		FLBP	
			(veh/hr)	AM Peak	PM Peak	AM Peak	PM Peak	
1.4	I.A. Jashan Olub Dasal	N/B	2,520	1,386[0.55]	923[0.37]	1,248[0.50]	831[0.33]	
L1 Jockey (Jockey Club Road	S/B	2,520	1,208[0.48]	1,341[0.53]	1,088[0.43]	1,207[0.48]	

Table 4.9 Year 2034 Junction Capacity Assessment under Design Scenario – With & Without FLBP

No.	Junction Location	Type /	Withou	t FLBP	With FLBP		
NO.	Junction Location	Capacity Index	AM Peak	PM Peak	AM Peak	PM Peak	
J1	Jockey Club Road / Tin Ping Road	Signalised Junction / RC	51.7%	43.9%	61.8%	53.1%	
J6	Jockey Club Road / Po Shek Wu Road	Roundabout / DFC	0.71	0.73	0.71	0.73	

As shown in **Table 4.8** and **4.9**, the concerned road link and junctions will be operating with spare capacities regardless of the completion of FLBP under the year 2034 design scenario.

5 Conclusion

5.1 Summary of Findings

The Applicant intends to develop Lots 834 and 838 RP in D.D. 52 at Tin Ping Road for residential block (flats) and social welfare facility (Residential Care Home for the Elderly). The proposed development is expected to be completed in year 2031.

An 8.9m-wide site access, including a 7.3m-wide vehicular access and a 1.5m-wide pedestrian path, is proposed at Tin Ping Road to provide direct access to pedestrians and motorists from the local road network. Various measures are proposed to maintain traffic circulation and enhance safety on the Site.

The internal transport facilities of the proposed residential and RCHE development will be provided with reference to Hong Kong Planning Standards and Guidelines and the recently approved RCHE development respectively. They include:

- (i) 8 regular private car parking spaces @2.5m(W) x 5.0m(L) x 2.4m(H),
- (ii) 3 accessible car parking space @3.5m(W) x 5.0m(L) x 2.4m(H),
- (iii) 1 motorcycle parking space @1.0m (W) x 2.4m(L) x Min. 2.4m (H), and
- (iv) 2 light goods vehicle loading/unloading bays @3.5m(W) x 7.0m(L) x 3.6m(H).

Classified traffic count survey was conducted at the key road links and junctions of the study area on 4 January 2022 (TUE) during the periods of 0730 – 1030 and 1600 – 1900 hours. The AM and PM peak hours of the road network during the survey period were identified as 0730 - 0830 and 1715 – 1815 hours, respectively. Link and junction capacity assessments are carried out on the key road links and junctions, and it is observed that all key links and junctions are currently operating with spare capacities during the identified AM and PM peak hours.

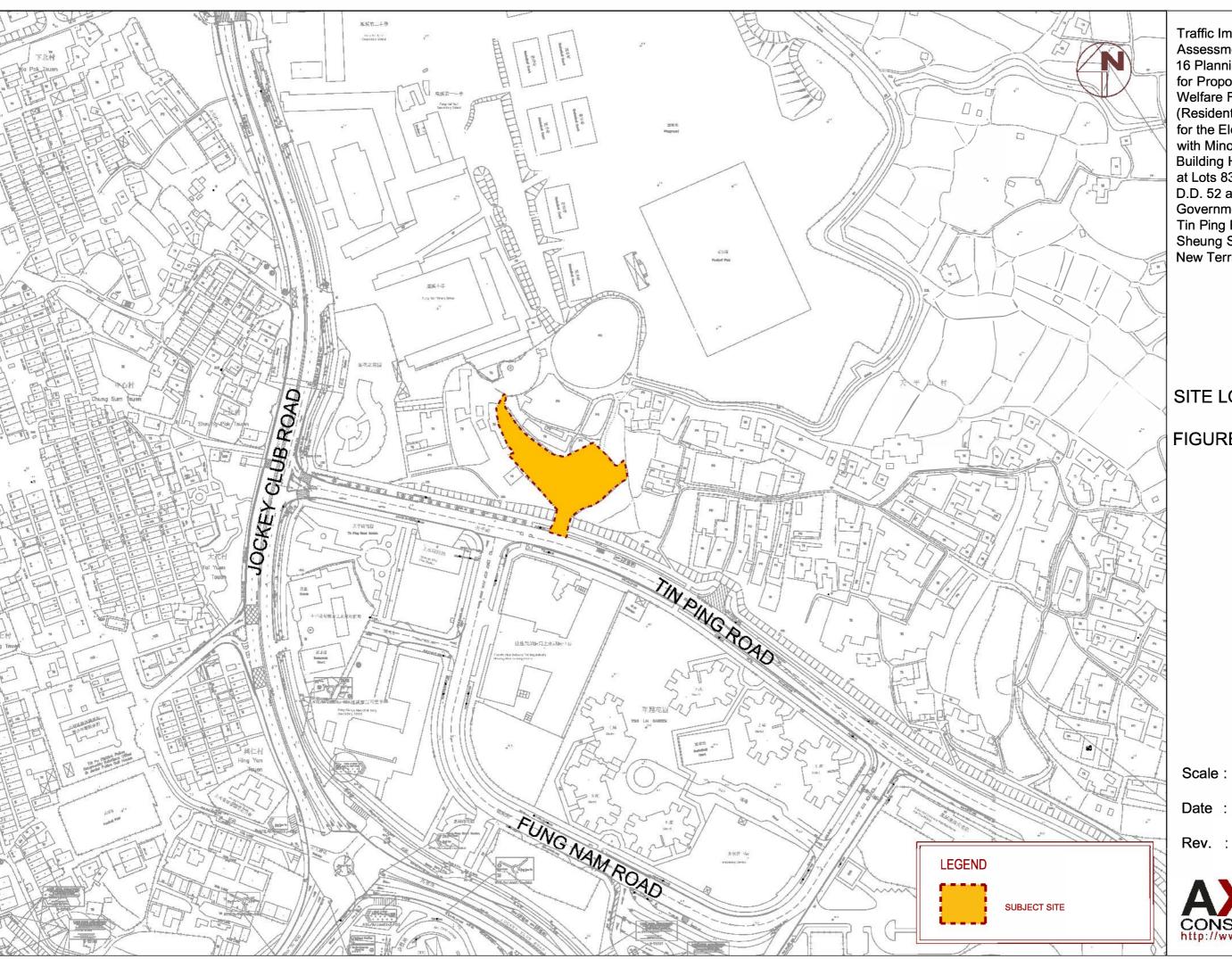
Year 2034 is adopted as the design year for the study. The design year traffic flow data are estimated in consideration of the population growth in the North District and historical traffic growth on the nearby road links.

The results of link and junction assessment indicate that all concerned road links and junctions of the study area will have sufficient capacities to accommodate the expected traffic growth to year 2034, including the traffic generated from the proposed development.

5.2 Conclusion

In view of the above, it can be concluded that the proposed development will not generate adverse traffic impact to the surrounding road networks, and is acceptable from traffic engineering point of view.

Figures



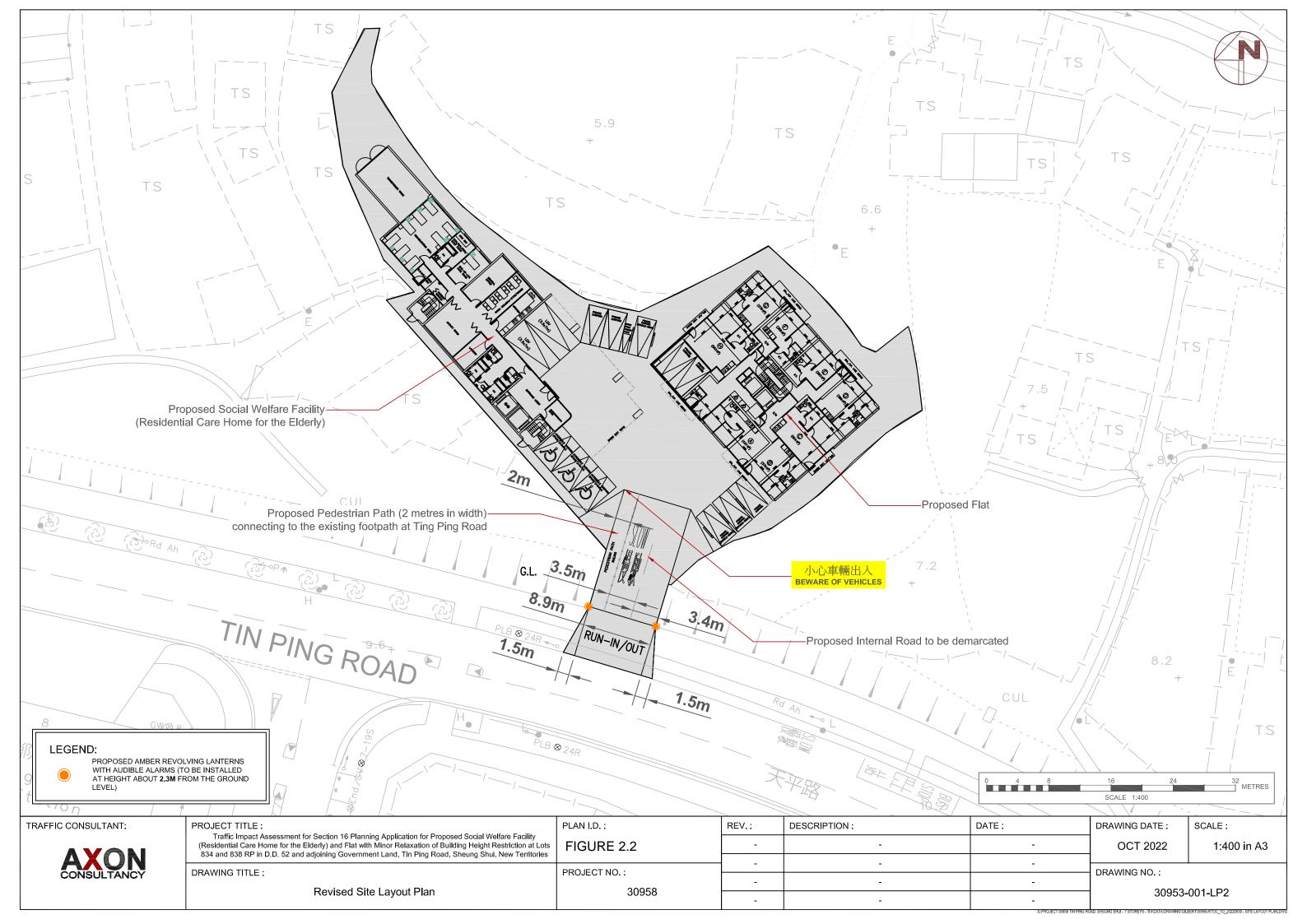
SITE LOCATION

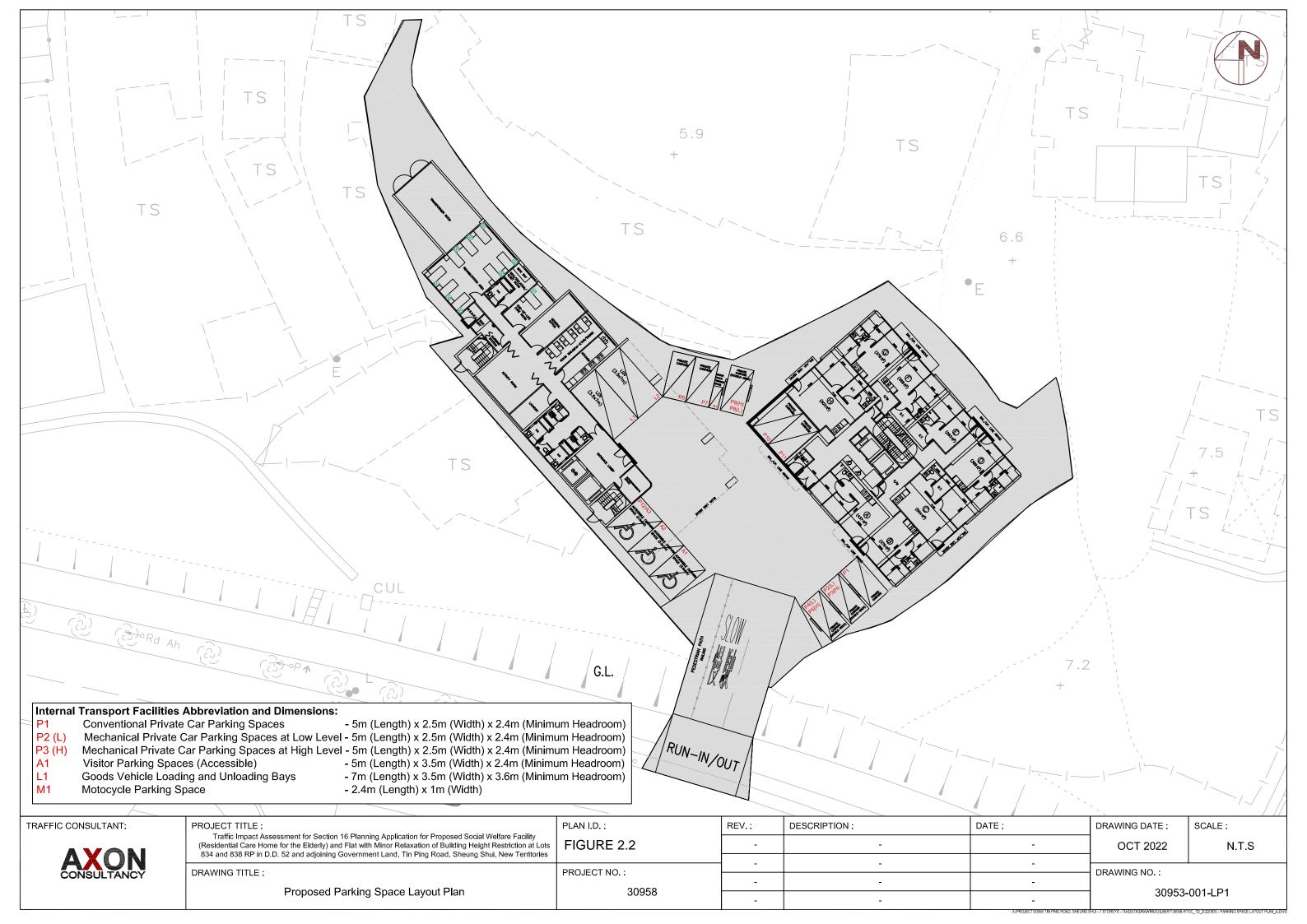
FIGURE 2.1

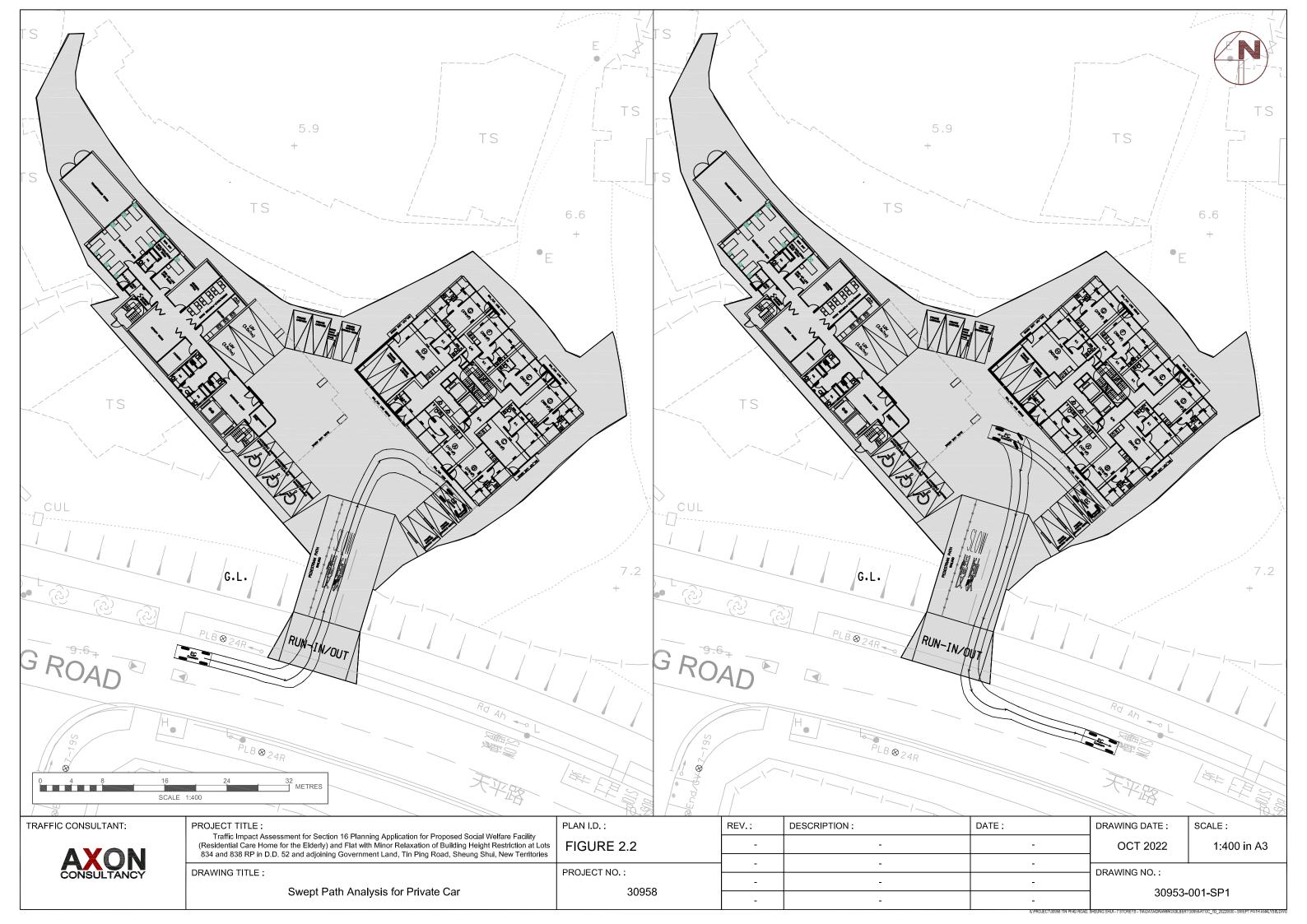
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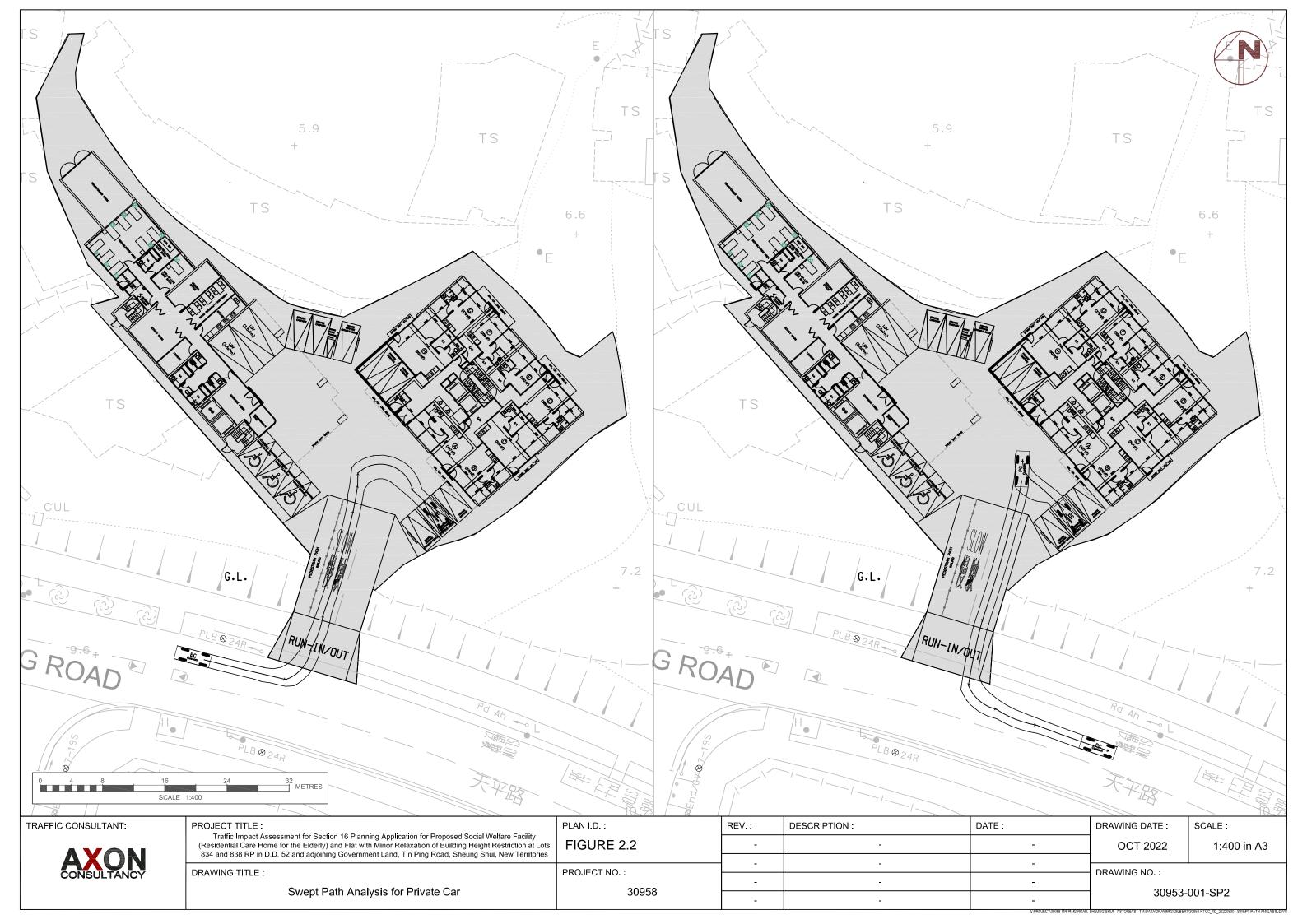
Date : MAY 2022

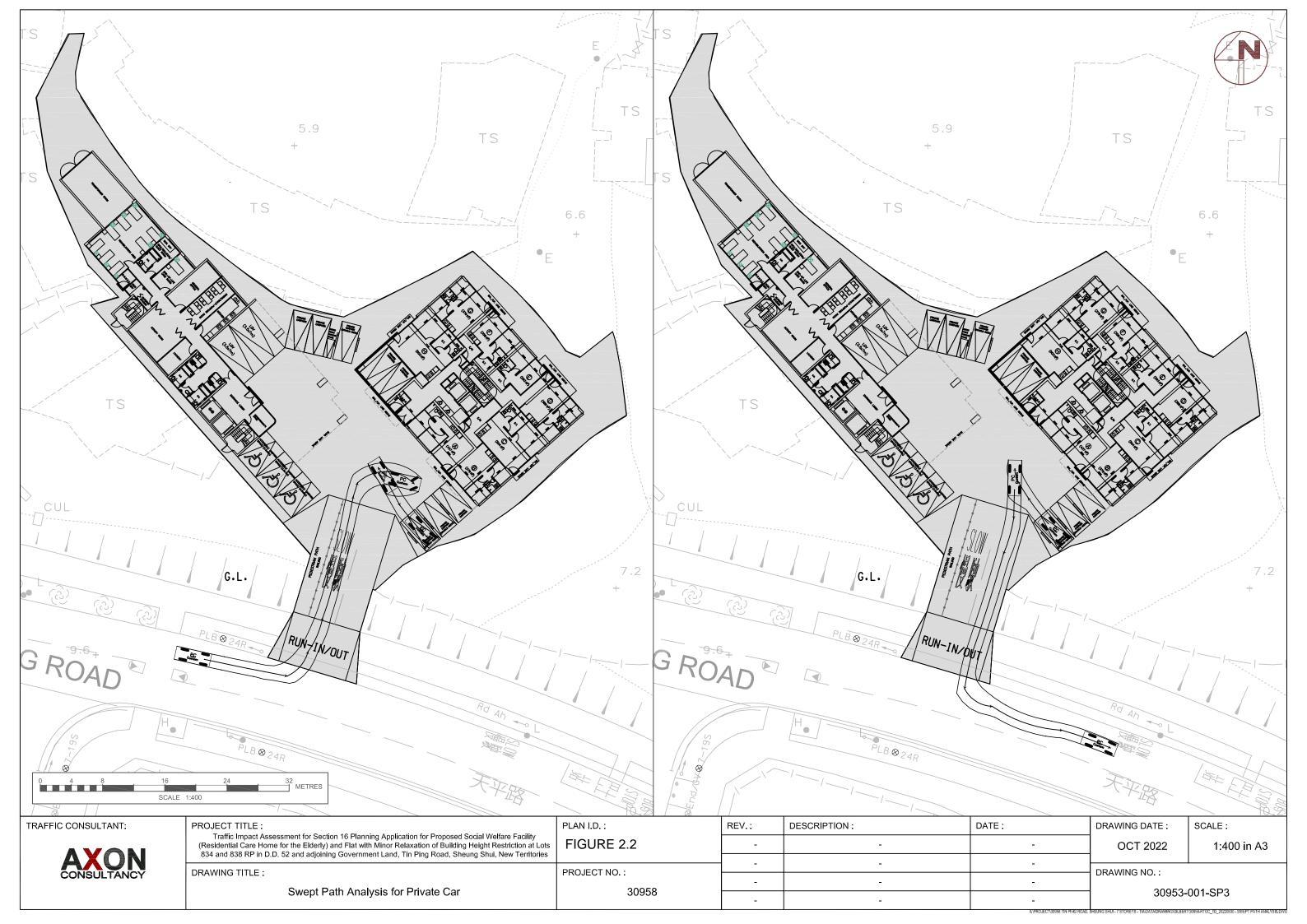






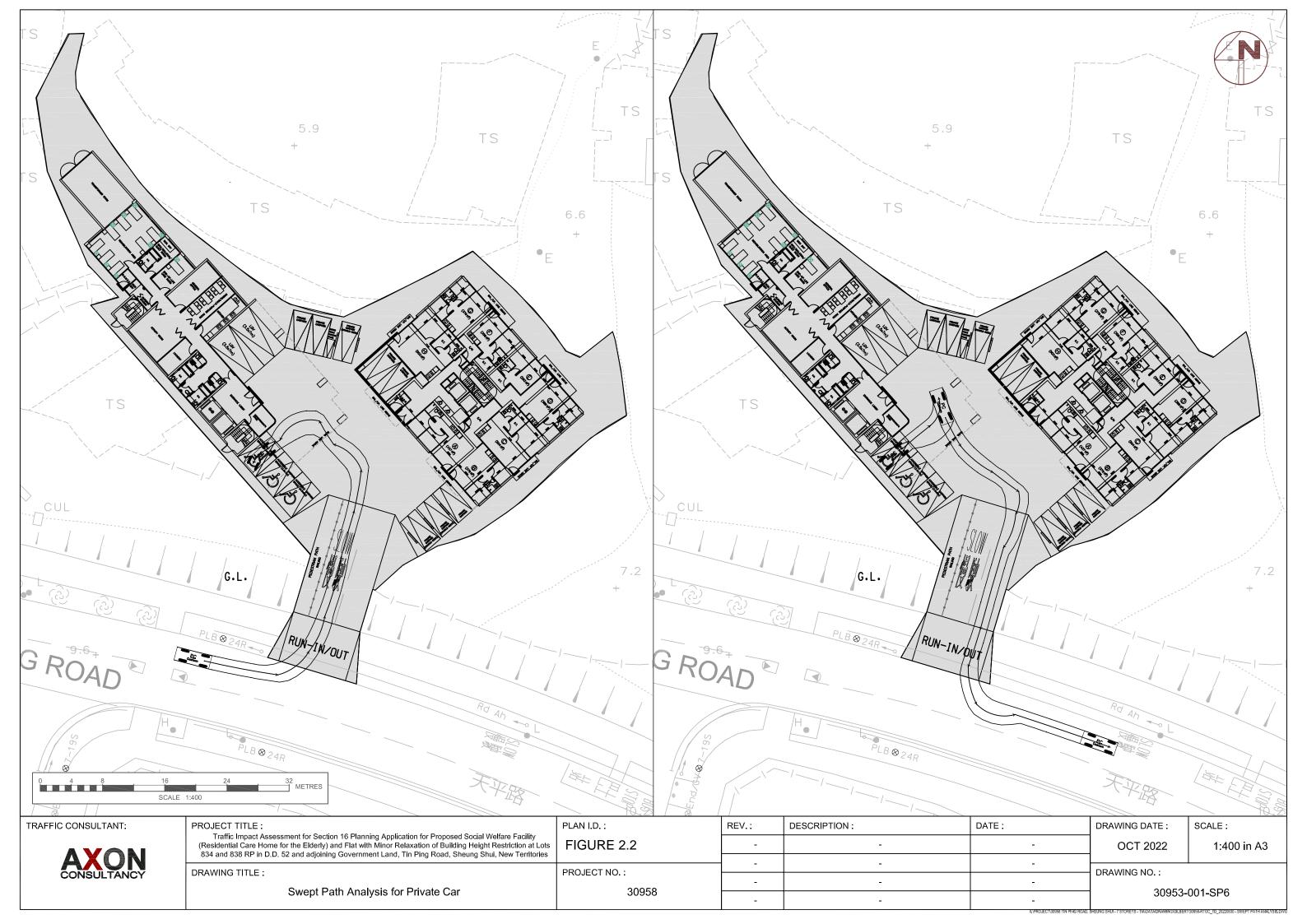


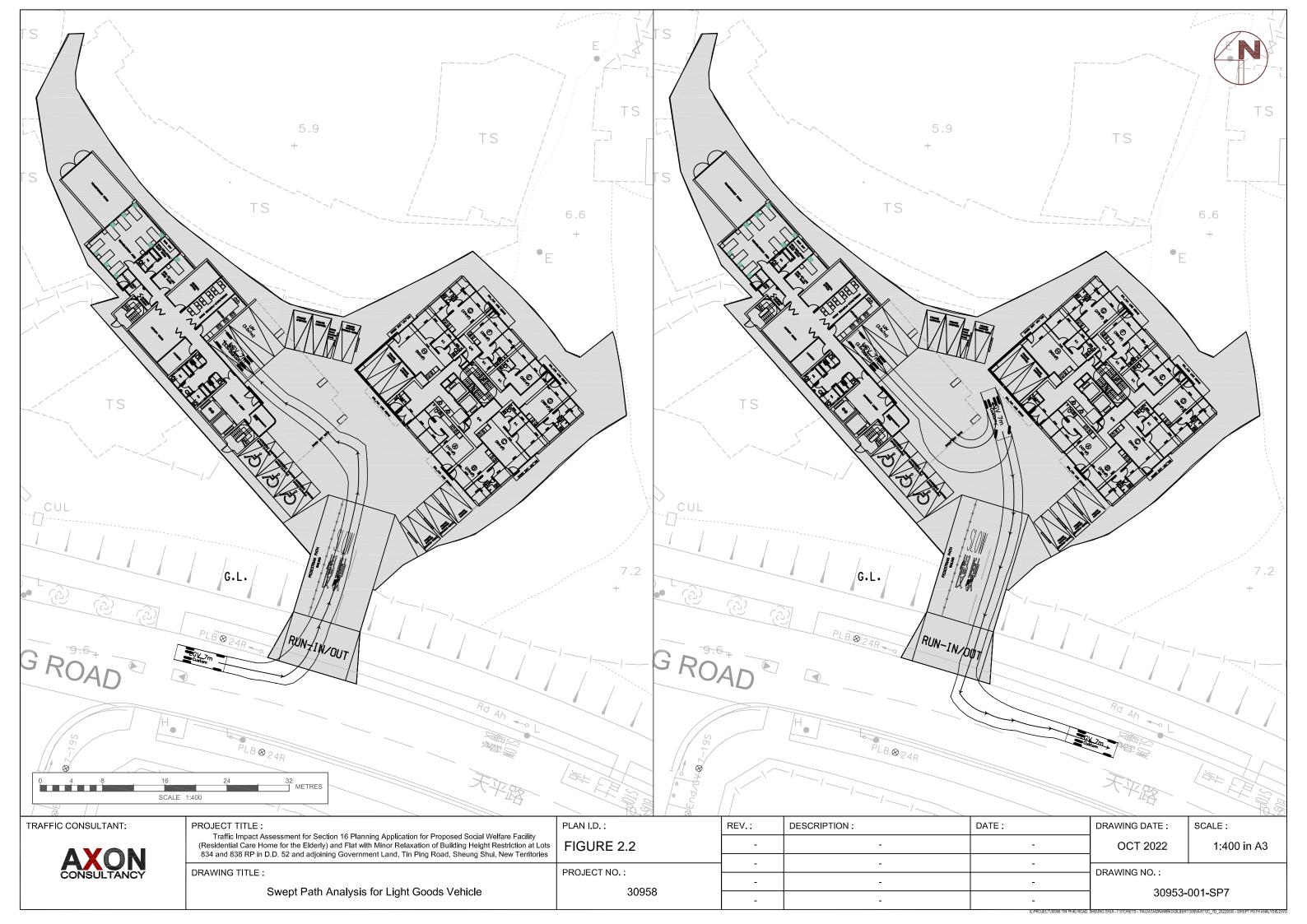




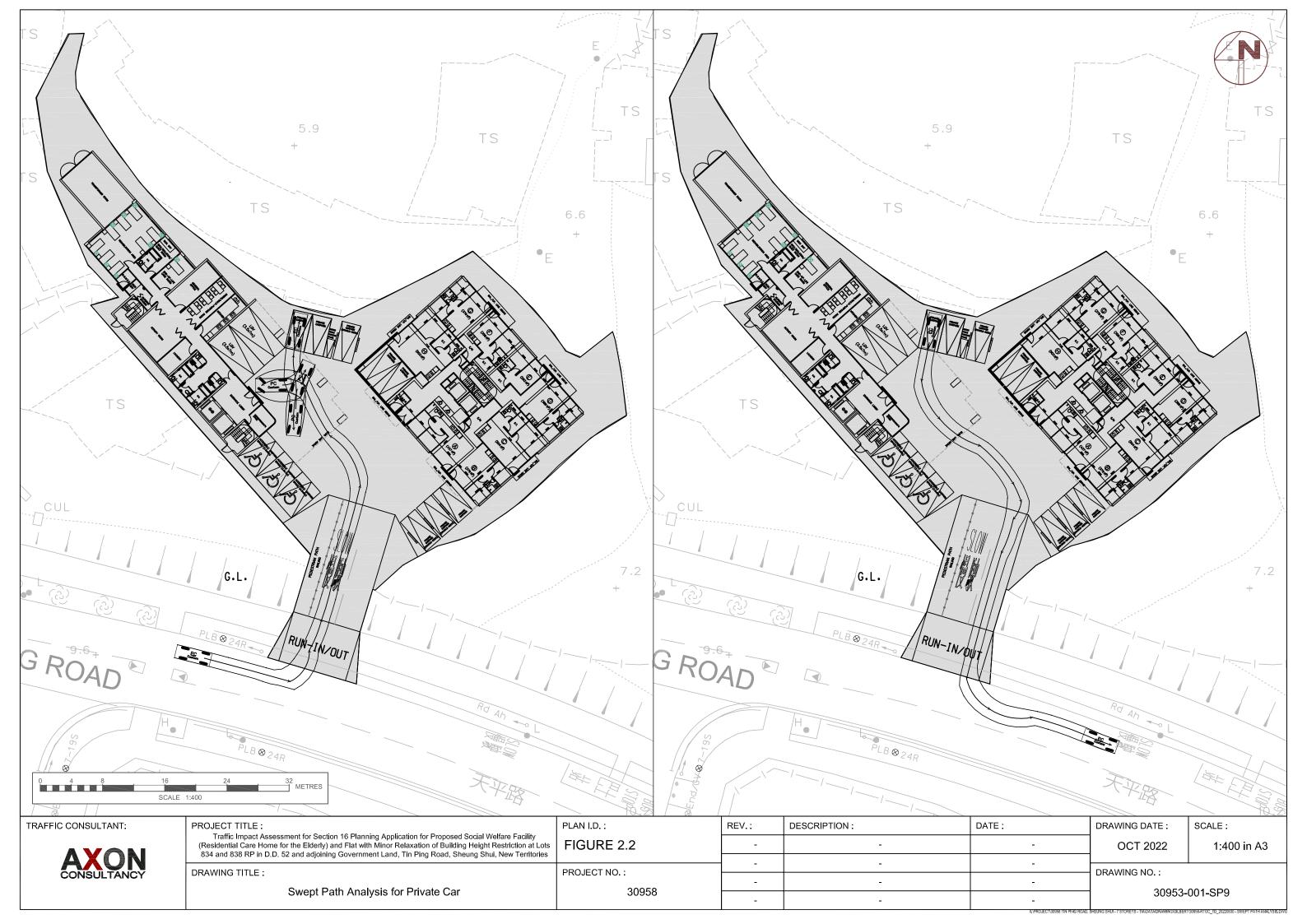


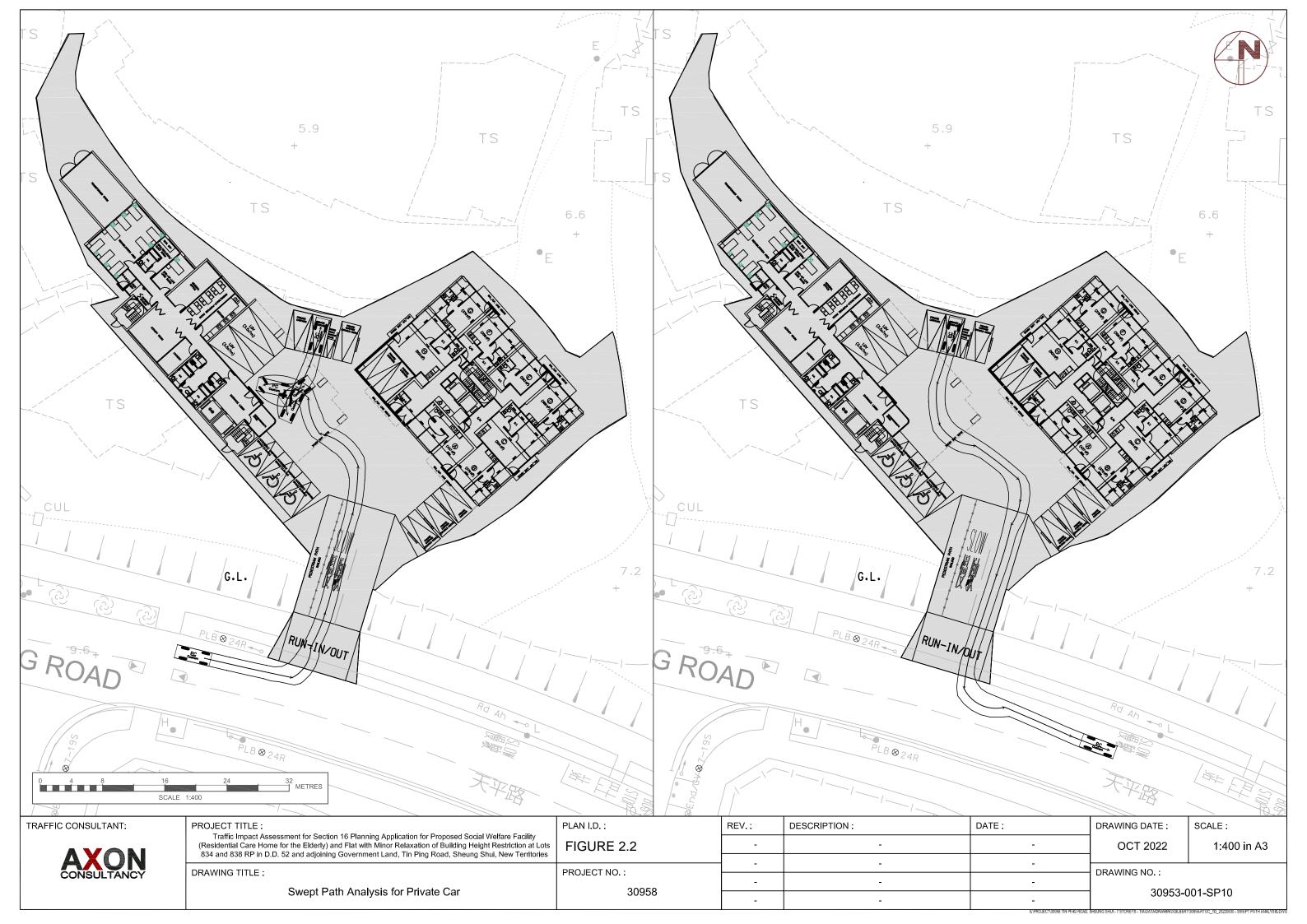


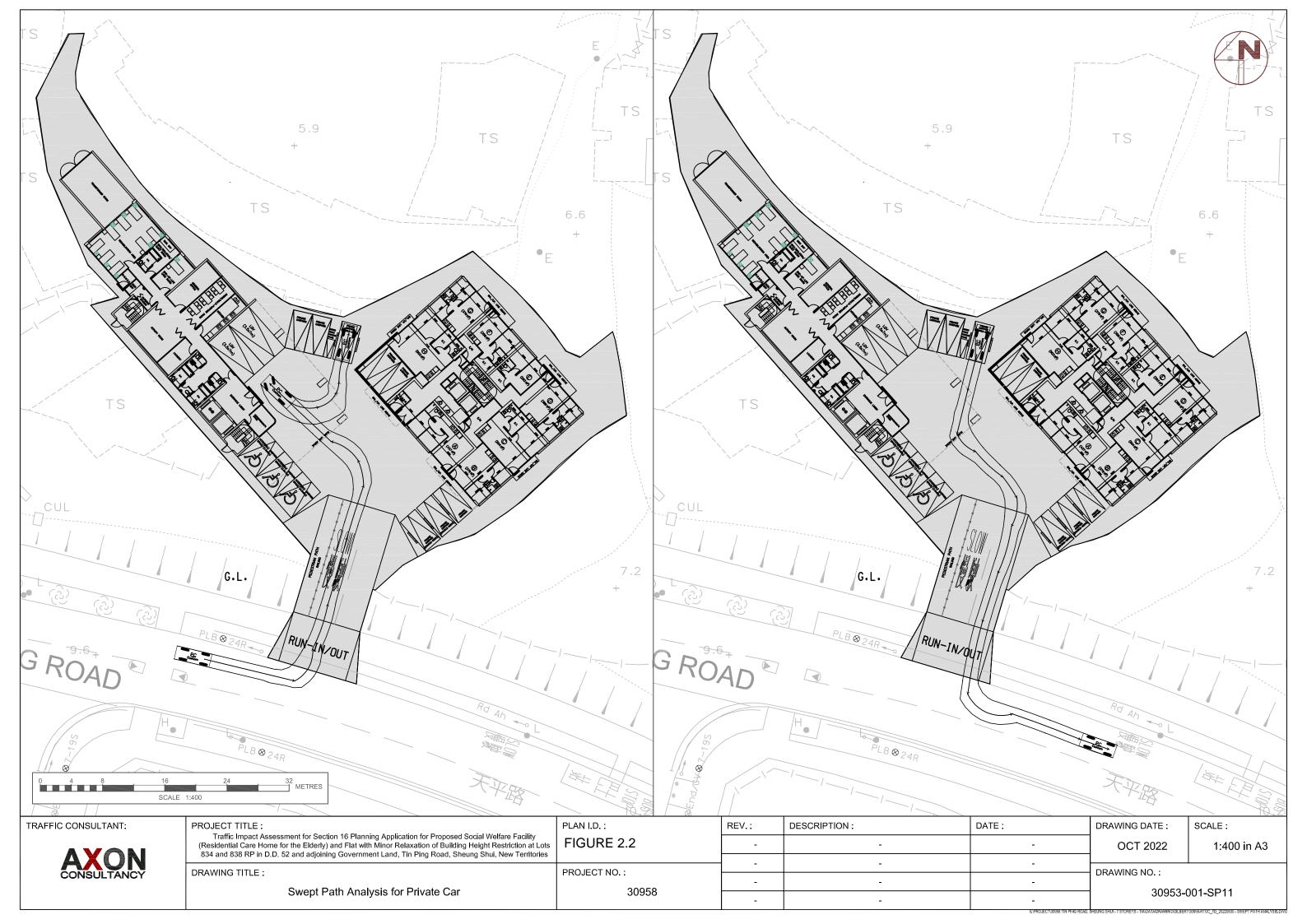






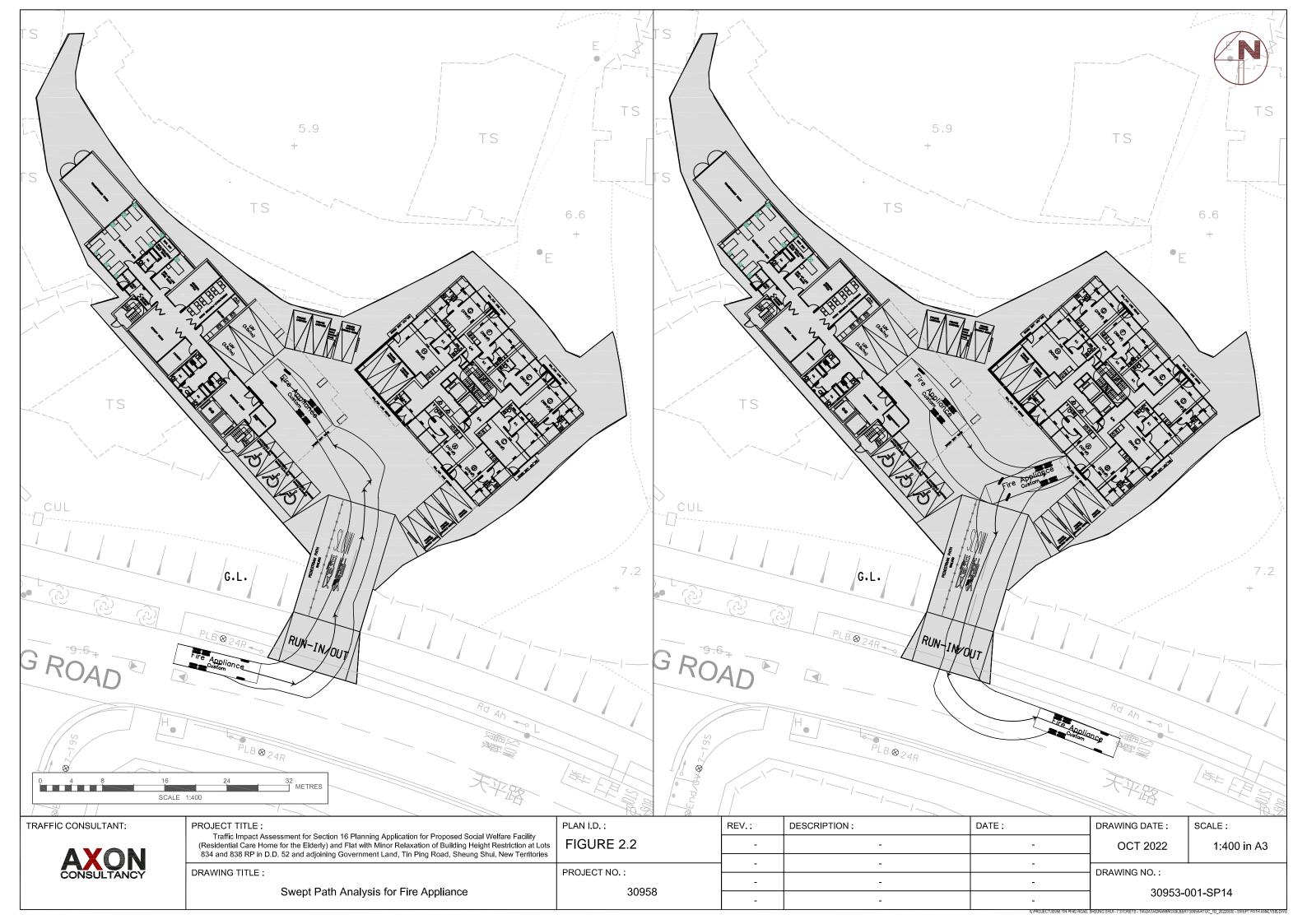


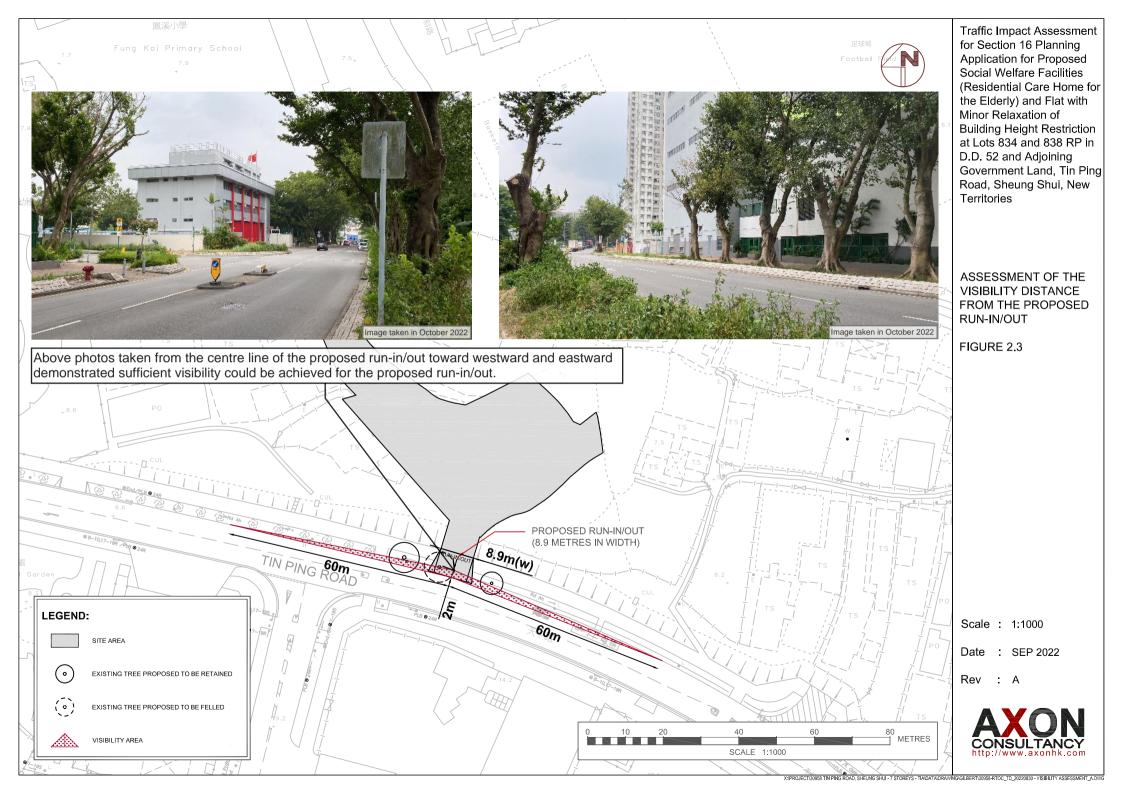


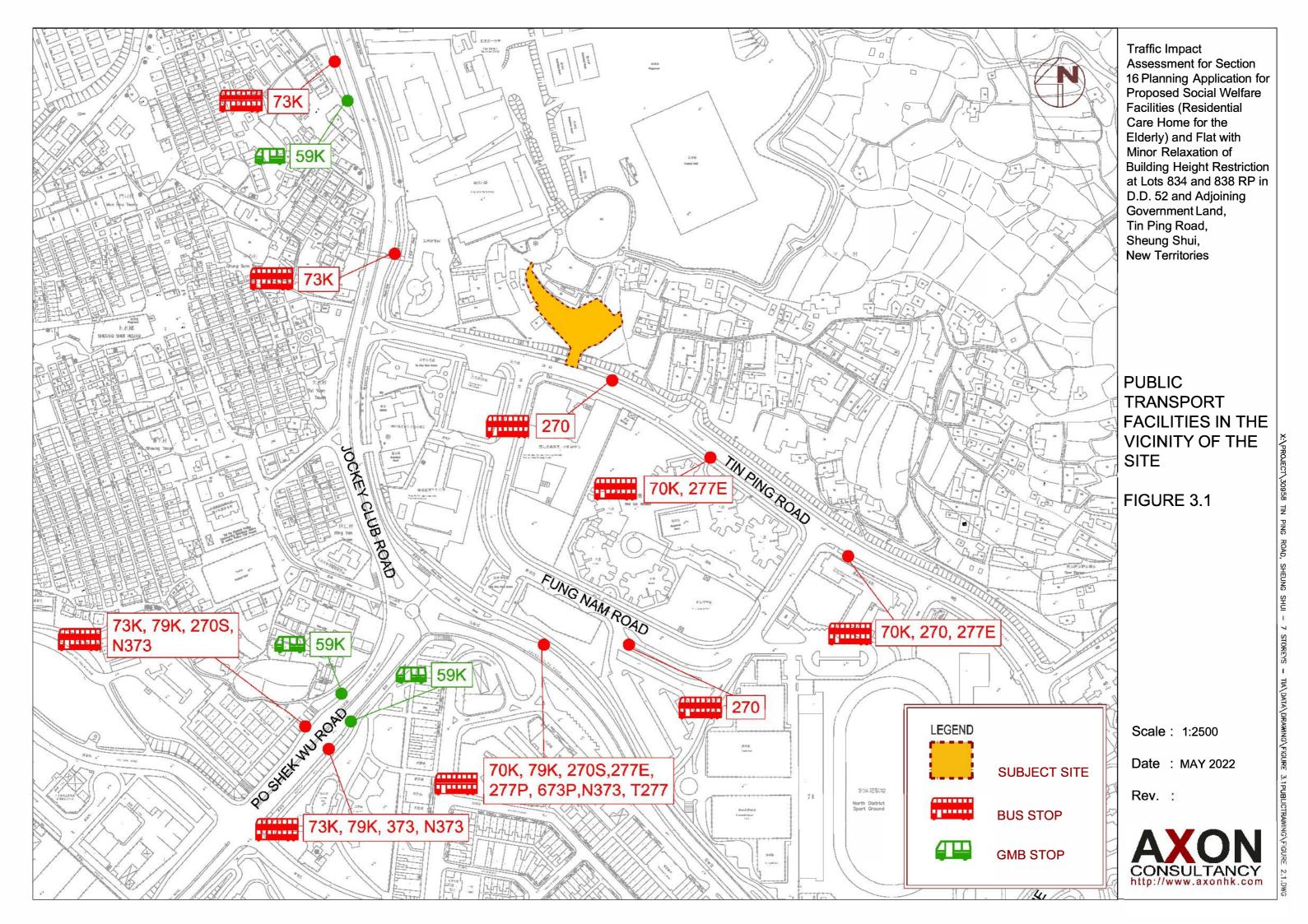












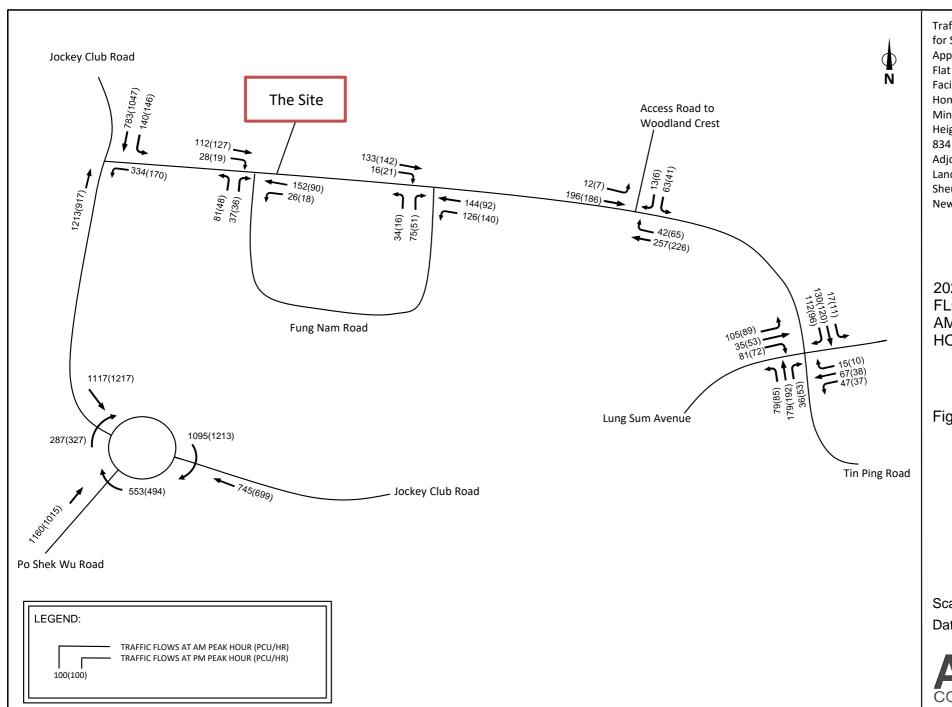
KEY ROAD LINKS AND JUNCTIONS

FIGURE 3.2

Scale: 1:2500

Date : MAY 2022

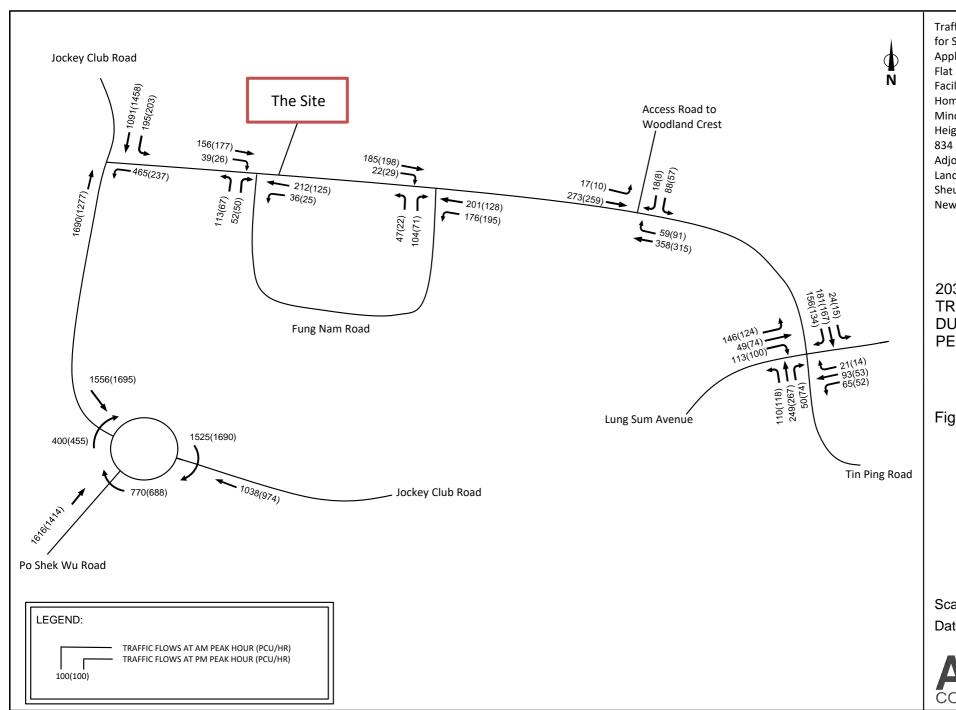




2022 OBSERVED FLOWS DURING AM & PM PEAK HOURS

Figure 3.3

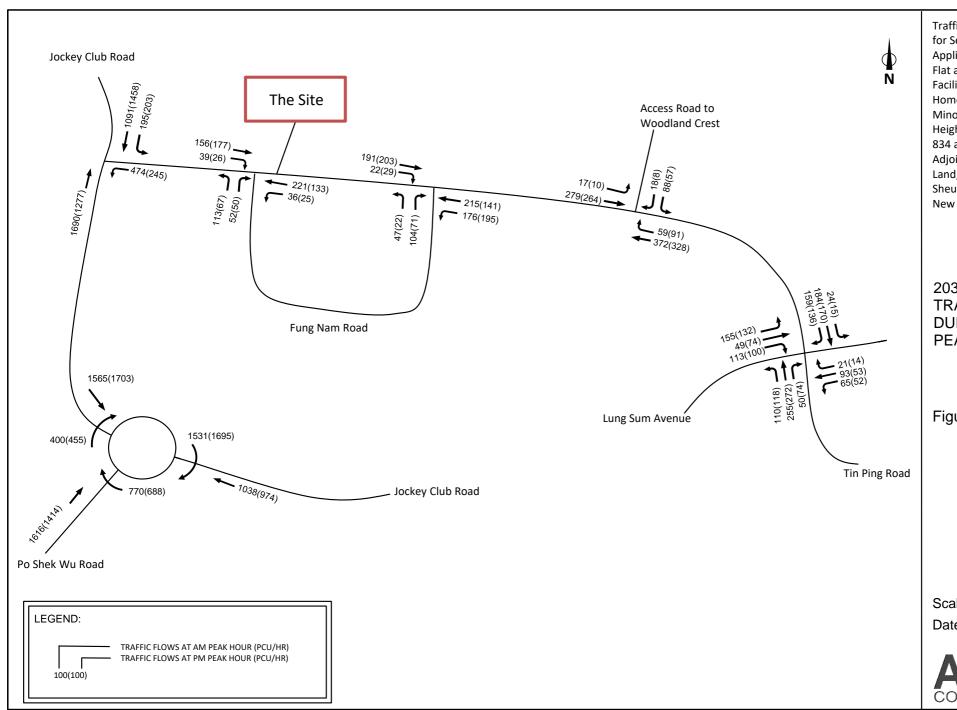




2034 REFERENCE TRAFFIC FLOWS DURING AM & PM PEAK HOURS

Figure 4.1

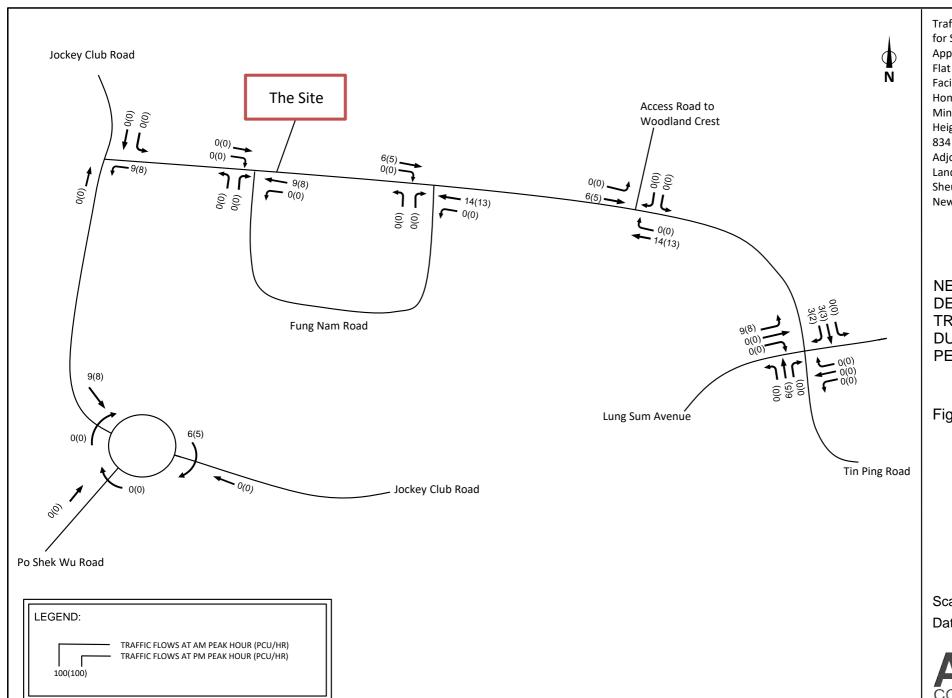




2034 DESIGN TRAFFIC FLOWS DURING AM & PM PEAK HOURS

Figure 4.2





NET DEVELOPMENT TRAFFIC FLOWS DURING AM & PM PEAK HOURS

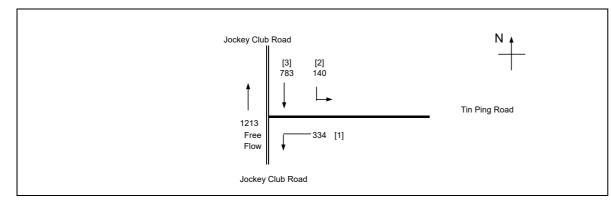
Figure 4.3



Appendix A

Junction Calculation Sheets

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULAT	ION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Lan	d, Tin Ping Road	Project No.: 30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2022 Observed Flows AM		Checked By:	KW	五月-22
			Reviewed By:	AW	五月-22



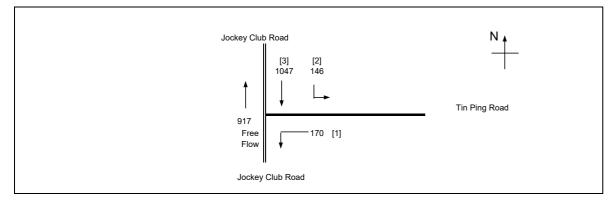
No. of sta	ges per c	ycle	N =	3		
Intergreer	Period	Stage 1 - 2	I =	5	sec	
		Stage 2 - 3	I =	5	sec	
		Stage 3 - 1	I =	7	sec	
Cycle time	Э		C =	120	sec	
Sum(y)			Y =	0.178		
Loss time			L =	69	sec	
Total Flow	V		=	1257	pcu	
Co	= (1.5*L-	+5)/(1-Y)	=	131.9	sec	
Cm	= L/(1-Y))	=	83.9	sec	
Yult			=	0.383		
		′)/Y*100%	=	115.3	%	
Ср	= 0.9*L/((0.9-Y)	=	86.0	sec	
Ymax	= 1-L/C		=	0.425		
R.C.(C)	= (0.9*Y)	max-Y)/Y*100%	=	115.3	%	

Free	Free Flow	Free Flow	
Stage 1	Stage 2	Stage 3	

Pedestrian	Width		Green Tir	ne Required (s)	Green Time P	rovided (s)	Check
Phase	(m)	Stage	SG	FG	SG	FG	Crieck
P1	9.6	2	5	8	40	8	OK
		l					

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow		m Straight pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
⟨┐	1	3	5.00		1	12		N	2115	334		334	1.00	1880			1880	0.178	0.178	16	51	51	0.418	32	25
4	2 3	1,3 1,2	3.70 3.30		1 2	15			2125 4170	140	783	140 783	1.00 0.00	1932 4170			1932 4170	0.072 0.188			21 54	62 57	0.140 0.395	11 69	15 21
		1 2		dummy ped																5 48	5 48	5 48			
														X·∖Pr	niect\30958 T	in Ping Road	Sheung Sh	nui - 7 Sto	revs - Tl	A\Data\Calculatio	onl. 11.l/nc	kev Club	Road Tin Pir	ng Road xism	IOBS AM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION				INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tir	Ping Road	Project No.:	30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2022 Observed Flows PM			Checked By:	KW	五月-22
				Reviewed By:	AW	五月-22



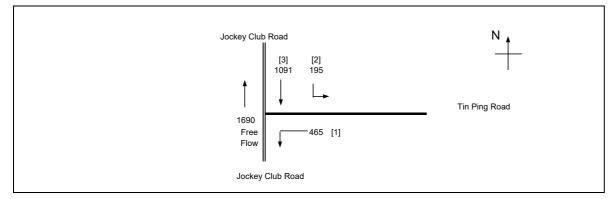
No. of sta	ages per cycle	N =	3	
Intergree	n Period Stage 1 - 2	I =	5 sec	
	Stage 2 - 3	I =	5 sec	
	Stage 3 - 1	I =	7 sec	
Cycle tim	ne	C =	120 sec	
Sum(y)		Y =	0.090	
Loss time	e	L =	95 sec	
Total Flo	w	=	1363 pcu	
Co	= (1.5*L+5)/(1-Y)	=	162.2 sec	
Cm	= L/(1-Y)	=	104.4 sec	
Yult		=	0.188	
R.C.ult	= (Yult-Y)/Y*100%	=	107.4 %	
Ср	= 0.9 L/(0.9 Y)	=	105.6 sec	
Ymax	= 1-L/C	=	0.208	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	107.4 %	

			^		L.	
1		1	P1	1	↓	
Free Flow		Free Flow		Free Flow		
	Stage 1	Stage	2		Stage 3	

Pedestrian Phase	Width (m)	Stage	Green Tin SG	ne Required (s) FG	Green Time F SG	Provided (s) FG	Check
P1	9.6	2	5	8	66	8	OK

	Move- ment	Stage	Lane Width	Phase	No. of lane	Radius	0	N	Straight- Ahead		m Straight	Right	Total Flow	Proportion of Turning	Sat. Flow	Flare lane Length	Flare lane Effect	Revised Sat. Flow	٧	Greater	L	g (required)	g (input)	Degree of Saturation	Queue Length	Average Delay
			m.			m.			Sat. Flow					Vehicles	pcu/h	m.		pcu/h	,	у	sec	sec	sec	Х	(m/lane)	(sec)
_																					16					
1	1	3	5.00		1	12		N	2115	170			170	1.00	1880			1880	0.090	0.090		25	25	0.434	22	43
\$	2	1,3	3.70		1	15			2125	146			146	1.00	1932			1932	0.076			21	36	0.252	17	33
1	3	1,2	3.30		2				4170		1047		1047	0.00	4170			4170	0.251			69	83	0.363	54	8
		1		dummy																	5	5	5			
		2		ped																	74	74	74			
															V.\Dro	in at 20050 Tim	Ding Dood	Chauna Chi	ii 7 Ctor	I TIA	\Data\Calculatio	\[\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	cay Club	Dood Tip Dir	a Dood vlas	JODE DM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATI	ON		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government L	and, Tin Ping Road	Project No.: 30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2034 Reference Flows AM		Checked By:	KW	五月-22
			Reviewed By:	AW	五月-22



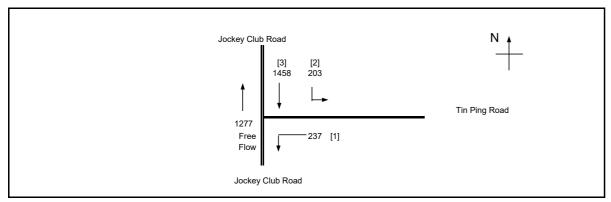
No. of sta	ages per cycle	N =	3	
Intergree	n Period Stage 1 - 2	I =	5 sec	
	Stage 2 - 3	I =	5 sec	
	Stage 3 - 1	I =	7 sec	
Cycle tim	ne	C =	120 sec	
Sum(y)		Y =	0.247	
Loss time	е	L =	69 sec	
Total Flo	w	=	1751 pcu	
Co	= (1.5*L+5)/(1-Y)	=	144.2 sec	
Cm	= L/(1-Y)	=	91.7 sec	
Yult		=	0.383	
R.C.ult	= (Yult-Y)/Y*100%	=	54.6 %	
Ср	= 0.9*L/(0.9-Y)	=	95.1 sec	
Ymax	= 1-L/C	=	0.425	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	54.6 %	

	↓		٨		L.	
A		A	P1 ₩	1	↓	
Free Flow		Free Flow		Free Flow		
St	tage 1	Stage	2		Stage 3	

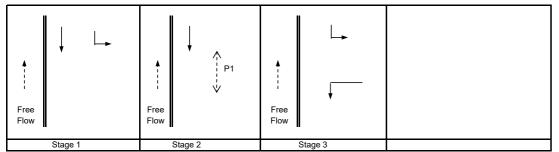
Pedestrian	Width		Green Tin	Provided (s)	Charle		
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	9.6	2	5	8	40	8	OK

	Move- ment	Stage	Width	Phase	No. of lane	Radius	0			Left	m Straight	_	Total Flow	Proportion of Turning	Sat. Flow	Flare lane Length		Revised Sat. Flow	у	Greater	L	g (required)	g (input)	Degree of Saturation		Average Delay
			m.			m.			Sat. Flow	pcu/h	pcu/h	pcu/h	pcu/h	Vehicles	pcu/h	m.		pcu/h		У	sec	sec	sec	Х	(m/lane)	(sec)
Ŋ	1	3	5.00		1	12		N	2115	465			465	1.00	1880			1880	0.247	0.247	16	51	51	0.582	45	28
\	2 3	1,3 1,2	3.70 3.30		1 2	15			2125 4170	195	1091		195 1091	1.00 0.00	1932 4170			1932 4170	0.101 0.262			21 54	62 57	0.195 0.551	16 95	16 23
		1 2		dummy ped																	5 48	5 48	5 48			
															Y:\Dro	iect\30058 Tir	Ping Pood	Sheung Sh	ıi. 7 Sto	rave TIA	\\Data\Calculatic	n)[1 lock	ray Club	Poad Tin Pi	og Road visn	IPEE AM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION				INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tir	Project No.:	30958	Prepared By:	TC	五月-22	
J1 - Jockey Club Road / Tin Ping Road	2034 Reference Flows PM			Checked By:	KW	五月-22
				Reviewed By:	AW	五月-22



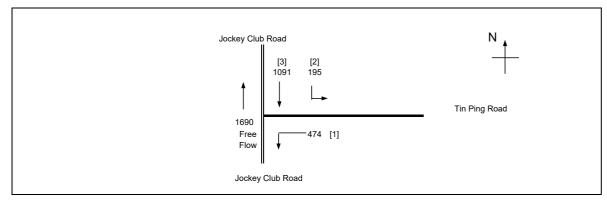
No. of sta	iges per cy	rcle	N =	3		
Intergree	n Period	Stage 1 - 2	I =	5	sec	
		Stage 2 - 3	I =	5	sec	
		Stage 3 - 1	I =	7	sec	
Cycle tim	е		C =	120	sec	
Sum(y)			Y =	0.126		
Loss time	:		L =	95	sec	
Total Flov	V		=	1898	pcu	
Co	= (1.5*L+	5)/(1-Y)	=	168.8	sec	
Cm	= L/(1-Y)		=	108.7	sec	
Yult			=	0.188		
R.C.ult	= (Yult-Y)		=	48.7	%	
Ср	= 0.9*L/(0).9-Y)	=	110.5	sec	
Ymax	= 1-L/C		=	0.208		
R.C.(C)	= (0.9*Yn	nax-Y)/Y*100%	=	48.7	%	



Pedestrian	Width		Green Tir	ne Required	Green Time F	rovided (s)	Check
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	9.6	2	5	8	66	8	OK

	Move- ment		Lane Width m.		No. of lane	Radius m.	0		Straight- Ahead Sat. Flow	Left		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	у	Greater v	L sec	g (required) sec	g (input) sec	Degree of Saturation X		Average Delay (sec)
ξ	1	3	5.00		1	12		N	2115	237	,	 237	1.00	1880			1880	0.126	0.126	16	25	25	0.605	31	46
\	2 3	1,3 1,2	3.70 3.30		1 2	15			2125 4170	203	1458	203 1458	1.00 0.00	1932 4170			1932 4170	0.105 0.350			21 69	36 83	0.350 0.506	24 75	34 9
		1 2		dummy ped																5 74	5 74	5 74			
														X:\Project	\30958 Tin Pir	ng Road, Sheu	ıng Shui - 7	' Storeys	- TIA\Dat	a\Calculatior	n\[J1_Jock	ey Club F	toad_Tin Pin	g Road.xlsm	REF PM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION				INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Ti	n Ping Road	Project No.: 30958	3	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2034 Design Flows AM		1	Checked By:	KW	五月-22
				Reviewed By:	AW	五月-22



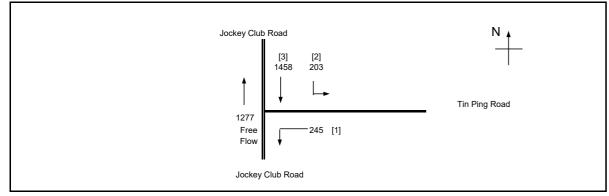
No. of sta	ages per cycle	N =	3	
	n Period Stage 1 - 2	I =	5 sec	;
Ŭ	Stage 2 - 3	I =	5 sec	;
	Stage 3 - 1	I =	7 sec	;
Cycle tim	e	C =	120 sec	;
Sum(y)		Y =	0.252	
Loss time	•	L =	69 sec	;
Total Flor	W	=	1760 pcu	ı
Co	= (1.5*L+5)/(1-Y)	=	145.1 sec	;
Cm	= L/(1-Y)	=	92.3 sec	;
Yult		=	0.383	
R.C.ult	= (Yult-Y)/Y*100%	=	51.7 %	
Ср	= 0.9*L/(0.9-Y)	=	95.9 sec	;
Ymax	= 1-L/C	=	0.425	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51.7 %	

	<u> </u>		<u> </u>		L.	
1		1	↑ P1 	1	↓	
Free Flow		Free Flow		Free Flow		
;	Stage 1	Sta	age 2		Stage 3	

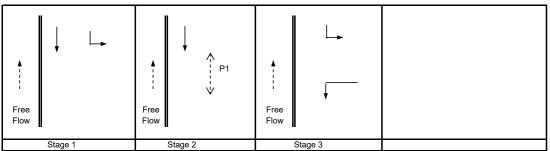
Pedestrian	Width		Green Tin	ne Required (s)	Green Time Pr	ovided (s)	Chaak
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	9.6	2	5	8	40	8	OK

	Move- ment	Stage	Lane Width	Phase	No. of lane	Radius	0	N	Straight- Ahead	Left	m Straight	Right	Total Flow	Proportion of Turning	Sat. Flow	Flare lane Length	Flare lane Effect	Revised Sat. Flow	у	Greater	L	g (required)	g (input)	Degree of Saturation	Queue Length	Average Delay
			m.			m.			Sat. Flow				pcu/h	Vehicles	pcu/h	m.		pcu/h		у	sec	sec	sec	Х	(m/lane)	(sec)
⟨┐	1	3	5.00		1	12		N	2115	474			474	1.00	1880			1880	0.252	0.252	16	51	51	0.593	45	28
	_																			0.202						
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3	1,3 1,2	3.70 3.30		1 2	15			2125 4170	195	1091		195 1091	1.00 0.00	1932 4170			1932 4170	0.101 0.262			20 53	62 57	0.195 0.551	16 95	16 23
		1		dummy																	5	5	5			
		2		ped																	48	48	48			
			•		•	•		-	•				•		X:\P	roject\30958	Tin Ping Road	l, Sheung S	hui - 7 S	toreys - T	IA\Data\Calculati	on\[J1_Joc	key Club I	Road_Tin Pin	g Road.xlsm	JDES AM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULAT	TION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government La	and, Tin Ping Road	Project No.: 30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2034 Design Flows PM		Checked By:	KW	五月-22
			Reviewed By:	AW	五月-22



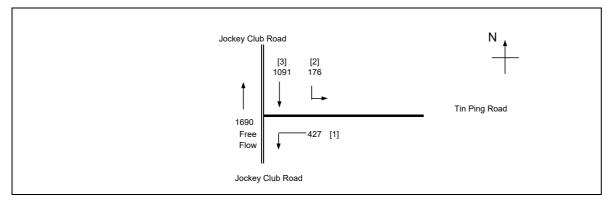
No. of sta	ges per cycle	N =	3
Intergreer	Period Stage 1 - 2	I =	5 sec
	Stage 2 - 3	I =	5 sec
	Stage 3 - 1	I =	7 sec
Cycle time	е	C =	120 sec
Sum(y)		Y =	0.130
Loss time		L =	95 sec
Total Flov	V	=	1906 pcu
Co	= (1.5*L+5)/(1-Y)	=	169.6 sec
Cm	= L/(1-Y)	=	109.2 sec
Yult		=	0.188
R.C.ult	= (Yult-Y)/Y*100%	=	43.9 %
Ср	= 0.9 L/(0.9-Y)	=	111.1 sec
Ymax	= 1-L/C	=	0.208
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	43.9 %



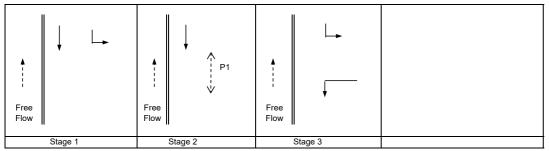
Pedestrian Phase	Width (m)	Stage	Green Tir SG	ne Required (s) FG	Green Time P SG	rovided (s) FG	Check
P1	9.6	2	5	8	66	8	ОК

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow	Left	m Straight pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec		Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
⟨┐	1	3	5.00		1	12		N	2115	245		245	1.00	1880			1880	0.130	0.130	16	25	25	0.626	32	46
4	2	1,3 1,2	3.70 3.30		1 2	15			2125 4170	203	1458	203 1458	1.00 0.00	1932 4170			1932 4170	0.105 0.350			20 67	36 83	0.350 0.506	24 75	34 9
		1 2		dummy ped																5 74	5 74	5 74			
										<u> </u>				X:\Pro	oject\30958 Tir	n Ping Road,	Sheung Sh	ui - 7 Stor	eys - TIA	Data\Calculation	n\[J1_Jock	ey Club R	load_Tin Pin	g Road.xlsm]DES PM

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION			INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government	t Land, Tin Ping Road	Project No.: 30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2034 Design Flows AM with FLBP		Checked By:	KW	五月-22
			Reviewed By:	Δ\Λ/	五日-22



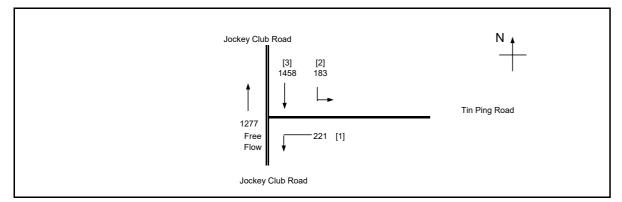
No. of sta	iges per c	ycle	N =	3	
Intergree	n Period	Stage 1 - 2	I =	5	sec
		Stage 2 - 3	I =	5	sec
		Stage 3 - 1	I =	7	sec
Cycle tim	е		C =	120	sec
Sum(y)			Y =	0.227	
Loss time	•		L =	71	sec
Total Flov	N		=	1694	pcu
Co	= (1.5*L-	+5)/(1-Y)	=	144.3	sec
Cm	= L/(1-Y)	=	91.9	sec
Yult			=	0.368	
R.C.ult	= (Yult-Y	')/Y*100%	=	61.8	%
Ср	= 0.9*L/(0.9-Y)	=	95.0	sec
Ymax	= 1-L/C		=	0.408	
R.C.(C)	= (0.9*Y)	max-Y)/Y*100%	=	61.8	%



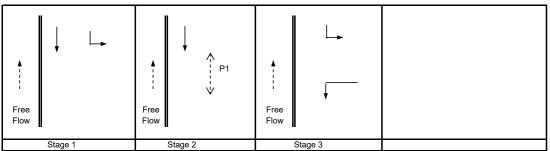
Pedestrian	Width			me Required (s)	Green Time Pr	ovided (s)	Check
Phase	(m)	Stage	SG	FG	SG	FG	Crieck
P1	9.6	2	5	8	42	8	OK
			1				

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow	Left	m Straight pcu/h		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	у	Greater V	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
⟨┐	1	3	5.00		1	12		N	2115	427	•		427	1.00	1880			1880	0.227	0.227	16	49	49	0.556	42	29
4	2 3	1,3 1,2	3.70 3.30		1 2	15			2125 4170	176	1091		176 1091	1.00 0.00	1932 4170			1932 4170	0.091 0.262			20 56	60 59	0.182 0.532	15 92	17 22
		1 2		dummy ped																	5 50	5 50	5 50			
								1	1			I)	:\Project\309	58 Tin Ping Ro	ad, Sheung S	Shui - 7 Sto	reys - TIA	\\Data\Ca	lculation\[J1_Joc	key Club R	oad Tin F	Ping Road.xls	m]DES AM v	vith FLBP

AXON CONSULTANCY LIMITED	TRAFFIC SIGNAL CALCULATION			INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Lan	d, Tin Ping Road	Project No.: 30958	Prepared By:	TC	五月-22
J1 - Jockey Club Road / Tin Ping Road	2034 Design Flows PM with FLBP		Checked By:	KW	五月-22
			Reviewed By:	AW	五月-22



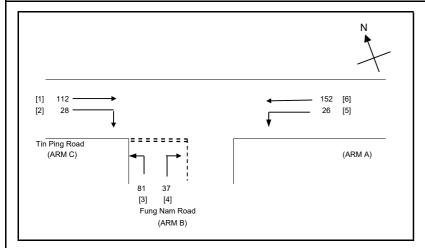
No. of sta	iges per cycle	N =	3
Intergree	n Period Stage 1 - 2	I =	5 se
	Stage 2 - 3	I =	5 se
	Stage 3 - 1	I =	7 se
Cycle tim	е	C =	120 se
Sum(y)		Y =	0.118
Loss time)	L =	96 se
Total Flov	N	=	1862 pc
Co	= (1.5*L+5)/(1-Y)	=	168.8 se
Cm	= L/(1-Y)	=	108.8 se
Yult		=	0.180
R.C.ult	= (Yult-Y)/Y*100%	=	53.1 %
Ср	= 0.9 L/(0.9-Y)	=	110.4 se
Ymax	= 1-L/C	=	0.200
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	53.1 %



Pedestrian Phase	Width (m)	Stage	Green Tir SG	ne Required (s) FG	Green Time P SG	Provided (s) FG	Check
P1	9.6	2	5	8	67	8	OK

mer	nt		Width m.	Phase	lane	Radius m.	0	Z	Straight- Ahead Sat. Flow		m Straight pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
(↑		3	5.00		1	12		N	2115	221		221	1.00	1880		1880	0.118	0.118	16	24	24	0.588	29	46
2 3			3.70 3.30		1 2	15			2125 4170	183	1458	183 1458	1.00 0.00	1932 4170		1932 4170	0.095 0.350			19 71	35 84	0.325 0.499	22 73	34 9
		1 2		dummy ped															5 75 alation\[J1_Jocke	5 75	5 75			

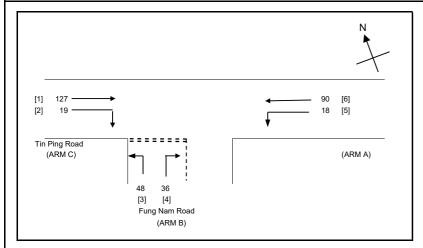
AXON CONSULTANCY LIMITI	PRIORITY JUNCTI	ION CALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Governmen	t Land, Tin Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2022 Observed Flows AM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W = W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

METRIC DETAILS:		GEOMETRIC FACT	ORS :		THE CAPACITY OF N	OVEME	NT:		COMPARISION OF DESIGN FLOW TO CAPACITY:		
MAJOR ROAD (ARM A))										
W = 10.00	(metres)	D	=	0.8402366	Q b-a =	472			DFC b-a	=	0.0784
W cr = 0	(metres)	E	=	0.8966495	Q b-c =	633	Q b-c (O) =	620.6	DFC b-c	=	0.1280
q a-b = 26	(pcu/hr)	F	=	0.8004791	Q c-b =	562			DFC c-b	=	0.0498
q a-c = 152	(pcu/hr)	Υ	=	0.655	Q b-ac =	571.8			DFC b-ac (share land	e) =	0.2064
MAJOR ROAD (ARM C)		F for (Qb-a	ic) =	0.6864407	TOTAL FLOV	V =	436	(PCU/HR)			
W c-b = 2.10	(metres)										
Vr c-b = 50	(metres)										
q c-a = 112	(pcu/hr)										
q c-b = 28	(pcu/hr)										
									CRITICAL DFC	=	0.21
MINOR ROAD (ARM B)											
W b-a = 3.00	(metres)										
W b-c = 3.00	(metres)										
VI b-a = 60	(metres)										
Vr b-a = 60	(metres)										
Vr b-c = 70	(metres)										
q b-a = 37	(pcu/hr)										
q b-c = 81	(pcu/hr)										

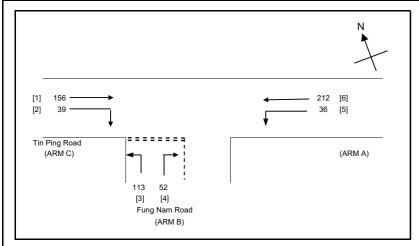
AXON CONSULTANCY LIMIT	PRIORITY JUNCTI	ON CALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Governmer	t Land, Tin Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2022 Observed Flows PM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

OMETRIC DETAILS:	GEOMETRIC FACTORS:	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8402366	Q b-a = 486	DFC b-a = 0.0741	
W cr = 0 (metres)	E = 0.8966495	Q b-c = 647 Q b-c (O) = 635	DFC b-c = 0.0742	
q a-b = 18 (pcu/hr)	F = 0.8004791	Q c-b = 576	DFC c-b = 0.0330	
q a-c = 90 (pcu/hr)	Y = 0.655	Q b-ac = 566.6	DFC b-ac (share lane) = 0.1483	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.5714286	TOTAL FLOW = 338 (PCU/HR)		
W c-b = 2.10 (metres)				
Vr c-b = 50 (metres)				
q c-a = 127 (pcu/hr)				
q c-b = 19 (pcu/hr)				
			CRITICAL DFC = 0.15	
MINOR ROAD (ARM B)				
W b-a = 3.00 (metres)				
W b-c = 3.00 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 70 (metres)				
q b-a = 36 (pcu/hr)				
q b-c = 48 (pcu/hr)				

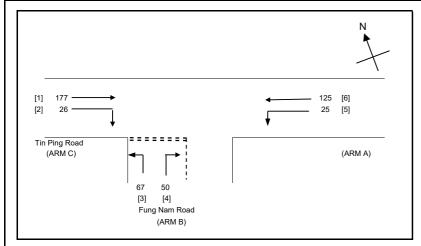
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin I	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2034 Reference Flows AM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W = W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

DMETRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT:	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8402366	Q b-a = 451	DFC b-a = 0.1153	
W cr = 0 (metres)	E = 0.8966495	Q b-c = 620 Q b-c (O) = 602.1	DFC b-c = 0.1823	
q a-b = 36 (pcu/hr)	F = 0.8004791	Q c-b = 549	DFC c-b = 0.0710	
q a-c = 212 (pcu/hr)	Y = 0.655	Q b-ac = 554.5	DFC b-ac (share lane) = 0.2976	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.6848485	TOTAL FLOW = 608 (PCU/HR)		
W c-b = 2.10 (metres)				
Vr c-b = 50 (metres)				
q c-a = 156 (pcu/hr)				
q c-b = 39 (pcu/hr)				
			CRITICAL DFC $= 0.30$	
MINOR ROAD (ARM B)				
W b-a = 3.00 (metres)				
W b-c = 3.00 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 70 (metres)				
q b-a = 52 (pcu/hr)				
q b-c = 113 (pcu/hr)				

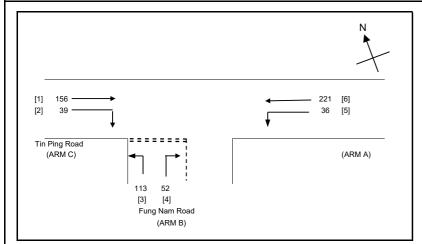
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin F	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2034 Reference Flows PM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W = W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

DMETRIC DETAILS:	GEOMETRIC FACTORS:	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8402366	Q b-a = 470	DFC b-a =	0.1064
W cr = 0 (metres)	E = 0.8966495	Q b-c = 639 Q b-c (O) = 622	DFC b-c =	0.1049
q a-b = 25 (pcu/hr)	F = 0.8004791	Q c-b = 568	DFC c-b =	0.0458
q a-c = 125 (pcu/hr)	Y = 0.655	Q b-ac = 553.9	DFC b-ac (share lane) =	0.2112
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.5726496	TOTAL FLOW = 470 (PCU/HR)		
W c-b = 2.10 (metres)				
Vr c-b = 50 (metres)				
q c-a = 177 (pcu/hr)				
q c-b = 26 (pcu/hr)				
			CRITICAL DFC = 0	0.21
MINOR ROAD (ARM B)				
W b-a = 3.00 (metres)				
W b-c = 3.00 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 70 (metres)				
q b-a = 50 (pcu/hr)				
q b-c = 67 (pcu/hr)				

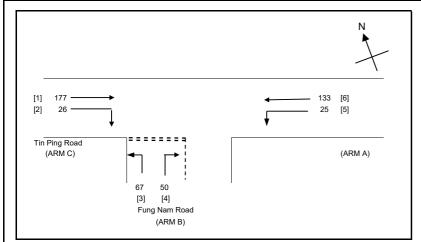
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin F	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2034 Design Flows AM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

DMETRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEME		COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)					
W = 10.00 (metr	es) D =	0.8402366 Q b-a = 449		DFC b-a	= 0.1158
W cr = 0 (metr	es) E =	0.8966495 Q b-c = 618	Q b-c (O) = 600.1	DFC b-c	= 0.1828
q a-b = 36 (pcu/	hr) F =	0.8004791 Q c-b = 547		DFC c-b	= 0.0713
q a-c = 221 (pcu/	hr) Y =	0.655 Q b-ac = 552.5		DFC b-ac (share lane)	= 0.2987
MAJOR ROAD (ARM C)	F for (Qb-ac) =	0.6848485 TOTAL FLOW =	617 (PCU/HR)		
W c-b = 2.10 (metr	es)				
Vr c-b = 50 (metr	es)				
q c-a = 156 (pcu/	hr)				
q c-b = 39 (pcu/	hr)				
				CRITICAL DFC	= 0.30
MINOR ROAD (ARM B)					
W b-a = 3.00 (metr	es)				
W b-c = 3.00 (metr	es)				
VI b-a = 60 (metr	es)				
Vr b-a = 60 (metr	es)				
Vr b-c = 70 (metr	es)				
q b-a = 52 (pcu/	hr)				
q b-c = 113 (pcu/	hr)				

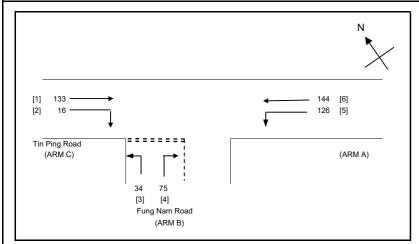
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin F	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J2 - Tin Ping Road / Fung Nam Road (1)	2034 Design Flows PM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

DMETRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT:	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8402366	Q b-a = 468	DFC b-a = 0.1068	
W cr = 0 (metres)	E = 0.8966495	Q b-c = 637 Q b-c (O) = 620	DFC b-c = 0.1052	
q a-b = 25 (pcu/hr)	F = 0.8004791	Q c-b = 566	DFC c-b = 0.0459	
q a-c = 133 (pcu/hr)	Y = 0.655	Q b-ac = 551.8	DFC b-ac (share lane) = 0.2120	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.5726496	TOTAL FLOW = 478 (PCU/HR)		
W c-b = 2.10 (metres)				
Vr c-b = 50 (metres)				
q c-a = 177 (pcu/hr)				
q c-b = 26 (pcu/hr)				
			CRITICAL DFC $= 0.21$	
MINOR ROAD (ARM B)				
W b-a = 3.00 (metres)				
W b-c = 3.00 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 70 (metres)				
q b-a = 50 (pcu/hr)				
q b-c = 67 (pcu/hr)				

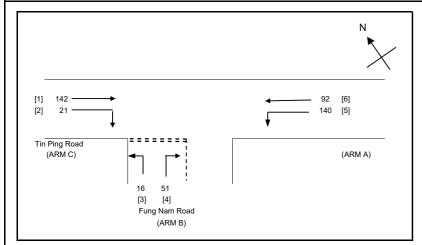
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	PRIORITY JUNCTION CALCULATION					
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22		
J3 - Tin Ping Road / Fung Nam Road (2)	2022 Observed Flows AM	FILENAME :	CHECKED BY:	KW	五月-22		
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22		



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

OMETRIC DETAILS:	GEOMETRIC FACTORS:	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 8.50 (metres)	D = 0.8707025	Q b-a = 479	DFC b-a = 0.1566	
W cr = 0 (metres)	E = 0.8973649	Q b-c = 624 Q b-c (O) = 599.6	DFC b-c = 0.0545	
q a-b = 126 (pcu/hr)	F = 0.9369518	Q c-b = 633	DFC c-b = 0.0253	
q a-c = 144 (pcu/hr)	Y = 0.70675	Q b-ac = 516.4	DFC b-ac (share lane) = 0.2111	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.3119266	TOTAL FLOW = 528 (PCU/HR)		
W c-b = 3.40 (metres)				
Vr c-b = 75 (metres)				
q c-a = 133 (pcu/hr)				
q c-b = 16 (pcu/hr)				
			CRITICAL DFC = 0.21	
MINOR ROAD (ARM B)				
W b-a = 3.20 (metres)				
W b-c = 3.20 (metres)				
VI b-a = 70 (metres)				
Vr b-a = 70 (metres)				
Vr b-c = 50 (metres)				
q b-a = 75 (pcu/hr)				
q b-c = 34 (pcu/hr)				

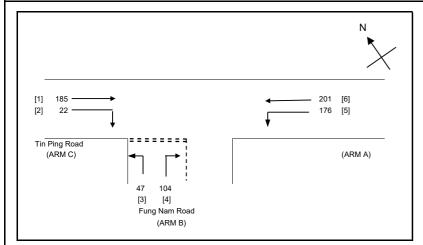
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION C	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J3 - Tin Ping Road / Fung Nam Road (2)	2022 Observed Flows PM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

METRIC DETAILS:			GEOMETRIC F	ACTO	ORS :		THE CA	APACITY OF M	OVEMEN	NT:		COMPARISION OF DESIGN I TO CAPACITY:	FLOW		
MAJOR ROAD (A	ARM A)														
W =	8.50	(metres)	1	D	=	0.8707025		Q b-a =	486			DFC b-a		=	0.1049
W cr =	0	(metres)	I	E	=	0.8973649		Q b-c =	635	Q b-c (O) =	618.3	DFC b-c		=	0.0252
q a-b =	140	(pcu/hr)	1	F	=	1.0812606		Q c-b =	741			DFC c-b		=	0.0283
q a-c =	92	(pcu/hr)	,	Y	=	0.70675		Q b-ac =	514.8			DFC b-ac ((share lane)	=	0.1301
MAJOR ROAD (A	RM C)		F for (Qb-ac	;) =	0.238806		TOTAL FLOW	=	462	(PCU/HR)				
W c-b =	5.00	(metres)													
Vr c-b =	75	(metres)													
q c-a =	142	(pcu/hr)													
q c-b =	21	(pcu/hr)													
												CRITICAL DFC		=	0.10
MINOR ROAD (A	RM B)														
W b-a =	3.20	(metres)													
W b-c =	3.20	(metres)													
VI b-a =	70	(metres)													
Vr b-a =	70	(metres)													
Vr b-c =	50	(metres)													
q b-a =	51	(pcu/hr)													
q b-c =	16	(pcu/hr)													

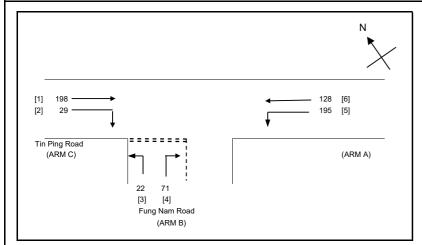
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	PRIORITY JUNCTION CALCULATION						
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22			
J3 - Tin Ping Road / Fung Nam Road (2)	2034 Reference Flows AM	FILENAME :	CHECKED BY:	KW	五月-22			
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22			



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

METRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 8.50 (metre	s) D = 0	0.8707025 Q b-a = 452	DFC b-a	= 0.2301
W cr = 0 (metre	s) E = 0	0.8973649 Q b-c = 606 Q b-c (O) =	571.1 DFC b-c	= 0.0776
q a-b = 176 (pcu/h	r) F = 1	.0812606 Q c-b = 701	DFC c-b	= 0.0314
q a-c = 201 (pcu/h	r) Y =	0.70675 Q b-ac = 490.8	DFC b-ac (share lane)	= 0.3076
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0	0.3112583 TOTAL FLOW = 735	(PCU/HR)	
W c-b = 5.00 (metre	s)			
Vr c-b = 75 (metre	s)			
q c-a = 185 (pcu/h	r)			
q c-b = 22 (pcu/h	r)			
			CRITICAL DFC	= 0.31
MINOR ROAD (ARM B)				
W b-a = 3.20 (metre	s)			
W b-c = 3.20 (metre	s)			
VI b-a = 70 (metre	s)			
Vr b-a = 70 (metre	s)			
Vr b-c = 50 (metre	s)			
q b-a = 104 (pcu/h	r)			
q b-c = 47 (pcu/r	r)			

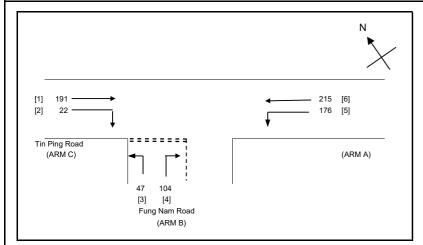
AXON CONSULTANCY LIMITE	D PRIORITY JUNCTI	PRIORITY JUNCTION CALCULATION						
Lots 834 and 838 RP in D.D. 52 and Adjoining Government I	Land, Tin Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22			
J3 - Tin Ping Road / Fung Nam Road (2)	2034 Reference Flows PM	FILENAME :	CHECKED BY:	KW	五月-22			
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22			



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

OMETRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 8.50 (metres)	D = 0.8707025	Q b-a = 463	DFC b-a = 0.1533	
W cr = 0 (metres)	E = 0.8973649	Q b-c = 621 Q b-c (O) = 597.2	DFC b-c = 0.0354	
q a-b = 195 (pcu/hr)	F = 1.0812606	Q c-b = 716	DFC c-b = 0.0405	
q a-c = 128 (pcu/hr)	Y = 0.70675	Q b-ac = 492.7	DFC b-ac (share lane) = 0.1888	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.2365591	TOTAL FLOW = 643 (PCU/HR)		
W c-b = 5.00 (metres)				
Vr c-b = 75 (metres)				
q c-a = 198 (pcu/hr)				
q c-b = 29 (pcu/hr)				
			CRITICAL DFC $= 0.19$	
MINOR ROAD (ARM B)				
W b-a = 3.20 (metres)				
W b-c = 3.20 (metres)				
VI b-a = 70 (metres)				
Vr b-a = 70 (metres)				
Vr b-c = 50 (metres)				
q b-a = 71 (pcu/hr)				
q b-c = 22 (pcu/hr)				

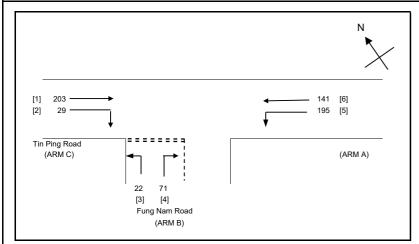
AXON CONSULTANCY LIMITE	PRIORITY JUNCT	PRIORITY JUNCTION CALCULATION						
Lots 834 and 838 RP in D.D. 52 and Adjoining Government	Land, Tin Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22			
J3 - Tin Ping Road / Fung Nam Road (2)	2034 Design Flows AM	FILENAME :	CHECKED BY:	KW	五月-22			
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22			



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

OMETRIC DETAILS:			GEOMETRIC	FACT	ORS :		THE CA	PACITY OF MO	VEMEN	Т:		COMPARISION OF DESIGN FLOW TO CAPACITY:	1		
MAJOR ROAD (A	RM A)														
W =	8.50	(metres)		D	=	0.8707025		Q b-a =	448			DFC b-a	=		0.2321
W cr =	0	(metres)		E	=	0.8973649		Q b-c =	603	Q b-c (O) =	568	DFC b-c	=		0.0779
q a-b =	176	(pcu/hr)		F	=	1.0812606		Q c-b =	697			DFC c-b	=		0.0316
q a-c =	215	(pcu/hr)		Υ	=	0.70675		Q b-ac =	487			DFC b-ac (share	lane) =		0.3101
MAJOR ROAD (AI	RM C)		F for	r (Qb-a	c) =	0.3112583		TOTAL FLOW	=	755	(PCU/HR)				
W c-b =	5.00	(metres)													
Vr c-b =	75	(metres)													
q c-a =	191	(pcu/hr)													
q c-b =	22	(pcu/hr)													
												CRITICAL DFC	=	=	0.31
MINOR ROAD (AF	RM B)														
W b-a =	3.20	(metres)													
W b-c =	3.20	(metres)													
VI b-a =	70	(metres)													
Vr b-a =	70	(metres)													
Vr b-c =	50	(metres)													
q b-a =	104	(pcu/hr)													
q b-c =	47	(pcu/hr)													

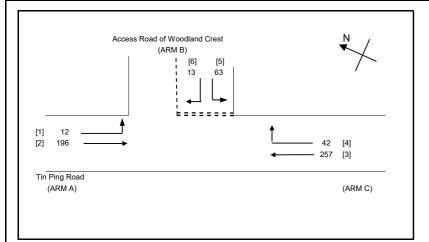
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	PRIORITY JUNCTION CALCULATION						
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22			
J3 - Tin Ping Road / Fung Nam Road (2)	2034 Design Flows PM	FILENAME :	CHECKED BY:	KW	五月-22			
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22			



NOTES: (GEOMETRIC INPUT DATA) W = MAJOR ROAD WIDTH W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b W c-b = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VI b-a = Vr b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b Vr c-b = D = STREAM-SPECIFIC B-A STREAM-SPECIFIC B-C E = STREAM-SPECIFIC C-B (1-0.0345W)

METRIC DETAILS:		GEOMETRIC FACTORS	3 :	THE CAPACITY OF MO	VEMENT:		COMPARISION OF DESIGN FLOW TO CAPACITY:		
MAJOR ROAD (AF	RM A)								
W =	8.50 (metres)	D =	0.8707025	Q b-a =	459		DFC b-a	=	0.1547
W cr =	0 (metres)	E =	0.8973649	Q b-c =	618 Q b-c (O) =	594.1	DFC b-c	=	0.0356
q a-b =	195 (pcu/hr)	F =	1.0812606	Q c-b =	712		DFC c-b	=	0.0407
q a-c =	141 (pcu/hr)	Υ =	0.70675	Q b-ac =	488.7		DFC b-ac (share lane)	=	0.1903
MAJOR ROAD (AF	RM C)	F for (Qb-ac)	0.2365591	TOTAL FLOW	= 661	(PCU/HR)			
W c-b =	5.00 (metres)								
Vr c-b =	75 (metres)								
q c-a =	203 (pcu/hr)								
q c-b =	29 (pcu/hr)								
							CRITICAL DFC	=	0.19
MINOR ROAD (AR	MB)								
W b-a =	3.20 (metres)								
W b-c =	3.20 (metres)								
VI b-a =	70 (metres)								
Vr b-a =	70 (metres)								
Vr b-c =	50 (metres)								
q b-a =	71 (pcu/hr)								
q b-c =	22 (pcu/hr)								

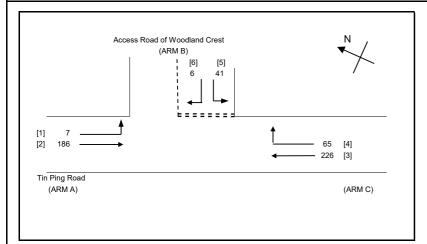
AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	INITIALS	DATE		
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin F	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest	2022 Observed Flows AM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



NOTES: (GEOMETRIC INPUT DATA) MAJOR ROAD WIDTH W = W cr = CENTRAL RESERVE WIDTH LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a W b-a = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c W b-c = W c-b = LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b VI b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a Vrb-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c Vr b-c = Vr c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b D = STREAM-SPECIFIC B-A E = STREAM-SPECIFIC B-C STREAM-SPECIFIC C-B (1-0.0345W)

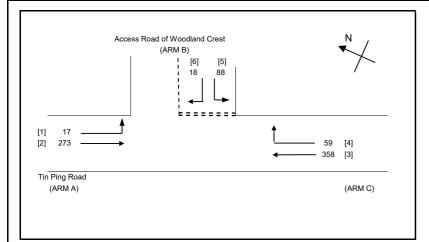
EOMETRIC DETAILS: GEOMETRIC FACTORS:							COMPARISION OF D TO CAPACITY:	COMPARISION OF DESIGN FLOW TO CAPACITY:					
MAJOR ROAD (ARM A)													
W = 10.00 (m	etres)	D	=	0.8234122	Q b-a =	4	33			DF	FC b-a	=	0.0300
W cr = 0 (m	etres)	E	=	0.8621337	Q b-c =	6	01	Q b-c (O) =	596.5	DF	FC b-c	=	0.1048
q a-b = 12 (po	cu/hr)	F	=	1.0660474	Q c-b =	7	41			DF	FC c-b	=	0.0567
q a-c = 196 (po	cu/hr)	Υ	=	0.655	Q b-ac =	563	3.6			DF	FC b-ac (share lane)	=	0.1348
MAJOR ROAD (ARM C)		F for (Qb-	ac) =	0.8289474	TOTAL FLO	OW =	= 58	13	(PCU/HR)				
W c-b = 5.00 (m	etres)												
Vr c-b = 60 (m	etres)												
q c-a = 257 (po	cu/hr)												
q c-b = 42 (pc	cu/hr)												
										CRITICAL DI	FC	=	0.13
MINOR ROAD (ARM B)													
W b-a = 2.80 (m	etres)												
W b-c = 2.80 (m	etres)												
VI b-a = 60 (m	etres)												
Vr b-a = 60 (m	etres)												
Vr b-c = 50 (m	etres)												
q b-a = 13 (po	cu/hr)												
q b-c = 63 (pc	cu/hr)												

AXON CONSULTANCY LIMITED	AXON CONSULTANCY LIMITED PRIORITY JUNCTION CALCULATION				DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest 2022 Observed Flows PM		FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



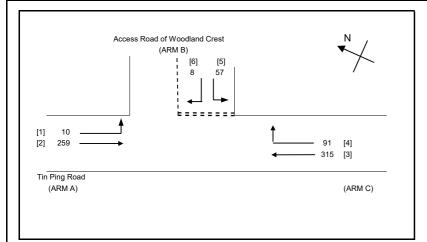
METRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8234122	Q b-a = 433	DFC b-a = 0.0139	
W cr = 0 (metres)	E = 0.8621337	Q b-c = 603 Q b-c (O) = 600.9	DFC b-c = 0.0680	
q a-b = 7 (pcu/hr)	F = 1.0660474	Q c-b = 745	DFC c-b = 0.0872	
q a-c = 186 (pcu/hr)	Y = 0.655	Q b-ac = 574.2	DFC b-ac (share lane) = 0.0819	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.8723404	TOTAL FLOW = 531 (PCU/HR)		
W c-b = 5.00 (metres)				
Vr c-b = 60 (metres)				
q c-a = 226 (pcu/hr)				
q c-b = 65 (pcu/hr)				
			CRITICAL DFC $= 0.09$	
MINOR ROAD (ARM B)				
W b-a = 2.80 (metres)				
W b-c = 2.80 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 50 (metres)				
q b-a = 6 (pcu/hr)				
q b-c = 41 (pcu/hr)				

AXON CONSULTANCY LIMITED	ALCULATION		INITIALS	DATE	
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest 2034 Reference Flows AM		FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



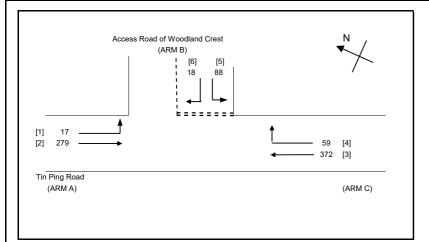
METRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT:	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8234122	Q b-a = 401	DFC b-a = 0.0449	
W cr = 0 (metres)	E = 0.8621337	Q b-c = 585 Q b-c (O) = 578.4	DFC b-c = 0.1504	
q a-b = 17 (pcu/hr)	F = 1.0660474	Q c-b = 720	DFC c-b = 0.0819	
q a-c = 273 (pcu/hr)	Y = 0.655	Q b-ac = 542.7	DFC b-ac (share lane) = 0.1953	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.8301887	TOTAL FLOW = 813 (PCU/HR)		
W c-b = 5.00 (metres)				
Vr c-b = 60 (metres)				
q c-a = 358 (pcu/hr)				
q c-b = 59 (pcu/hr)				
			CRITICAL DFC $= 0.20$	
MINOR ROAD (ARM B)				
W b-a = 2.80 (metres)				
W b-c = 2.80 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 50 (metres)				
q b-a = 18 (pcu/hr)				
q b-c = 88 (pcu/hr)				

AXON CONSULTANCY LIMITED	PRIORITY JUNCTION CA	ALCULATION		INITIALS	DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin F	Ping Road	PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest	2034 Reference Flows PM	FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



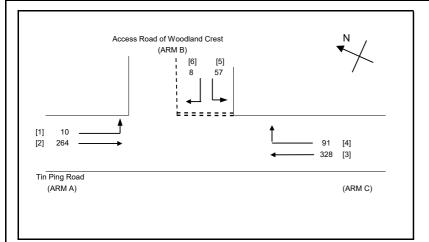
METRIC DETAILS:			GEOMETRIC FA	АСТО	RS :		THE C	APACITY OF M	OVEME	NT:		COMPARISION OF DESIGN FLO TO CAPACITY:	ow		
MAJOR ROAD (A	ARM A)														
W =	10.00	(metres)	D		=	0.8234122		Q b-a =	400			DFC b-a		=	0.0200
W cr =	0	(metres)	E		=	0.8621337		Q b-c =	588	Q b-c (O) =	585.1	DFC b-c		=	0.0969
q a-b =	10	(pcu/hr)	F		=	1.0660474		Q c-b =	726			DFC c-b		=	0.1253
q a-c =	259	(pcu/hr)	Y		=	0.655		Q b-ac =	555.8			DFC b-ac (sha	are lane)	=	0.1169
MAJOR ROAD (A	RM C)		F for (C	Qb-ac)	=	0.8769231		TOTAL FLOW	/ =	740	(PCU/HR)				
W c-b =	5.00	(metres)													
Vr c-b =	60	(metres)													
q c-a =	315	(pcu/hr)													
q c-b =	91	(pcu/hr)													
												CRITICAL DFC		=	0.13
MINOR ROAD (A	RM B)														
W b-a =	2.80	(metres)													
W b-c =	2.80	(metres)													
VI b-a =	60	(metres)													
Vr b-a =	60	(metres)													
Vr b-c =	50	(metres)													
q b-a =	8	(pcu/hr)													
q b-c =	57	(pcu/hr)													

AXON CONSULTANCY LIMITED	AXON CONSULTANCY LIMITED PRIORITY JUNCTION CALCULATION				DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest 2034 Design Flows AM		FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22



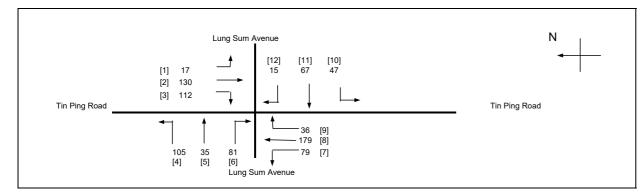
DMETRIC DETAILS:	GEOMETRIC FACTORS :	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8234122	Q b-a = 398	DFC b-a = 0.0452	
W cr = 0 (metres)	E = 0.8621337	Q b-c = 584 Q b-c (O) = 577.4	DFC b-c = 0.1507	
q a-b = 17 (pcu/hr)	F = 1.0660474	Q c-b = 719	DFC c-b = 0.0821	
q a-c = 279 (pcu/hr)	Y = 0.655	Q b-ac = 541.1	DFC b-ac (share lane) = 0.1959	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.8301887	TOTAL FLOW = 833 (PCU/HR)		
W c-b = 5.00 (metres)				
Vr c-b = 60 (metres)				
q c-a = 372 (pcu/hr)				
q c-b = 59 (pcu/hr)				
			CRITICAL DFC $= 0.20$	
MINOR ROAD (ARM B)				
W b-a = 2.80 (metres)				
W b-c = 2.80 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 60 (metres)				
Vr b-c = 50 (metres)				
q b-a = 18 (pcu/hr)				
q b-c = 88 (pcu/hr)				

AXON CONSULTANCY LIMITED	AXON CONSULTANCY LIMITED PRIORITY JUNCTION CALCULATION				DATE
Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.: 30958	PREPARED BY:	TC	五月-22
J4 - Tin Ping Road / Access Road of Woodland Crest 2034 Design Flows PM		FILENAME :	CHECKED BY:	KW	五月-22
		REFERENCE NO.:	REVIEWED BY:	AW	五月-22

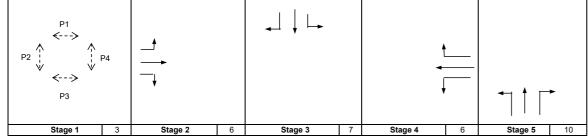


METRIC DETAILS:	GEOMETRIC FACTORS:	THE CAPACITY OF MOVEMENT :	COMPARISION OF DESIGN FLOW TO CAPACITY:	
MAJOR ROAD (ARM A)				
W = 10.00 (metres)	D = 0.8155785	Q b-a = 394	DFC b-a = 0.0203	
W cr = 0 (metres)	E = 0.8621337	Q b-c = 587 Q b-c (O) = 584	DFC b-c = 0.0971	
q a-b = 10 (pcu/hr)	F = 1.0660474	Q c-b = 725	DFC c-b = 0.1255	
q a-c = 264 (pcu/hr)	Y = 0.655	Q b-ac = 553.6	DFC b-ac (share lane) = 0.1174	
MAJOR ROAD (ARM C)	F for (Qb-ac) = 0.8769231	TOTAL FLOW = 758 (PCU/HR)		
W c-b = 5.00 (metres)				
Vr c-b = 60 (metres)				
q c-a = 328 (pcu/hr)				
q c-b = 91 (pcu/hr)				
			CRITICAL DFC = 0.13	
MINOR ROAD (ARM B)				
W b-a = 2.80 (metres)				
W b-c = 2.80 (metres)				
VI b-a = 60 (metres)				
Vr b-a = 50 (metres)				
Vr b-c = 50 (metres)				
q b-a = 8 (pcu/hr)				
q b-c = 57 (pcu/hr)				

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 30958 Project No.: Prepared By: TC J5_Tin Ping Road_Lung Sum Avenue 2022 Observed Flows AM KW 五月-22 Checked By: AW 五月-22 Reviewed By:



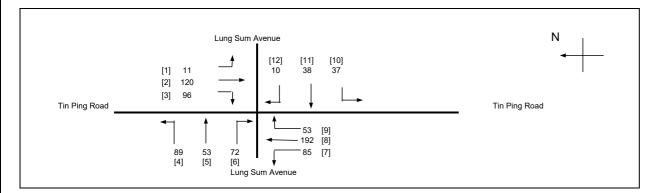
No. of sta	ages per cycle	N =	5	
Intergree	n Period	I =	32	sec
Cycle tim	10	C =	120	200
,	ic	-		360
Sum(y)		Y =	0.334	
Loss time	е	L =	48	sec
Total Flo	w	=	903	pcu
Co	= (1.5*L+5)/(1-Y)	=	115.6	sec
Cm	= L/(1-Y)	=	72.0	sec
Yult		=	0.540	
R.C.ult	= (Yult-Y)/Y*100%	=	61.8	%
Ср	= 0.9*L/(0.9-Y)	=	76.3	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61.8	%



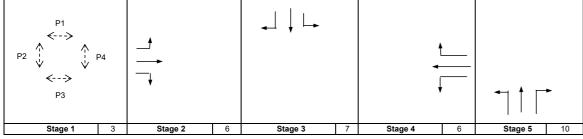
Pedestrian Phase	Width (m)	Stage	Green Tii SG	me Required (s) FG	Green Time F SG	Provided (s) FG	Check
P1	16	1	7	13	7	13	OK
P2	16	1	7	13	7	13	OK
P3	18	1	7	13	7	13	OK
P4	13	1	7	13	7	13	OK

									,								•								•	
	Move-	Stage		Phase		Radius	0	N	Straight-		m	D: 1.	Total	Proportion	Sat.		Flare lane					g	g	Degree of	Queue	Average
	ment		Width		lane				Ahead		Straight	-	Flow	of Turning	Flow	Length		Sat. Flow	У	Greater	L	(required)	,	Saturation	Length	Delay
			m.			m.		-	Sat. Flow	pcu/n	pcu/h	pcu/h	pcu/h	Vehicles	pcu/h	m.		pcu/h		У	sec	sec	sec	Х	(m/lane)	(sec)
		_																			28					
√ `	1,2	2	3.50		1	13			2105	17	130		147	0.12	2077			2077	0.071	0.071		15	15	0.556	21	52
الحد ا	_	_																								
11	3	2	3.40		1	13			2095			112	112	1.00	1878			1878	0.060			13	15	0.469	16	51
1	4	-	3.40		4	11			2095	105			105	1.00	1844			1844	0.057	0.060		12	13	0.532	16	54
-17.	- 4	5	3.50		1	13			2105	105	35	81	116	0.70	1948			1948	0.060	0.060		13	13	0.552	17	54 55
	5,6	э	3.50		'	13			2105		33	01	110	0.70	1946			1946	0.060			13	13	0.556	17	55
\wedge								l																		
\rightarrow	7,8,9	4	5.00		1	11		N	2115	79	179	36	294	0.39	2008			2008	0.146	0.146		32	32	0.556	36	40
١.																										
14	10,11	3	3.50		1	12			2105	47	67		114	0.41	2002			2002	0.057	0.057		12	12	0.556	17	55
1.1																										
	12	3	3.40		1	13			2095			15	15	1.00	1878			1878	0.008			2	12	0.078	2	49
																					00	00	00			
		1		ped																	20	20	20			
															(.\Drain at\	0050 Tim F	line Dead C	hauma Chi	.i 7 Cto.	Lave TIA	\Data\Calculation	-\[Tim [ine December	Luna Cum	A.,	JODE AM

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 Project No.: 30958 Prepared By: TC J5_Tin Ping Road_Lung Sum Avenue 2022 Observed Flows PM KW 五月-22 Checked By: AW 五月-22 Reviewed By:



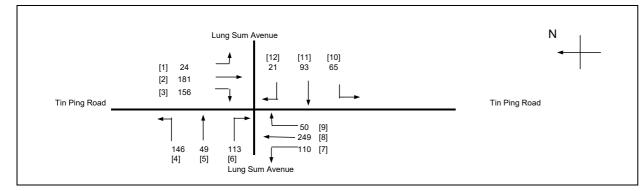
No. of sta	iges per cycle	N =	5	
Intergree	n Period	I =	32	sec
Cycle time	e	C =	120	sec
Sum(y)		Y =	0.329	
Loss time	•	L =	48	sec
Total Flov	V	=	856	pcu
Co	= (1.5*L+5)/(1-Y)	=	114.7	sec
Cm	= L/(1-Y)	=	71.5	sec
Yult		=	0.540	
R.C.ult	= (Yult-Y)/Y*100%	=	64.2	%
Ср	= 0.9*L/(0.9-Y)	=	75.6	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	64.2	%



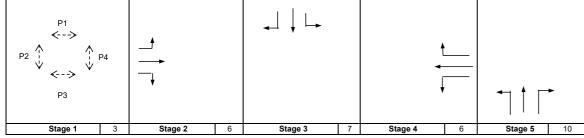
Pedestrian	Width		Green Tir	ne Required (s)	Green Time P	Provided (s)	Check
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	16	1	7	13	7	13	OK
P2	16	1	7	13	7	13	OK
P3	18	1	7	13	7	13	OK
P4	13	1	7	13	7	13	OK
1							

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow	Left	m Straight pcu/h		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Flare lane Effect	Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
4	1,2	2	3.50		1	13			2105	11	120		131	0.08	2085			2085	0.063	0.063	28	14	14	0.548	19	53
۲	3	2	3.40		1	13			2095			96	96	1.00	1878			1878	0.051			11	14	0.446	14	52
7	4 5,6	5 5	3.40 3.50		1	11 13			2095 2105	89	53	72	89 125	1.00 0.58	1844 1974			1844 1974	0.048 0.063	0.063		11 14	14 14	0.418 0.548	13 18	51 53
\Leftrightarrow	7,8,9	4	5.00		1	11		N	2115	85	192	53	330	0.42	2001			2001	0.165	0.165		36	36	0.548	38	37
4	10,11	3	3.50		1	12			2105	37	38		75	0.49	1983			1983	0.038	0.038		8	8	0.548	12	60
ᅡ	12	3	3.40		1	13			2095			10	10	1.00	1878			1878	0.005			1	8	0.077	2	53
		1		ped																	20	20	20			
							<u> </u>					1		X	:\Project\30	958 Tin Pi	ng Road, S	heuna Shu	i - 7 Store	vs - TIA\	Data\Calculation	\IJ5 Tin P	ing Road	Lung Sum	Avenue.xlsm	IOBS PM

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 Project No.: 30958 Prepared By: TC J5_Tin Ping Road_Lung Sum Avenue 2034 Reference Flows AM KW 五月-22 Checked By: AW Reviewed By: 五月-22



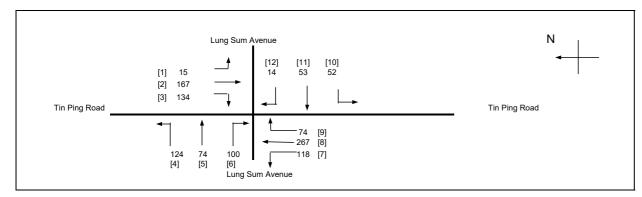
No. of sta	ages per cycle	N =	5	
Intergree	n Period	I =	32	sec
Cycle tim	ne	C =	120	sec
Sum(y)		Y =	0.464	
Loss time	e	L =	48	sec
Total Flo	w	=	1257	pcu
Co	= (1.5*L+5)/(1-Y)	=	143.8	sec
Cm	= L/(1-Y)	=	89.6	sec
Yult		=	0.540	
R.C.ult	= (Yult-Y)/Y*100%	=	16.3	%
Ср	= 0.9*L/(0.9-Y)	=	99.2	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	16.3	%



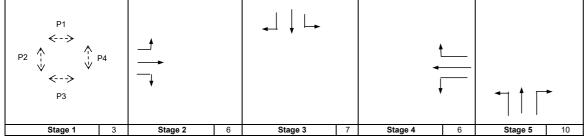
Pedestrian	Width		Green Tir	ne Required (s)	Green Time F	Provided (s)	Chaali
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	16	1	7	13	7	13	OK
P2	16	1	7	13	7	13	OK
P3	18	1	7	13	7	13	OK
P4	13	1	7	13	7	13	OK

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow	Left	m Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.		Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
4	1,2	2	3.50		1	13			2105	24	181		205	0.12	2077			2077	0.099	0.099	28	15	15	0.774	33	63
۲	3	2	3.40		1	13			2095			156	156	1.00	1878			1878	0.083			13	15	0.651	23	55
(7	4 5,6	5 5	3.40 3.50		1 1	11 13			2095 2105	146	49	113	146 162	1.00 0.70	1844 1948			1844 1948	0.079 0.083	0.083		12 13	13 13	0.737 0.774	24 27	65 68
4	7,8,9	4	5.00		1	11		N	2115	110	249	50	409	0.39	2008			2008	0.204	0.204		32	32	0.774	53	47
4	10,11	3	3.50		1	12			2105	65	93		158	0.41	2002			2002	0.079	0.079		12	12	0.774	27	69
ځا	12	3	3.40		1	13			2095			21	21	1.00	1878			1878	0.011			2	12	0.110	3	50
		1		ped																	20	20	20			
									I .	ļ.				<u> </u>	<:\Project\3	30958 Tin Pi	ing Road, S	L heung Shι	ıi - 7 Stor	eys - TIA\	Data\Calculation	 \[J5_Tin F	ing Road	_Lung Sum	Avenue.xlsn	n]R

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 30958 TC Project No.: Prepared By: J5_Tin Ping Road_Lung Sum Avenue 2034 Reference Flows PM KW 五月-22 Checked By: AW 五月-22 Reviewed By:



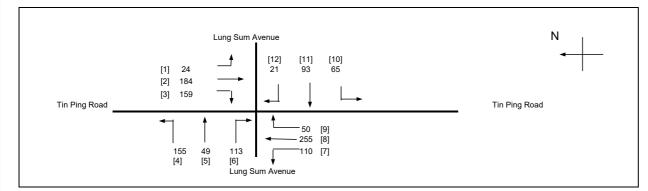
No. of sta	ages per cycle	N =	5	
Intergree	n Period	I =	32	sec
Cuala tim		C =	120	
Cycle tim	ie	C =	120	sec
Sum(y)		Y =	0.458	
Loss time	e	L =	48	sec
Total Flo	w	=	1192	pcu
Co	= (1.5*L+5)/(1-Y)	=	142.0	sec
Cm	= L/(1-Y)	=	88.5	sec
Yult		=	0.540	
R.C.ult	= (Yult-Y)/Y*100%	=	18.0	%
Ср	= 0.9 L/(0.9 Y)	=	97.7	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18.0	%



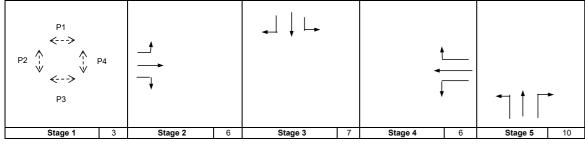
OK OK OK
OK
UN
OK

Move- ment	Stage	Lane Width	Phase	No. of lane	Radius	0	N	Straight- Ahead	Left	m Straight	Right	Total Flow	Proportion of Turning	Sat. Flow	Flare lane Length	Flare lane Effect	Revised Sat. Flow	У	Greater	L	g (required)	g (input)	Degree of Saturation	Queue Length	Avera Dela
		m.			m.			Sat. Flow			pcu/h	pcu/h	Vehicles	pcu/h	m.		pcu/h		У	sec	sec	sec	Х	(m/lane)	(se
1,2	2	3.50		1	13			2105	15	167		182	0.08	2085			2085	0.087	0.087	28	14	14	0.763	30	6-
3	2	3.40		1	13			2095			134	134	1.00	1878			1878	0.071			11	14	0.624	20	5
4	5	3.40		1	11			2095	124			124	1.00	1844			1844	0.067	0.088		11	14	0.582	19	5
5,6	5	3.50		1	13			2105		74	100	174	0.57	1974			1974	0.088			14	14	0.763	28	
7,8,9	4	5.00		1	11		N	2115	118	267	74	459	0.42	2001			2001	0.229	0.229		36	36	0.763	55	
10,11	3	3.50		1	12			2105	52	53		105	0.50	1982			1982	0.053	0.053		8	8	0.763	20	
12	3	3.40		1	13			2095			14	14	1.00	1878			1878	0.007			1	8	0.107	2	
	1		ped																	20	20	20			

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 30958 TC Project No.: Prepared By: 2034 Design Flows AM J5_Tin Ping Road_Lung Sum Avenue Checked By: KW 五月-22 AW 五月-22 Reviewed By:



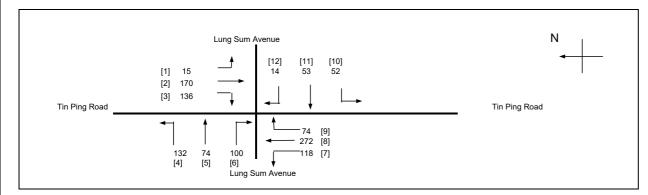
No. of sta	ages per cycle	N =	5	
Intergree	n Period	1 =	32	sec
Cycle tim	ne	C =	120	sec
Sum(y)		Y =	0.470	
Loss time	e	L =	48	sec
Total Flo	w	=	1278	pcu
Co	= (1.5*L+5)/(1-Y)	=	145.2	sec
Cm	= L/(1-Y)	=	90.5	sec
Yult		=	0.540	
R.C.ult	= (Yult-Y)/Y*100%	=	15.0	%
Ср	= 0.9 L/(0.9 Y)	=	100.4	sec
Ymax	= 1-L/C	=	0.600	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	15.0	%



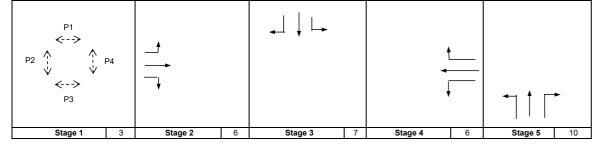
Pedestrian	Width		Green Tin	ne Required (s)	Green Time P	rovided (s)	Check
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	16	1	7	13	7	13	OK
P2	16	1	7	13	7	13	OK
P3	18	1	7	13	7	13	OK
P4	13	1	7	13	7	13	OK

	Move- ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	0	N	Straight- Ahead Sat. Flow	Left	m Straight pcu/h	Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Revised Sat. Flow pcu/h	у	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m/lane)	Average Delay (sec)
4	1,2	2	3.50		1	13			2105	24	184		208	0.12	2077		2077	0.100	0.100	28	15	15	0.783	34	64
ᅡ	3	2	3.40		1	13			2095			159	159	1.00	1878		1878	0.085			13	15	0.662	24	56
₹	4 5,6	5 5	3.40 3.50		1 1	11 13			2095 2105	155	49	113	155 162	1.00 0.70	1844 1948		1844 1948	0.084 0.083	0.084		13 13	13 13	0.783 0.774	27 27	71 68
\Leftrightarrow	7,8,9	4	5.00		1	11		N	2115	110	255	50	415	0.39	2009		2009	0.207	0.207		32	32	0.783	54	47
4	10,11	3	3.50		1	12			2105	65	93		158	0.41	2002		2002	0.079	0.079		12	12	0.783	27	71
۲	12	3	3.40		1	13			2095			21	21	1.00	1878		1878	0.011			2	12	0.111	3	50
		1		ped																20	20	20			

AXON CONSULTANCY LIMITED TRAFFIC SIGNAL CALCULATION INITIALS DATE Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road 五月-22 TC Project No.: 30958 Prepared By: 2034 Design Flows PM J5_Tin Ping Road_Lung Sum Avenue KW 五月-22 Checked By: AW 五月-22 Reviewed By:



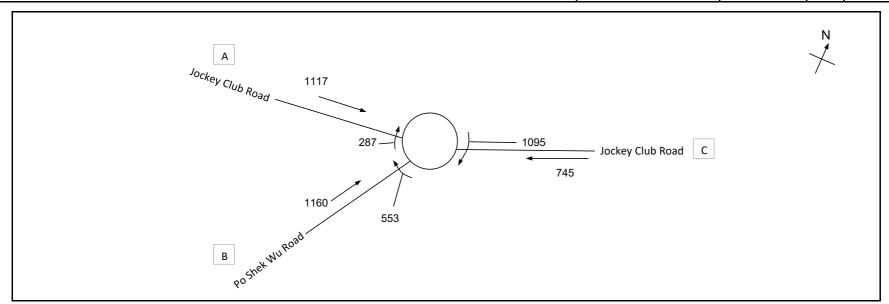
No. of sta	ages per cycle	N =	5		
Intergree	n Period	1 =	32	sec	
Cycle tim	ie.	C =	120	sec	
Sum(y)		Y =	0.462	-	
Loss time	9	L =	48	sec	
Total Flo	W	=	1210	pcu	
Co	= (1.5*L+5)/(1-Y)	=	143.0	sec	
Cm	= L/(1-Y)	=	89.2	sec	
Yult		=	0.540		
R.C.ult	= (Yult-Y)/Y*100%	=	17.0	%	
Ср	= 0.9*L/(0.9-Y)	=	98.5	sec	
Ymax	= 1-L/C	=	0.600		
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	17.0	%	



Pedestrian	Width		Green Tin	ne Required (s)	Green Time P	rovided (s)	Chask
Phase	(m)	Stage	SG	FG	SG	FG	Check
P1	16	1	7	13	7	13	OK
P2	16	1	7	13	7	13	OK
P3	18	1	7	13	7	13	OK
P4	13	1	7	13	7	13	OK

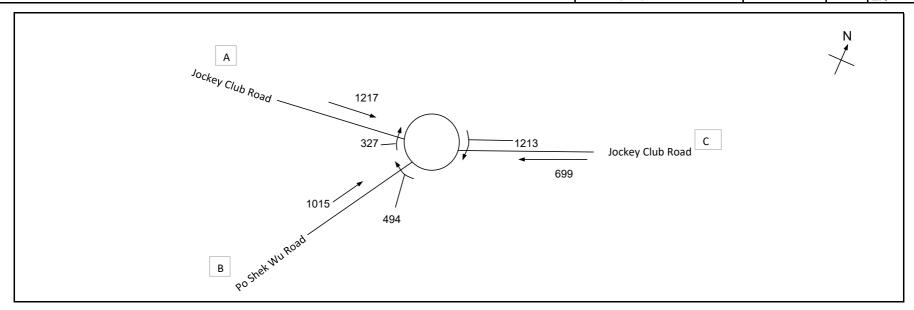
	Move- ment	Stage	Width	Phase	No. of lane		0		Straight- Ahead		m Straight			Proportion of Turning	Sat. Flow	Length		Sat. Flow	у	Greater		g (required)	,	Degree of Saturation	Length	Average Delay
			m.			m.			Sat. Flow	pcu/h	pcu/h	pcu/h	pcu/h	Vehicles	pcu/h	m.		pcu/h		У	sec	sec	sec	Х	(m/lane)	(sec)
4	1,2	2	3.50		1	13			2105	15	170		185	0.08	2085			2085	0.089	0.089	28	14	14	0.769	30	65
خم	3	2	3.40		1	13			2095			136	136	1.00	1878			1878	0.072			11	14	0.628	21	56
(4	5	3.40		1	11			2095	132			132	1.00	1844			1844	0.072	0.088		11	14	0.625	20	56
-11	5,6	5	3.50		1	13			2105		74	100	174	0.57	1974			1974	0.088			14	14	0.769	29	66
4	7,8,9	4	5.00		1	11		N	2115	118	272	74	464	0.41	2002			2002	0.232	0.232		36	36	0.769	56	43
4	10,11	3	3.50		1	12			2105	52	53		105	0.50	1982			1982	0.053	0.053		8	8	0.769	20	81
م	12	3	3.40		1	13			2095			14	14	1.00	1878			1878	0.007			1	8	0.108	2	53
		1		ped																	20	20	20			
														Y	\Project\3	1058 Tin Pi	na Road St	euna Shui	- 7 Store	νe - ΤΙΔ\Γ	Data\Calculation\	[I5 Tin Pi	na Road	Luna Sum	Avenue vlem	IDES PM

AXON CONSULTANCY LIMITED	ROUNDABOU	T JUNCTION	ANALY	SIS	INITIALS	DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2022 Observed Flows AM	FILENAME :		CHECKED BY:	KW	五月-22
		REFERENCE NO.:		REVIEWED BY:	AW	五月-22



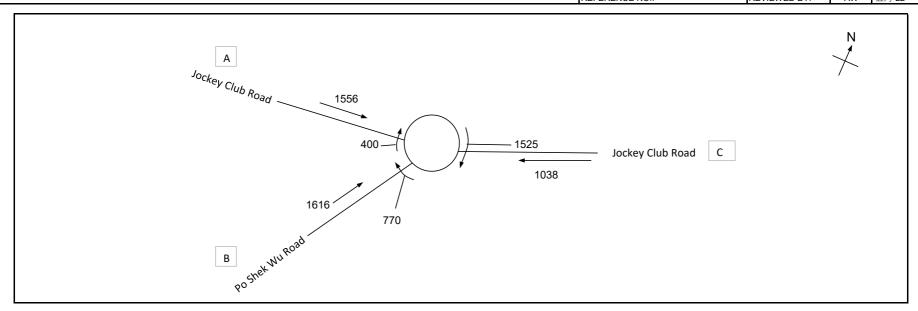
ARM			Α	В	С	
INPUT	PAR	AMETERS:				
/	=	Approach half width (m)	8.00	7.30	7.10	
Ξ	=	Entry width (m)	9.80	10.80	10.50	
-	=	Effective length of flare (m)	22.00	26.00	20.00	
₹	=	Entry radius (m)	85.00	76.00	55.00	
)	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
A	=	Entry angle (degree)	25.00	25.00	47.00	
Q	=	Entry flow (pcu/h)	1117	1160	745	
Qc	=	Circulating flow across entry (pcu/h)	287	553	1095	
OUTP	JT PA	ARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
<	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
<2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
М	=	EXP((D-60)/10)	0.17	0.17	0.17	
F	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe	=	K(F-Fc*Qc)	2750	2595	1826	Total In Sum = 4957
		,				
DFC	=	Design flow/Capacity = Q/Qe	0.41	0.45	0.41	DFC of Critical Approach
טוט	-	Design now/Capacity - Q/Qe	0.41	0.40	0.41	Di G di Offical Approach

AXON CONSULTANCY LIMITED	ROUNDABOU ⁻	T JUNCTION A	NALYSIS		INITIALS	DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2022 Observed Flows PM	FILENAME :		CHECKED BY:	KW	五月-22
	•	REFERENCE NO.:		REVIEWED BY:	AW	五月-22



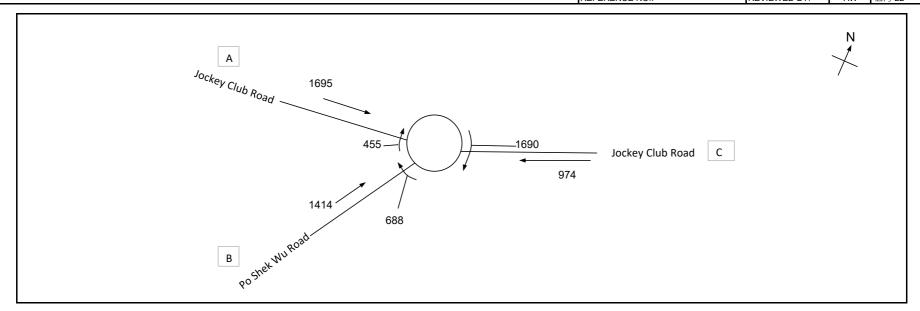
ARM		Α	В	С	
INPUT PAR	AMETERS:				
V =	Approach half width (m)	8.00	7.30	7.10	
E =	Entry width (m)	9.80	10.80	10.50	
L =	Effective length of flare (m)	22.00	26.00	20.00	
R =	Entry radius (m)	85.00	76.00	55.00	
D =	Inscribed circle diameter (m)	42.00	42.00	42.00	
A =	Entry angle (degree)	25.00	25.00	47.00	
Q =	Entry flow (pcu/h)	1217	1015	699	
Qc =	Circulating flow across entry (pcu/h)	327	494	1213	
OUTPUT PA	ARAMETERS:				
S =	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
K =	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
X2 =	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
M =	EXP((D-60)/10)	0.17	0.17	0.17	
F =	303*X2	2856	2953	2819	
Td =	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc =	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe =	K(F-Fc*Qc)	2714	2650	1728	Total In Sum = 4965
l					
DFC =	Design flow/Capacity = Q/Qe	0.45	0.38	0.40	DFC of Critical Approach

AXON CONSULTANCY LIMITED	ROUNDABOUT	JUNCTION AN	IALYSIS		INITIALS	DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Reference Flows AM	FILENAME :		CHECKED BY:	KW	五月-22
		REFERENCE NO.:		REVIEWED BY:	AW	五月-22



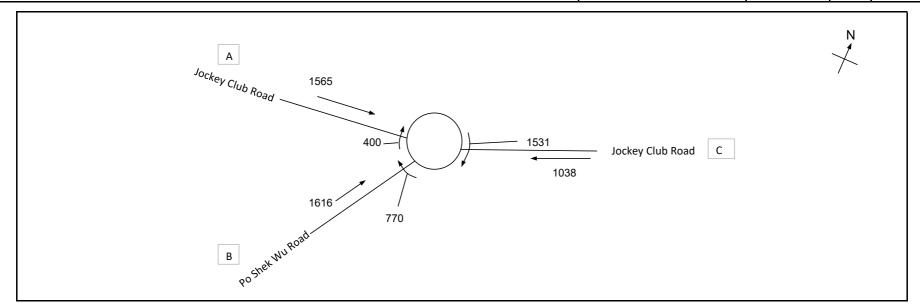
ARM			Α	В	С	
NPU	PAR/	AMETERS:				
/	=	Approach half width (m)	8.00	7.30	7.10	
Ē	=	Entry width (m)	9.80	10.80	10.50	
_	=	Effective length of flare (m)	22.00	26.00	20.00	
R	=	Entry radius (m)	85.00	76.00	55.00	
D	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
Α	=	Entry angle (degree)	25.00	25.00	47.00	
Q	=	Entry flow (pcu/h)	1556	1616	1038	
Qc	=	Circulating flow across entry (pcu/h)	400	770	1525	
OUTF	UT PA	ARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
X2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
M	=	EXP((D-60)/10)	0.17	0.17	0.17	
F	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe	=	K(F-Fc*Qc)	2647	2393	1467	Total In Sum = 6905 P
		Design flow/Capacity = Q/Qe	0.59	0.68	0.71	DFC of Critical Approach = 0

AXON CONSULTANCY LIMITED	ROUNDABOUT	JUNCTION AN	IALYSIS		INITIALS	DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Reference Flows PM	FILENAME :		CHECKED BY:	KW	五月-22
	_	REFERENCE NO.:		REVIEWED BY:	AW	五月-22



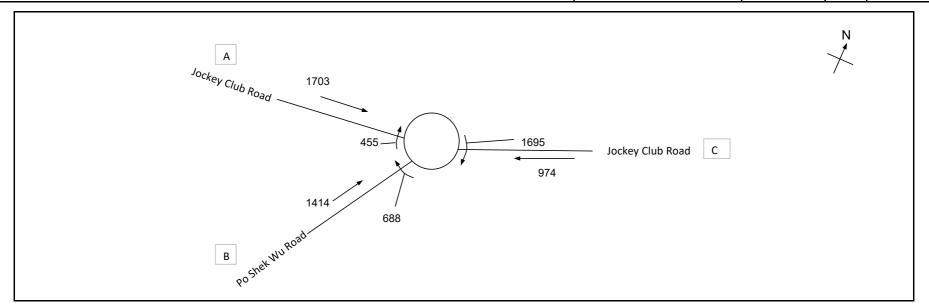
1			Α	В	С	
JT	PARA	AMETERS:				
	=	Approach half width (m)	8.00	7.30	7.10	
	=	Entry width (m)	9.80	10.80	10.50	
	=	Effective length of flare (m)	22.00	26.00	20.00	
	=	Entry radius (m)	85.00	76.00	55.00	
	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
	=	Entry angle (degree)	25.00	25.00	47.00	
	=	Entry flow (pcu/h)	1695	1414	974	
	=	Circulating flow across entry (pcu/h)	455	688	1690	
PU	JT PA	ARAMETERS:				
	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
	=	EXP((D-60)/10)	0.17	0.17	0.17	
	=	303*X2	2856	2953	2819	
	=	1+(0.5/(1+M))	1.43	1.43	1.43	
	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
	=	K(F-Fc*Qc)	2597	2469	1330	Total In Sum = 691
	_	Design flow/Canacity = 0/0e	0.65	0.57	0.73	DFC of Critical Approach
;	=	Design flow/Capacity = Q/Qe		0.65	0.65 0.57	0.65 0.57 0.73

AXON CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS					DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Design Flows AM	FILENAME :		CHECKED BY:	KW	五月-22
		REFERENCE NO.:		REVIEWED BY:	AW	五月-22



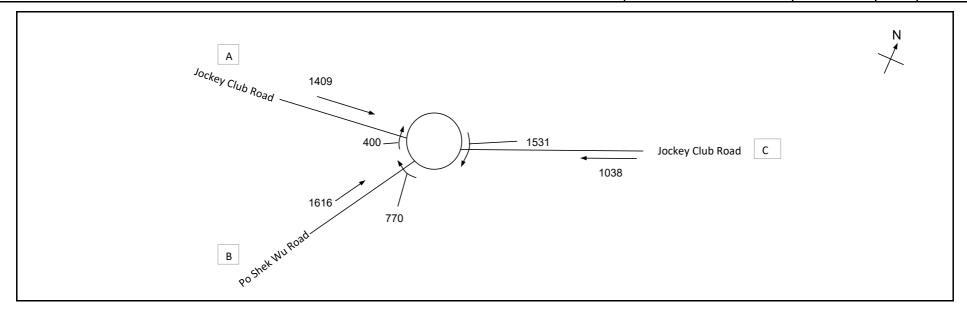
ARM			Α	В	С	
INPU	T PAR	AMETERS:				
V	=	Approach half width (m)	8.00	7.30	7.10	
v _		. ,	9.80	10.80	10.50	
_	=	Entry width (m)				
_	=	Effective length of flare (m)	22.00	26.00	20.00	
R -	=	Entry radius (m)	85.00	76.00	55.00	
ט	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
A	=	Entry angle (degree)	25.00	25.00	47.00	
Q	=	Entry flow (pcu/h)	1565	1616	1038	
Qc	=	Circulating flow across entry (pcu/h)	400	770	1531	
OUTF	PUT PA	ARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
<	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
Κ2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
И	=	EXP((D-60)/10)	0.17	0.17	0.17	
F	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe	=	K(F-Fc*Qc)	2647	2393	1462	Total In Sum = 6920
		· · · · /	20.7	2000		. 34 34
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.68	0.71	DFC of Critical Approach =

AXON CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS					DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Design Flows PM	FILENAME :		CHECKED BY:	KW	五月-22
	_	REFERENCE NO.:		REVIEWED BY:	AW	五月-22



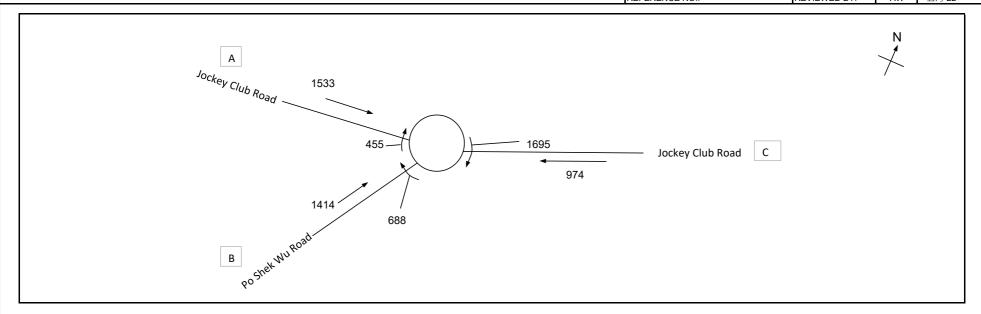
ARM			Α	В	С	
INPUT	PAR	AMETERS:				
V	=	Approach half width (m)	8.00	7.30	7.10	
E	=	Entry width (m)	9.80	10.80	10.50	
L	=	Effective length of flare (m)	22.00	26.00	20.00	
R	=	Entry radius (m)	85.00	76.00	55.00	
D	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
Α	=	Entry angle (degree)	25.00	25.00	47.00	
Q	=	Entry flow (pcu/h)	1703	1414	974	
Qc	=	Circulating flow across entry (pcu/h)	455	688	1695	
OUTP	JT PA	ARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
X2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
M	=	EXP((D-60)/10)	0.17	0.17	0.17	
F	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe	=	K(F-Fc*Qc)	2597	2469	1325	Total In Sum = 6929
						DEO -4 O
DFC	=	Design flow/Capacity = Q/Qe	0.66	0.57	0.73	DFC of Critical Approach =

AXON CONSULTANCY LIMITED	ROUNDABOUT JUNCTION ANALYSIS					DATE
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Design Flows AM with FLBP	FILENAME :		CHECKED BY:	KW	五月-22
	•	REFERENCE NO.:		REVIEWED BY:	AW	五月-22



ARM			Α	В	С	
INPUT	PARA	AMETERS:				
V	=	Approach half width (m)	8.00	7.30	7.10	
v =	_	Entry width (m)	9.80	10.80	10.50	
- I	_	Effective length of flare (m)	22.00	26.00	20.00	
R	_	Entry radius (m)	85.00	76.00	55.00	
L.	_	• • • •		42.00	42.00	
۷	=	Inscribed circle diameter (m)	42.00 25.00	42.00 25.00	42.00 47.00	
Α	=	Entry angle (degree) Entry flow (pcu/h)	25.00 1409	25.00 1616	1038	
Q						
Qc	=	Circulating flow across entry (pcu/h)	400	770	1531	
OUTPL	JT PA	ARAMETERS:				
S	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
X2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
М	=	EXP((D-60)/10)	0.17	0.17	0.17	
F	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe	=	K(F-Fc*Qc)	2647	2393	1462	Total In Sum = 6764
Ī						
DFC	=	Design flow/Capacity = Q/Qe	0.53	0.68	0.71	DFC of Critical Approach

AXON CONSULTANCY LIMITED	ROUNDABOUT JUN		INITIALS	DATE		
Job Title: Lots 834 and 838 RP in D.D.52 and Adjoining Government Land, Tin Ping Road		PROJECT NO.:	30958	PREPARED BY:	TC	五月-22
Junction Name: J6 - Jockey Club Road / Po Shek Wu Road	2034 Design Flows PM with FLBP	FILENAME :		CHECKED BY:	KW	五月-22
		REFERENCE NO.:		REVIEWED BY:	AW	五月-22



ARM			Α	В	С	
NPUT P	ARA	AMETERS:				
v :	=	Approach half width (m)	8.00	7.30	7.10	
Ē :	=	Entry width (m)	9.80	10.80	10.50	
	=	Effective length of flare (m)	22.00	26.00	20.00	
₹ :	=	Entry radius (m)	85.00	76.00	55.00	
)	=	Inscribed circle diameter (m)	42.00	42.00	42.00	
۹ :	=	Entry angle (degree)	25.00	25.00	47.00	
Q :	=	Entry flow (pcu/h)	1533	1414	974	
Qc :	=	Circulating flow across entry (pcu/h)	455	688	1695	
DUTPUT	ГРΑ	RAMETERS:				
;	=	Sharpness of flare = 1.6(E-V)/L	0.13	0.22	0.27	
(=	1-0.00347(A-30)-0.978(1/R-0.05)	1.05	1.05	0.97	
(2	=	V + ((E-V)/(1+2S))	9.43	9.75	9.30	
M	=	EXP((D-60)/10)	0.17	0.17	0.17	
F :	=	303*X2	2856	2953	2819	
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43	
Fc	=	0.21*Td(1+0.2*X2)	0.87	0.89	0.86	
Qe :	=	K(F-Fc*Qc)	2597	2469	1325	Total In Sum = 6759 F
DFC	=	Design flow/Capacity = Q/Qe	0.59	0.57	0.73	DFC of Critical Approach = (

Traffic Impact Assessment for Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Appendix B

Excerpts of Outline Development Plan no. D/FLN/1 and Outline Zoning Plan no. S/FLN/2 of Fanling North

Appendix 2

<u>Development Parameters of Major Development Sites</u> in Fanling North New Development Area

1. <u>"RS/HOS" Site in Northwest of Area 6</u>

Site Area : About 1.87 ha

Maximum Domestic GFA (Plot Ratio) : About 65,553 m² (3.5)

Maximum Building Height : 75mPD and 90mPD

Estimated No. of Flats : About 1,457 units#1

Estimated Population : About 4,327 persons#2

2. <u>"RS/HOS" Site in Southwest of Area 6</u>

Site Area : About 1.30 ha

Maximum Domestic GFA (Plot Ratio) : About 51,861 m² (4)

Maximum Non-domestic GFA (Plot Ratio) : About 12,965 m² (1)

Maximum Building Height : 120mPD

Estimated No. of Flats : About 1,152 units^{#1}
Estimated Population : About 3,423 persons^{#2}

3. <u>"RS/HOS" Site in Northeast of Area 6</u>

Site Area : About 1.86 ha

Maximum Domestic GFA (Plot Rato) : About 65,058 m² (3.5)

Maximum Building Height : 75mPD and 90mPD

Estimated No. of Flats : About 1,446 units#1

Estimated Population : About 4,294 persons#2

4. "RS/HOS" Site in Southeast of Area 6

Site Area : About 1.23 ha

Maximum Domestic GFA (Plot Ratio) : About 49,040 m² (4)

Maximum Non-domestic GFA (Plot Ratio) : About 12,260 m² (1)

Maximum Building Height : 120mPD

Estimated No. of Flats : About 1,090 units^{#1}
Estimated Population : About 3,237 persons^{#2}

5. "R3" Site in Area 7

Site Area : About 1.04 ha

Maximum Domestic GFA (Plot Ratio) : About 20,892 m² (2)

Maximum Building Height : 55mPD

Estimated No. of Flats : About 161 units^{#3}
Estimated Population : About 435 persons^{#4}

6. "RS/HOS" Site in North of Area 8

Site Area : About 0.84 ha

Maximum Domestic GFA (Plot Ratio) : About 29,377 m² (3.5)

Maximum Building Height : 90mPD

Estimated No. of Flats : About 653 units^{#1}

Estimated Population : About 1,939 persons^{#2}

7. "RS/HOS" Site in South of Area 8

Site Area : About 0.98 ha

Maximum Domestic GFA (Plot Ratio) : About 39,278 m² (4) Maximum Non-domestic GFA (Plot Ratio) : About 9,819 m² (1)

Maximum Building Height : 120mPD

Estimated No. of Flats : About 873 units^{#1}

Estimated Population : About 2,592 persons^{#2}

8. <u>"R2" Site in North of Area 10</u>

Site Area : About 0.87 ha

Maximum Domestic GFA (Plot Ratio) : About 30,369 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 434 units^{#5}

Estimated Population : About 1,171 persons^{#6}

9. "OU(Commercial and Residential

Development Incorporating Public

Transport Terminus)" Site in South of

Area 10

Site Area : About 0.99 ha Maximum Domestic GFA : About 21,494 m 2 Maximum Non-domestic GFA : About 8,598 m 2

Maximum Building Height : 80mPD

Estimated No. of Flats : About 307 units^{#5}
Estimated Population : About 829 persons^{#6}

10. "R2" Site in West of Area 10

Site Area : About 0.88 ha

Maximum Domestic GFA (Plot Ratio) : 30,697 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 439 units^{#5}

Estimated Population : About 1,184 persons^{#6}

11. "R2(HOS)" Site in Further West of Area

13 abutting Road L3

Site Area : About 0.97 ha

Maximum Domestic GFA (Plot Ratio) : About 33,978 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 629 units^{#7}

Estimated Population : About 2,014 persons^{#8}

12. "R2(HOS)" Site in West of Area 13

Site Area : About 0.82 ha

Maximum Domestic GFA (Plot Ratio) : About 28,834 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 534 units^{#7}

Estimated Population : About 1,709 persons^{#8}

13. <u>"R2" Site in East of Area 13</u>

Site Area : About 1.19 ha

Maximum Domestic GFA (Plot Ratio) : About 41,590 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 594 units^{#5}

Estimated Population : About 1,604 persons^{#6}

14. "R2" Site in Further East of Area 13

Site Area : About 1.03 ha

Maximum Domestic GFA (Plot Ratio) : About 36,086 m² (3.5)

Maximum Building Height : 75mPD

Estimated No. of Flats : About 516 units^{#5}

Estimated Population : About 1,392 persons^{#6}

15. "R1" Site in West of Area 14

Site Area : About 1.06 ha

Maximum Domestic GFA (Plot Ratio) : 53,086 m² (5)

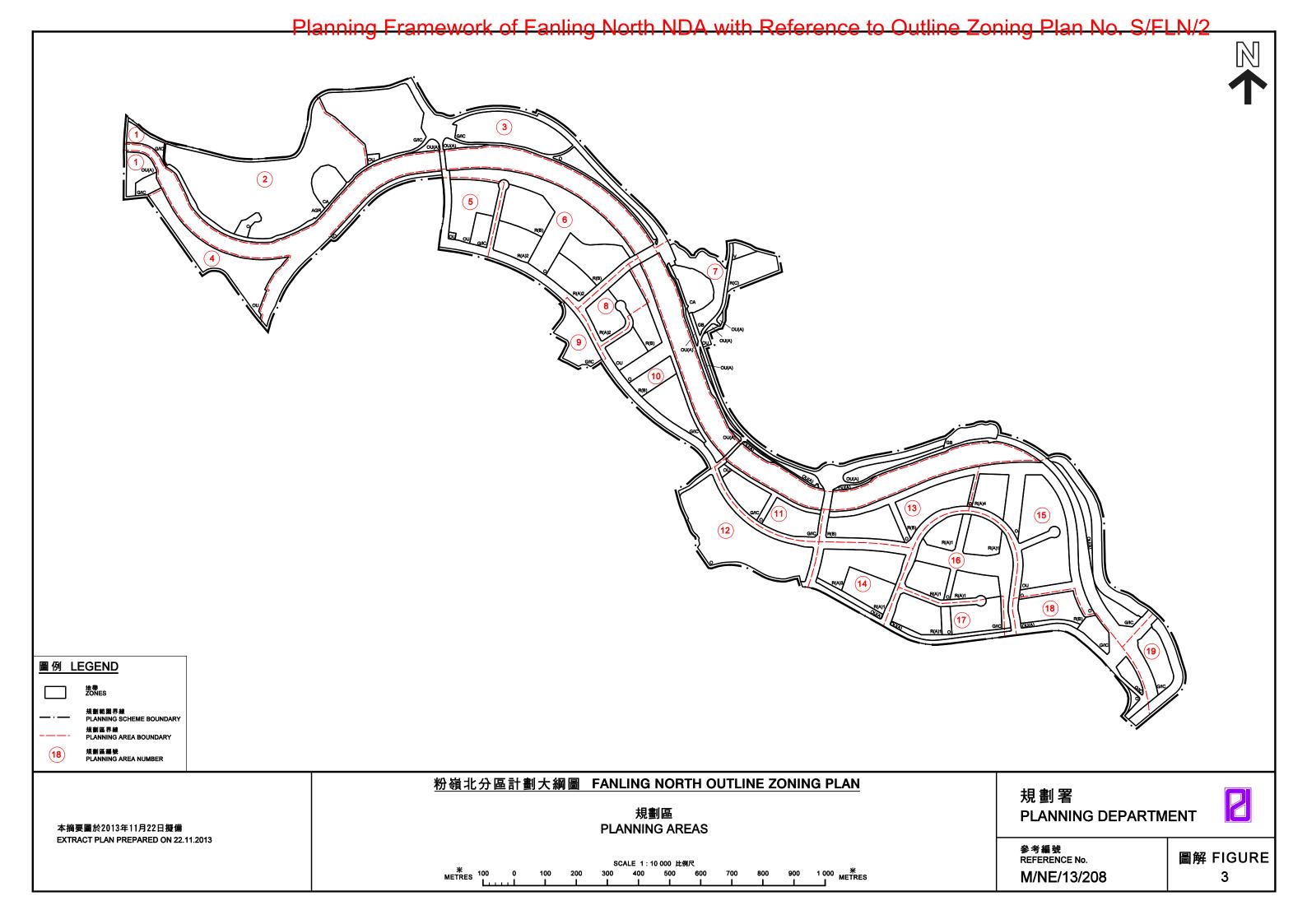
Maximum Building Height : 110mPD

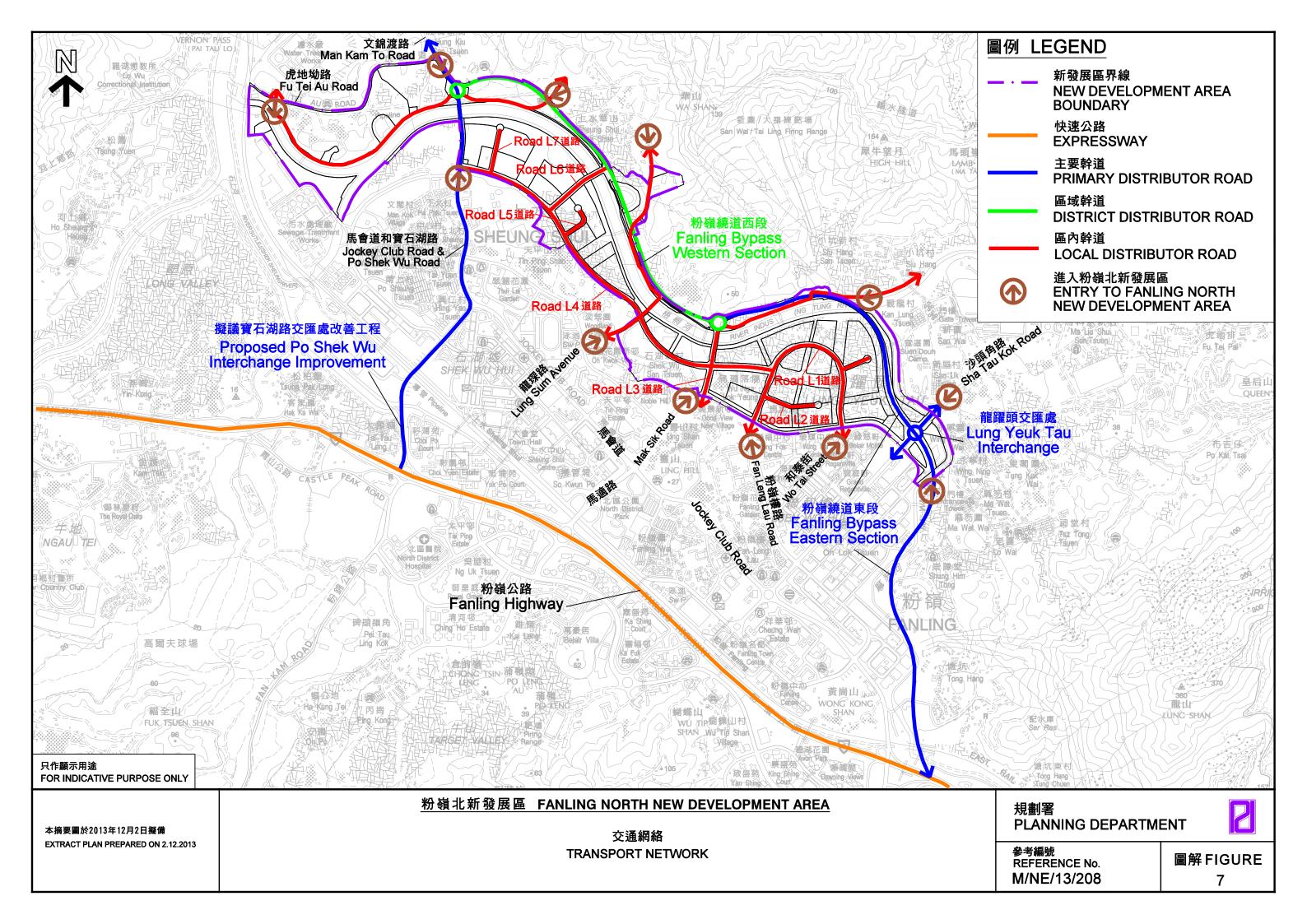
 $\begin{array}{lll} \text{Maximum Building Height} & : & 60 \text{mPD and 75 mPD} \\ \text{Estimated No. of Flats} & : & \text{About 822 units}^{\#5} \end{array}$

Estimated Population : About 2,220 persons^{#6}

(Note: Site area and the resultant GFA shall be subject to detailed site survey.)

- #1 Assuming average flat size of 45m²
- #2 Assuming PPF of 2.97
- #3 Assuming average flat size of 130m²
- #4 Assuming PPF of 2.7
- #5 Assuming average flat size of 70m²
- #6 Assuming PPF of 2.7
- #7 Assuming average flat size of 54m²
- #8 Assuming PPF of 3.2





Traffic Impact Assessment for Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Appendix C

Excerpts of Legislative Council paper No. CB(1)499/18-19(01)

立法會 CB(1)499/18-19(01)號文件

2019年1月22日 立法會發展事務委員會



古洞北及粉嶺北新發展區主體工程、詳細設計及特設現金津貼撥款



古洞北及粉嶺北新發展區 主要數字一覽

	第一階段發展	餘下階段發展	整項發展
住宅單位供應量 (公營房屋)	21 000 (18 000)	50 800 (30 500)	71 800 (48 500)
經濟活動樓面面積 (平方米)	102 500	765 500	868 000
收回私人土地(公頃)	68	114	182
清理政府土地(公頃)	100	133	233
受影響戶數	445	1 062	1 507
受影響業務經營者	141	302	443
預算新增人口	52 900	135 200	188 100
基礎工程建造時間	2019-2026*	2024-2031#	2019-2031

^{*}收回土地和清理預計於2019年下半年至2021年年底陸續進行

[#]按2023年內成功申請工程撥款估算

粉嶺北新發展區

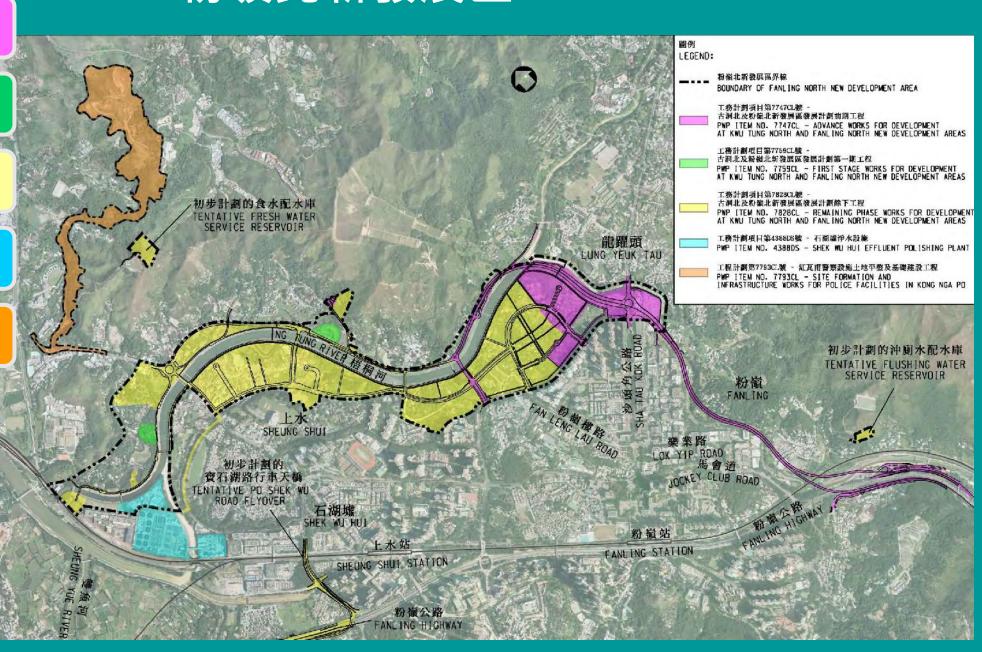
第一階段:前期工程

第一階段:第一期工程

餘下階段

石湖墟淨水設施

缸瓦甫工程



Traffic Impact Assessment for Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and Adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Appendix D

Planning Data from Planning Department

表 1: 二零二一年至二零二九年按區議會分區劃分的人口推算數字

Table 1: Projected Population by District Council District, 2021-2029

(以年中計算 as at mid year)

區議會分區/	District Council District/										平下可异 03	• /
主要區域	Broad Area	2019#	2020 #	2021	2022	2023	2024	2025	2026	2027	2028	2029
中西區	Central and Western	243 500	239 000	239 000	237 600	233 500	231 600	227 700	223 500	219 200	213 400	214 900
灣仔	Wan Chai	180 100	175 000	173 800	171 600	167 900	166 300	163 300	160 000	156 300	151 100	149 200
東區	Eastern	550 600	542 900	544 800	540 600	535 100	531 600	524 900	517 100	508 500	500 200	495 600
南區	Southern	271 800	267 900	268 300	267 300	267 200	268 300	267 700	267 600	271 500	276 300	274 500
深水埗	Sham Shui Po	423 300	440 500	455 100	459 400	459 000	468 000	468 000	463 900	462 000	455 600	454 200
九龍城	Kowloon City	426 000	425 400	427 600	429 100	433 000	443 800	454 500	468 100	477 200	473 400	471 600
黃大仙	Wong Tai Sin	420 200	418 200	421 400	422 900	423 100	427 700	425 200	422 900	420 400	426 000	424 400
觀塘	Kwun Tong	693 900	692 400	701 700	703 800	703 800	706 800	712 200	723 800	719 900	716 600	721 200
油尖旺	Yau Tsim Mong	333 500	326 600	324 900	322 900	318 800	316 500	312 900	307 500	300 500	292 100	289 200
葵青	Kwai Tsing	510 400	508 900	509 000	508 900	515 500	517 200	514 100	513 000	510 300	507 500	505 000
荃灣	Tsuen Wan	315 300	313 500	315 600	312 700	307 300	305 000	301 200	299 600	295 600	293 700	293 100
屯門	Tuen Mun	503 100	503 100	510 600	530 500	550 400	556 600	559 400	563 900	576 900	579 500	577 400
元朗	Yuen Long	650 100	646 100	651 400	657 700	662 700	666 500	665 600	668 700	674 200	694 200	708 200
北區	North	317 900	318 500	323 600	357 000	359 800	361 600	366 500	372 400	393 900	417 200	426 900
大埔	Tai Po	309 900	311 200	323 200	330 000	343 200	350 800	351 600	353 800	353 700	350 000	348 000
沙田	Sha Tin	692 500	689 300	708 600	708 200	716 500	717 500	712 100	709 900	705 400	698 500	695 400
西貢	Sai Kung	475 300	475 500	489 600	498 000	501 900	504 200	521 800	531 200	532 000	536 900	540 000
離島	Islands	188 900	186 600	190 900	190 600	198 000	197 300	225 100	238 400	256 800	281 600	303 800
香港島	Hong Kong Island	1 246 000	1 224 700	1 225 900	1 217 200	1 203 700	1 197 700	1 183 500	1 168 100	1 155 500	1 141 000	1 134 200
九龍	Kowloon	2 296 900	2 303 100	2 330 700	2 338 100	2 337 600	2 362 800	2 372 800	2 386 200	2 380 000	2 363 600	2 360 600
新界	New Territories	3 963 400	3 952 800	4 022 500	4 093 600	4 155 300	4 176 700	4 217 300	4 250 900	4 298 800	4 358 900	4 397 700
新市鎮	New Towns	3 510 800	3 503 000	3 566 400	3 603 400	3 662 000	3 677 700	3 702 000	3 718 200	3 733 700	3 742 500	3 748 700
其他地區,	Other Areas [†]	452 600	449 800	456 100	490 200	493 300	499 100	515 300	532 700	565 100	616 400	649 000
陸上總計	Land Total	7 506 200	7 480 700	7 579 100	7 648 900	7 696 600	7 737 300	7 773 700	7 805 300	7 834 400	7 863 500	7 892 500
加:水上人口	Plus : Marine Population	1 100	1 100	1 100	1 100	1 100	1 100	1 100	1 000	1 000	1 000	1 000
全港	Whole Territory	7 507 400	7 481 800	7 580 200	7 650 000	7 697 600	7 738 300	7 774 800	7 806 300	7 835 400	7 864 600	7 893 500

[#] 基年估計 Base year estimates.

Figures for "Other Areas" also include the projected population for New Town Extension and major New Development Areas up to relevant years.

^{↑「}其他地區」的數字亦包括新市鎮擴展區及主要新發展區截至有關年份的推算人口。

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL_PLG_10238_R001a

Appendix | IV

Environmental Assessment





Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd 17 August 2022

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1 PROJECT BACKGROUND

1.1 Introduction

- 1.1.1 A previous planning application A/FSS/279 was made for a Proposed Development with a 4-storeys residential building ("Domestic (Flat)") and a 4-storeys Residential Care Home for the Elderly ("RCHE") at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road Ting Ping Road, Sheung Shui, NT, which has been approved by Town Planning Board ("TPB") on 29 October 2021.
- 1.1.2 Champ Dynasty Ltd ("the Applicant"), now would like to submit a new application under Section 16 of the Town Planning Ordinance ("TPO") for the Proposed Development with a 4-storeys Domestic (Flat) and a 7-storeys RCHE with minor relaxation of building height restriction and different development parameters at the same location.
- 1.1.3 In order to support the S16 planning application made to TPB, SMEC Asia Ltd ("SMEC") has been commissioned by the Applicant to prepare this Environmental Assessment ("EA") Report to support the new Section 16 Planning Application.

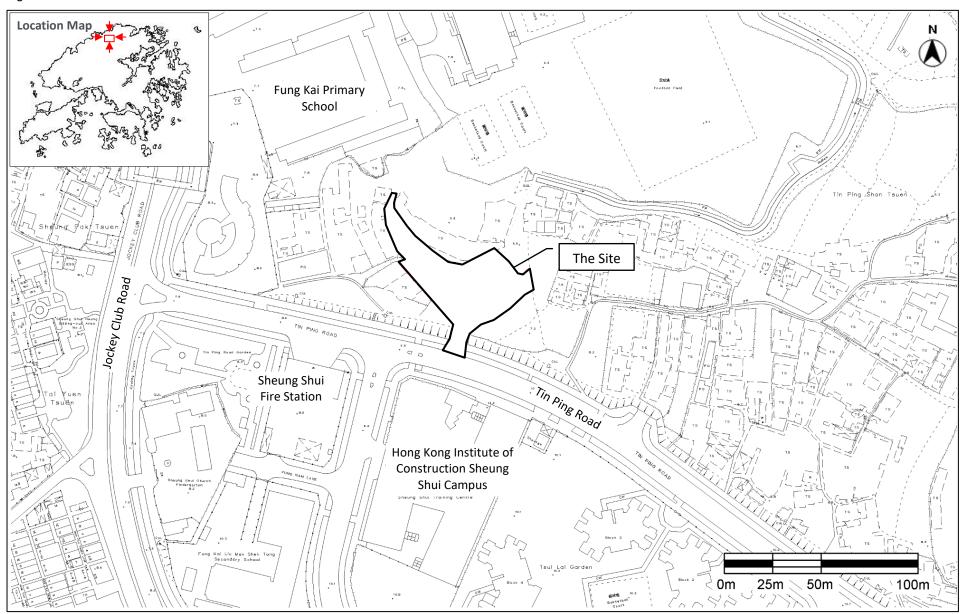
1.2 **Site Description**

- 1.2.1 The Site area is approximately 2,092.6 m² and it is located to the north of Tin Ping Road as shown on *Figure 1-1.* The Site is currently occupied with some temporary structures for dwellings and partly covered by vegetation.
- 1.2.2 The Site location and its environs are shown on *Figure 1-1* which the uses surrounding the Site include:
 - To the north: Fung Kai Kindergarten, Fung Kai Primary School, Fung Kai No.1 Secondary School and Fung Kai Innovative School
 - To the west and east: Village dwellings and residential temporary structures
 - To the south: Tin Ping Road, Sheung Shui Fire Station and Hong Kong Institute of Construction Sheung Shui Campus
- 1.2.3 The Proposed Development will comprise a 4-storeys Domestic (Flat) and a 7-storeys RCHE. For the details of the Proposed Development, the indicative layout and sectional plans can be referred to *Appendix 1* of the Planning Statement of the Planning Application.

1.3 Objectives of the Report

- 1.3.1 The objectives of this EA Report are to:
 - Identify all sensitive receivers of the Proposed Development
 - Carry out a road traffic noise impact assessment and fixed plant noise impact assessment during operation of the Proposed Development
 - Assess the potential air quality impact on the Proposed Development due to vehicular and any industrial emissions
 - Assess the potential impact of water quality, waste management and land contamination due to the proposed development
 - Recommend the necessary mitigation measures to alleviate any unacceptable impacts

Figure 1-1: Site Location and its Environs



D01 - ENVIRONMENTAL ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd

2 AIR QUALITY REVIEW

2.1 Introduction

2.1.1 This section assesses the potential air quality impact associated with the Proposed Development during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

2.2 Environmental Legislation and Standards

Air Quality Objectives

2.2.1 The prevailing Air Quality Objectives ("AQOs") established under the *Air Pollution Control Ordinance* ("APCO") (Cap. 311) are given in *Table 2-1* below.

Table 2-1: Hong Kong Air Quality Objectives

		AQOs (EFFECTIVE FROM 1 JANUARY 2022)		
POLLUTANT	AVERAGING TIME	CONCENTRATION LIMIT [1] (µg/m³)	NUMBER OF EXCEEDANCES ALLOWED	
Sulphur	10-minute	500	3	
Dioxide (SO ₂)	24-hour	50	3	
Respirable	24-hour	100	9	
Suspended Particulates (RSP or PM ₁₀)	Annual	50	N/A	
Fine	24-hour	50	35	
Suspended Particulates (FSP or PM _{2.5})	Annual	25	N/A	
Nitrogen	1-hour	200	18	
Dioxide (NO ₂)	Annual	40	N/A	
Ozone (O ₃)	8-hour	160	9	
Carbon	1-hour	30,000	0	
Monoxide (CO) ^[4]	8-hour	10,000	0	
Lead (Pb)	Annual	0.5	N/A	

Notes:

- 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 293 Kelvin and a reference pressure of 101.325 kilopascal.
- 2. RSP means suspended particles in air with a nominal aerodynamic diameter of 10μm or less.
- 3. FSP means suspended particles in air with a nominal aerodynamic diameter of 2.5 μ m or less.
- 4. The 8-hour mean of CO concentration is calculated based on Item 9 of Schedule 5 of APCO. The maximum daily 8-hour mean concentration of CO in air is selected by examining 8-hour running averages, calculated from CO hourly data and updated each hour, that is:
 - (a) the first calculation period for a day is the period from 5pm on previous day to 1am on that day.
 - (b) the last calculation period for a day is the period from 4pm to 12 midnight on that day.

Air Pollution Control (Construction Dust) Regulation

2.2.2 Enacted under Section 43 of the APCO, the *Air Pollution Control (Construction Dust) Regulation* defines notifiable and regulatory works to ensure effective dust abatement measures have been properly implemented to reduce dust emissions for a number of construction activities.

2.2.3 The Regulation requires that any notifiable works shall give advance notice to EPD, and the contractor shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

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

2.2.4 This Regulation takes effect on 1 June 2015 and requires Non-road Mobile Machinery (NRMM), except those exempted, to comply with the prescribed emission standards. 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 the 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 (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations

2.2.5 Enacted under Section 43 of the APCO, the *Air Pollution Control (Furnaces, Ovens and Chimneys)* (Installation and Alteration) Regulations stipulate that a prior approval from the EPD will be required if the total fuel consumption capacity of any fuel-burning equipment or its chimney on premises to be installed or altered exceeds (a) 25 litres (L) of conventional liquid fuel per hour; or (b) 30 kilograms (kg) of conventional solid fuel per hour; or (c) 1,150 megajoules (MJ) of any gaseous fuel per hour.

Hong Kong Planning Standards and Guidelines (HKPSG)

2.2.6 The minimum buffer distances required between different types of roads, height of chimney and active open spaces are recommended in Chapter 9 Environment of HKPSG and are summarised in *Table 2-2* for ease of reference.

Table 2-2: HKPSG Minimum Setback Distances

POLLUTION SOURCE	ROAD TYPE	BUFFER DISTANCE	PERMITTED USES
Road and Highways	Trunk Road and Primary Distributor	>20m	Active and passive recreation uses
		3 - 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
	Under Flyovers	-	Passive recreational uses

Source: Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

2.2.7 The minimum buffer distances required between industrial chimneys and active open spaces are recommended in HKPSG as well. The relevant buffer distances of HKPSG are summarised in *Table 2-3* for ease of reference.

Table 2-3: HKPSG Recommended Setback Distances from Industrial Chimneys

POLLUTION SOURCE	DIFFERENCE IN HEIGHT BETWEEN INDUSTRIAL CHIMNEY EXIT AND THE SITE	BUFFER DISTANCE	PERMITTED USES
Industrial	< 20m	> 200m	Active and passive recreation use
Chimneys		5 – 200m	Passive recreational use
	20 – 30m	> 100m	Active and passive recreational use
		5 – 100m	Passive recreational uses
	30 – 40m	> 50m	Active and passive recreational use
		5 – 50m	Passive recreational use
	> 40m	> 10m	Active and passive recreational use

Source: Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

2.3 Review of Air Quality Impact

Construction Phase

- 2.3.1 Fugitive dust is the major impact that will be generated during construction activities, such as excavation, stockpiling, earth moving, transferring or handling of dusty materials.
- 2.3.2 The air sensitive uses surrounding the Site are residential use and educational institution. The identified representative ASRs surrounding the Site and their separation from the Site boundary are summarised in *Table 2-4*. The locations of the identified representative air sensitive receivers ("ASRs") in the vicinity of the Site were shown on *Figure 2-1*.

Table 2-4: Representative Air Sensitive Receivers surrounding the Site

ASR ID	DESCRIPTION	USE	SEPARATION FROM THE SITE BOUNDARY, m
ASR1	Fung Kai Kindergarten	Educational institution	76
ASR2	Fung Kai Primary School	Educational institution	35
ASR3	Temporary Housing in Tin Ping Shan Tsuen	Residential	2
ASR4	Fung Kai Innovative School	Educational institution	43
ASR5	Temporary Housing in Tin Ping Shan Tsuen	Residential	9
ASR6	Sheung Shui Fire Station	Office	41
ASR7	Hong Kong Institute of Construction Sheung Shui Campus	Educational institution	17
ASR8	Tsui Lai Garden	Residential	67

2.3.3 No excavation is required for the construction of the Proposed Development to be located above ground. As the Proposed Development are only 4-storeys Domestic (Flat) and 7-storeys RCHE and above ground, no deep foundation works will be involved. The proposed plot ratio of the Project is less than 2.5 and thus the overall scale of the construction works is considered as small. Activities like stockpiling, earth moving, transferring or handling of dusty materials are thus expected to be small in scale.

- 2.3.4 With the implementation of mitigation measures that are recommended in the *Air Pollution Control (Construction Dust) Regulation*, dust generation can be controlled and limited fugitive dust impact to the ASRs is therefore anticipated.
- As mentioned in **Section 2.2.4**, under the control of the *Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation*, only approved or exempted non-road mobile machinery are allowed to be used in construction sites. On the other hand, under the control of *Air Pollution Control (Fuel Restriction) Regulation* any plant operating in the construction site using liquid fuel shall be restricted to use ultra-low sulphur diesel ("ULSD") with sulphur content not exceeding 0.005% by weight unless certificates of compliance be obtained.
- 2.3.6 Hence, with the effect of the Regulations, the exhaust emissions from powered mechanical plant are anticipated to be limited and will not cause adverse air quality impact.
- 2.3.7 Good practice and mitigation measures to be implemented during the construction phase are as follows:
 - Regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.
 - Frequent watering for particularly dusty areas and areas close to ASRs.
 - Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.
 - Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.
 - Tarpaulin covering of all dusty vehicle loads transported to and from the Site.
 - Establishment and use of vehicle wheel and body washing facilities at the exit points of the Site.
 - Use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry weather.
 - Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.
 - Imposition of speed controls for vehicles within the Site.
 - Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from off-site ASRs.
 - Every stock of more than 20 bags of cement or dry Pulverised Fuel Ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.
 - Use of ULSD with sulphur content not exceeding 0.005% by weight as fuel for the powered mechanical plant to minimize SO₂ emissions.

Operation Phase

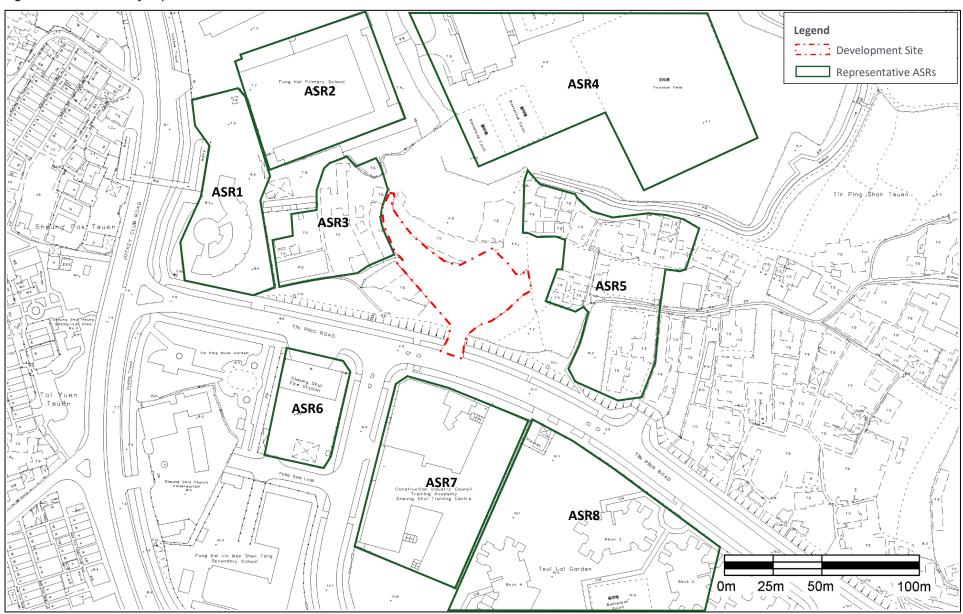
- 2.3.8 Tin Ping Road and Jockey Club Road are the major roads in the vicinity of the Site as shown on *Figure 2-2*.
- 2.3.9 According to the *Annual Traffic Census 2020* published by the Transport Department ("TD") in September 2021, Tin Ping Road to the south of the Site is classified as a Local Distributor ("LD") and the section of Jockey Club Road to the west of the Site is classified as a Primary Distributor ("PD"). As shown in *Table 2-2*, the kerb of LD and PD should have at least 5m and 20m separation distances to air sensitive uses respectively.

- 2.3.10 As illustrated on *Figure 2-2*, a small portion of the Site is located within the recommended buffer zone. Nevertheless, there are no air sensitive use (i.e. residential use) within the recommended buffer zone. In order to avoid adverse air quality impact from vehicular emission, a buffer zone is recommended for the Proposed Redevelopment with the following requirements:
 - No fresh air intake / openable window of air sensitive uses shall be located within the buffer zone.
 - Any air sensitive uses within the buffer zone shall rely on fresh air intake / openable window located outside the buffer zone for ventilation.
- 2.3.11 With the provision of the buffer zone, the buffer distances recommended in HKPSG will be satisfied. Therefore, no adverse air quality impact on the Site from vehicular emission is anticipated.
- 2.3.12 In addition, no activities within the Proposed Development have been identified that will cause any off-site adverse air quality impacts. Furthermore, no industrial chimney or other community uses that would cause potential odour impact within 200m of the Site was identified.

2.4 Conclusion

- 2.4.1 With the implementation of the recommended mitigation measures and good site practice, adverse air quality impact during the construction phase is not anticipated.
- 2.4.2 No activities have been identified during the operation of the Proposed Development that will cause any off-site adverse air quality impacts. Sufficient setbacks from Ting Ping Road and Jockey Club Road have been provided. Moreover, no industrial chimney or other community uses that would cause potential odour impact within 200m of the Site was identified. As such, no adverse air quality impact on the Proposed Development is anticipated during the operation phase.
- 2.4.3 Overall, therefore, there will be no adverse air quality impact during the construction and operation phases of the Proposed Development.

Figure 2-1: Locations of Representative ASRs

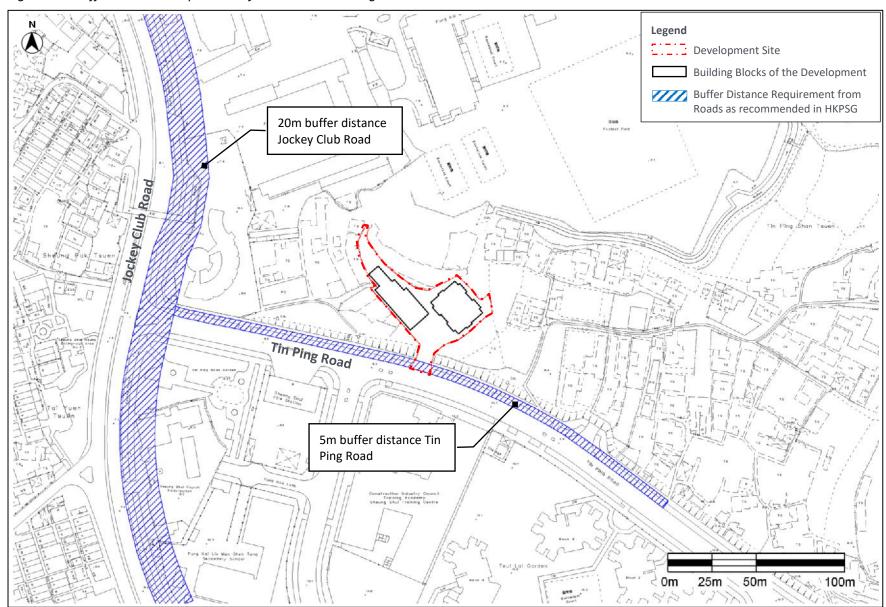


D01 - ENVIRONMENTAL ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd

Figure 2-2: Buffer Distance Requirement from the Surrounding Roads



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Prepared for Champ Dynasty Ltd

3 NOISE IMPACT

3.1 Introduction

3.1.1 This section assesses the potential noise impact associated with the Proposed Development during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

3.2 Environmental Legislation and Standards

Noise Control Ordinance (Cap. 400)

- 3.2.1 The main piece of legislation controlling environmental noise impact is the *Noise Control Ordinance* ("NCO"). The NCO enables regulations and Technical Memoranda ("TMs") to be enacted, which introduce detailed control criteria, measurement procedures and other technical matters. Environmental noise is governed under the following TMs:
 - Technical Memorandum on Noise from Construction Work other than Percussive Piling ("GW-TM")
 - Technical Memorandum on Noise from Percussive Piling ("PP-TM")
 - Technical Memorandum on Noise from Construction Work in Designated Areas ("DA-TM")
 - Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites ("IND-TM")
- 3.2.2 According to EPD's Plan No. EPD/AN/NT-02 for Tai Po, Fanling, Sheung Shui and Sha Tau Kok, the Site is entirely located within a Designated Area ("DA") and so the DA-TM is applicable.
- 3.2.3 A Construction Noise Permit ("CNP") must be obtained by the contractor for any percussive piling at any time. CNP must also be obtained for the use of any Powered Mechanical Equipment ("PME") and/or Prescribed Construction Works ("PCWs") within restricted hours as defined in the NCO (for all days 7pm to 7am the next day and at all times on general holidays or Sundays).
- 3.2.4 In addition to a CNP, hand-held breakers having a mass of above 10kg and any air compressor capable of supplying compressed air at 500kPa or above for carrying out construction work must be fitted with a Noise Emission Label ("NEL") issued under the *Noise Control (Hand-held Percussive Breakers) Regulation* and the *Noise Control (Air Compressors) Regulation* of the NCO.
- There is no statutory control for noise arising from construction activities (other than percussive pilling) during normal working hours (7am to 7pm from Monday to Saturday, not including general holidays). Nevertheless, *Professional Persons Environmental Consultative Committee* (*ProPECC*) *Practice Note PN2/93 Noise from Construction Activities Non-statutory Controls* (ProPECC PN2/93) recommends the noise criteria as shown in *Table 3-1* and guideline to minimise the potential construction noise impact during normal working hours.

Table 3-1: Construction Noise Criteria for Non-Restricted Hours

NOISE SENSITIVE USE	LEQ (30 MIN) NOISE CRITERIA BETWEEN 0700 AND 1900 ON ANY DAY NOT BEING A SUNDAY OR GENERAL HOLIDAY		
Dwellings	75 dB(A)		
School	70 dB(A) (or 65 dB(A) during examination)		

3.2.6 For fixed plant noise during operation phase, the requirements of IND-TM shall be complied with. Table 2 of IND-TM stipulates the day, evening and night time Acceptable Noise Levels ("ANLs") for Noise Sensitive Receivers ("NSRs") according to the corresponding Area Sensitive Rating ("ASR"), which is determined by Influencing Factors ("IFs") in accordance with the IND-TM. These are summarised in *Table 3-2*.

Table 3-2: Acceptable Noise Levels for Fixed Noise Source

	ANL, dB(A)		
TIME PERIOD	ASR "A"	ASR "B"	ASR "C"
Day (0700 to 1900 hours)	60	C.F.	70
Evening (1900 to 2300 hours)	60	65	70
Night (2300 to 0700 hours)	50	55	60

Hong Kong Planning Standards & Guidelines (HKPSG)

- 3.2.7 The noise criteria for planned fixed noise source shall follow the requirements of Table 4.1 of Chapter 9 of HKPSG:
 - (a) 5dB(A) below the appropriate ANLs shown in Table 2 of IND-TM, and
 - (b) the prevailing background noise levels
- 3.2.8 As recommended in Table 4.1 of Chapter 9 Environment of HKPSG, standards for road traffic noise in terms of $L_{10(1-hr)}$ for the following uses relying on opened windows for ventilation are shown in *Table 3-3*:

Table 3-3: Summary of Road Traffic Noise Standards

USES	NOISE CRITERIA L _{10(1-hr)} , dB(A)
All domestic premises including temporary housing accommodation	70
Hotels and hostels	70
Offices	70
Educational institutions including kindergartens, child care centres and all others where unaided voice communication is required	65
Places of public worship and courts of law	65
Diagnostic rooms and wards of hospitals, clinics, convalescences and residential care homes for the elderly	55

3.2.9 All the office uses of the Proposed Development will not rely on prescribed window for natural ventilation and so the above traffic noise standard of 70dB(A) does not apply to the office uses.

3.3 Construction Noise Impact

- 3.3.1 Various construction activities will be the key noise sources generated during the construction phase. In particular, the use of PME and the vehicle movement within the Site are the major potential noise sources.
- 3.3.2 Construction shall be carried out during non-restricted hours as far as practicable. The mitigation measures recommended in ProPECC PN2/93 should be implemented where applicable. In addition, the following measures and on-site practice are recommended in order to minimise the potential construction noise impacts during daytime:
 - Quiet PME and construction method should be adopted if possible.
 - The Contractor shall devise and execute working methods to minimise the noise impacts on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented.
 - Switch off idling equipment.

- Regular maintenance of equipment.
- Fit muffler or silencer for equipment.
- Noisy equipment and noisy activities should be located as far away from the NSRs as is practical.
- Use quiet construction method, e.g. use saw-cut or hydraulic crusher instead of excavator-mounted percussive breaker.
- PME should be kept to a minimum and the parallel use of noisy equipment / machineries should be avoided.
- Erect noise barriers or noise enclosure for the PME if appropriate.
- Implement good house-keeping and provide regular maintenance to the PME.
- Spot check resultant noise levels at nearby NSRs.
- 3.3.3 If construction work involving use of PME will be required during restricted hours, a CNP shall be applied for under the NCO. The noise criteria and assessment procedures for obtaining a CNP are specified in GW-TM.
- 3.3.4 With the implementation of the abovementioned mitigation measures, adverse construction noise impact is not anticipated.

3.4 Fixed Noise Impacts during Operation

- 3.4.1 The Proposed Development is located at a residential area, which is surrounded by residential buildings, temporary dwellings and educational institutions in the vicinity, such as Tsui Lai Garden, Fung Kai Kindergarten and etc. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to four storeys. Moreover, no existing fixed source is identified. As such, no adverse fixed source noise impact on the Proposed Development is anticipated.
- On the other hand, most of the Electrical and Mechanical ("E&M") equipment, such as water pumps, lift machines, transformers, etc., will be installed in plant rooms of the Proposed Development. For the Heating, Ventilation and Air Conditioning ("HVAC") system, split type air conditioning systems are expected to be provided for the RCHE. The power ratings of these systems are considered as small and the potential noise impact to the offsite NSRs shall be minimal. The guidance of "Good Practices on Ventilation System Noise Control" and "Good Practices on Pumping System Noise Control" issued from EPD shall be referred to. The fixed noise sources within the Proposed Development will be designed to meeting HKPSG standards as stipulated in Section 3.2.7.

3.5 Traffic Noise Impacts during Operation

3.5.1 A quantitative traffic noise impact assessment has been carried out to demonstrate the feasibility of the proposed design of the Project in terms of traffic noise impact.

Assessment Methodology

Noise Prediction Methodology

3.5.2 The peak hour road traffic noise levels have been predicted using a computer noise model, RoadNoise, which mainly follows the prediction procedures of the UK Department of Transport's Calculation of Road Traffic Noise ("CRTN"), as recommended in Chapter 9 Environment of HKPSG.

Noise Source

3.5.3 The assessment was carried out based on the projected peak hourly traffic flows in 2046, which corresponds to the maximum projected traffic conditions within 15 years of occupancy of the

Proposed Development, anticipated to be in 2031. All road sections situated within 300m of the boundary of the Site have been considered. Traffic forecasts provided by the Project Traffic Consultant were adopted to assess the traffic noise impact at the Site. Detailed peak hour traffic forecasts for the assessment year of 2046 are provided in *Appendix A*.

Noise Sensitive Receivers

- 3.5.4 The noise sensitive uses e.g. dormitories of the Proposed RCHE, and the living rooms and bedrooms of the Domestic (Flat) are considered to be NSRs of traffic noise impact. As advised by the Applicant, there is no diagnostic room/wards in the proposed RCHE.
- 3.5.5 These NSRs will be provided with prescribed windows for natural ventilation complying with the *Building (Planning) Regulations, Cap 123*. The noise standards stipulated in the HKPSG are applicable to noise sensitive uses which rely on openable windows for ventilation. Thus, assessment points ("APs") for NSRs are assigned to these prescribed windows.
- 3.5.6 For the activity room, dining/multi-purpose rooms and nursing stations of RCHE, mechanical ventilation would be provided, so that these rooms would not rely on openable windows for ventilation. As such, the above traffic noise standard of 70dB(A) does not apply to these rooms.
- 3.5.7 For some façades of the residential building, fixed glazing/blank façade/maintenance window would be provided. As such, APs are not assigned for those facades.
- 3.5.8 The APs were all taken to be 1m from the exterior façade of opened windows and 1.2m above the floor of the APs as shown on *Figure 3-1* to *Figure 3-3*.

Assessment Results - Base Case Scenario

3.5.9 Taking into account of the site constraints, the most practicable building setback of about 20m to Tin Ping Road has been made to minimize the potential noise impact, as shown on *Figure 3-4*. With building setback, the predicted road traffic noise levels for base case scenario are detailed in *Appendix B* and summarised in *Table 3-5*.

Table 3-4: Predicted Noise Levels of Base Case Scenario

PROPOSED DEVELOPMENT	NOISE LEVEL (L _{10 (1-HR)} , dB(A))	NOISE CRITERIA (L _{10 (1-HR)} , dB(A))	NOISE COMPLIANCE (Y/N)
RCHE	53 – 71	70	N
Domestic (Flat)	54 – 71	70	N

Assessment Results - Mitigated Case Scenario

- 3.5.10 Exceedance of road traffic noise criteria were predicted for the base case scenario. In order to further alleviate the road traffic noise impact, road traffic noise mitigation measures recommended in Section 4.3 of *Chapter 9 of HKPSG* have been referred to. The road traffic noise mitigation measure in terms of self-protecting building design and arrangement has been considered and incorporated into the layouts as follows:
 - Architectural Fins. Two 1.0m architectural fins (reflective) are proposed at B2 of Domestic (Flat) and R1 of RCHE, as shown on *Figure 3-4*. The exact design of the fins may subject to the requirements for natural lighting and ventilation, gross floor area and site coverage under the B(P)R.
- 3.5.11 The predicted traffic noise levels are detailed in *Appendix B* and summarised in *Table 3-5*. With the mitigation measures proposed in *Section 0*, the traffic noise levels at the NSRs of the Proposed Development will comply with the criterion of 70dB(A) recommended in Chapter 9 of HKPSG.

Table 3-5: Predicted Noise Levels of Mitigated Case Scenario

PROPOSED DEVELOPMENT	NOISE LEVEL (L _{10 (1-HR)} , dB(A))	NOISE CRITERIA (L _{10 (1-HR)} , dB(A))	NOISE COMPLIANCE (Y/N)
RCHE	53 – 70	70	Υ
Domestic (Flat)	54 – 70	70	Υ

3.6 Conclusion

- 3.6.1 During the construction phase of the Proposed Development, with the implementation of the noise mitigation measures recommended in *Section 3.3*, no adverse noise impact is anticipated.
- 3.6.2 The Proposed Development is located at a residential area, which is surrounded by residential buildings, temporary dwellings and educational institutions. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to four storeys. Moreover, no existing fixed source is identified. As such, no adverse fixed source noise impact on the Proposed Development is anticipated.
- 3.6.3 Most of the E&M equipment will be installed inside plant rooms. With the provision of good practices as mentioned in *Section 3.4.2*, adverse fixed noise impact from the operation of the Proposed Development is not anticipated.
- 3.6.4 For traffic noise, the traffic noise impact on the Proposed Development will comply with the standards as recommended in Chapter 9 Environment of the HKPSG with the mitigation measures recommended in **Section 0**.
- 3.6.5 Overall, therefore, there will be no adverse noise impact during the construction and operation phases of the Proposed Development.

Figure 3-1: Locations of the Assessment Points for NSRs at G/F

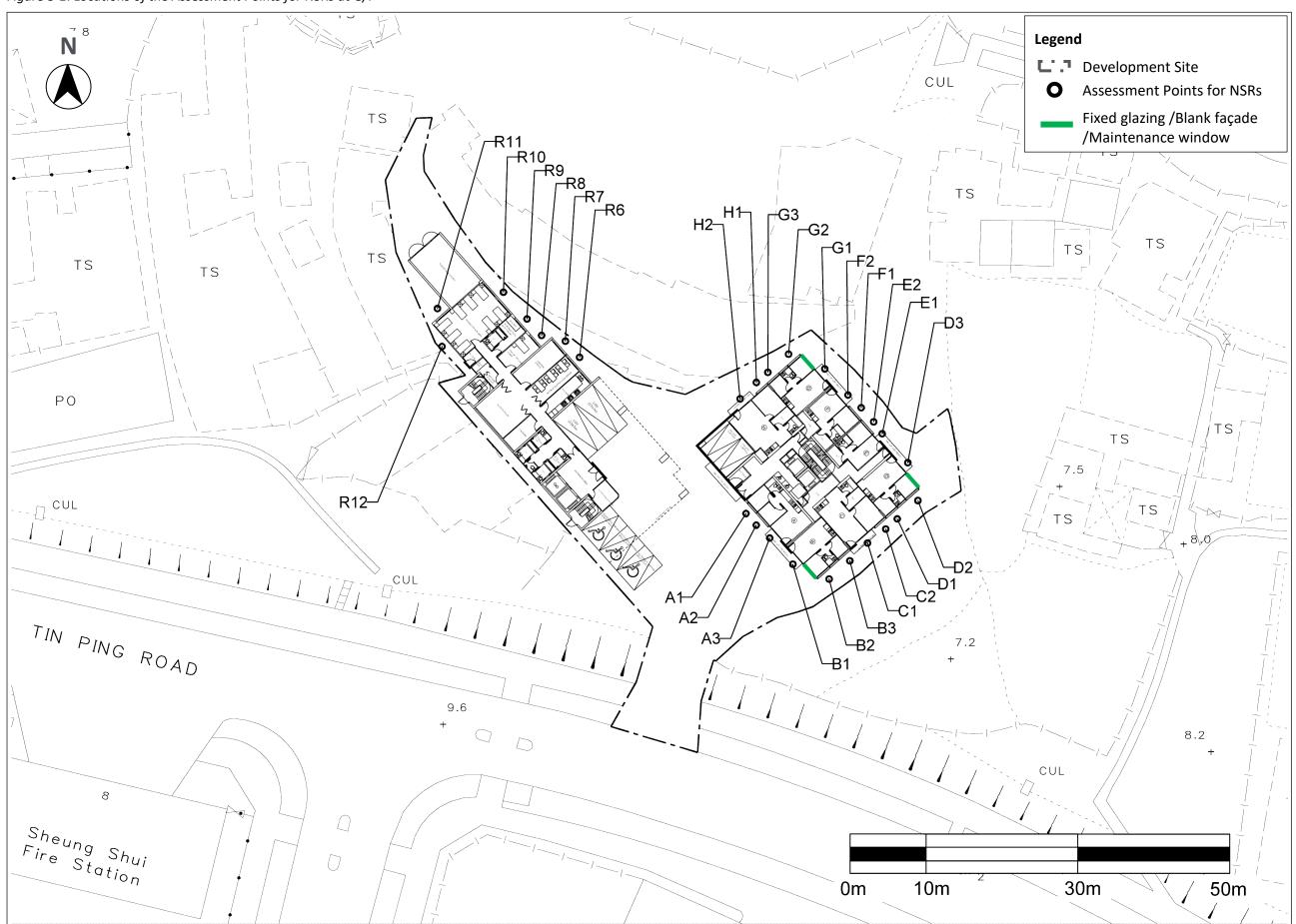


Figure 3-2: Locations of the Assessment Points for NSRs at 1 to 3/F



Figure 3-3: Locations of the Assessment Points for NSRs at 5 to 7/F

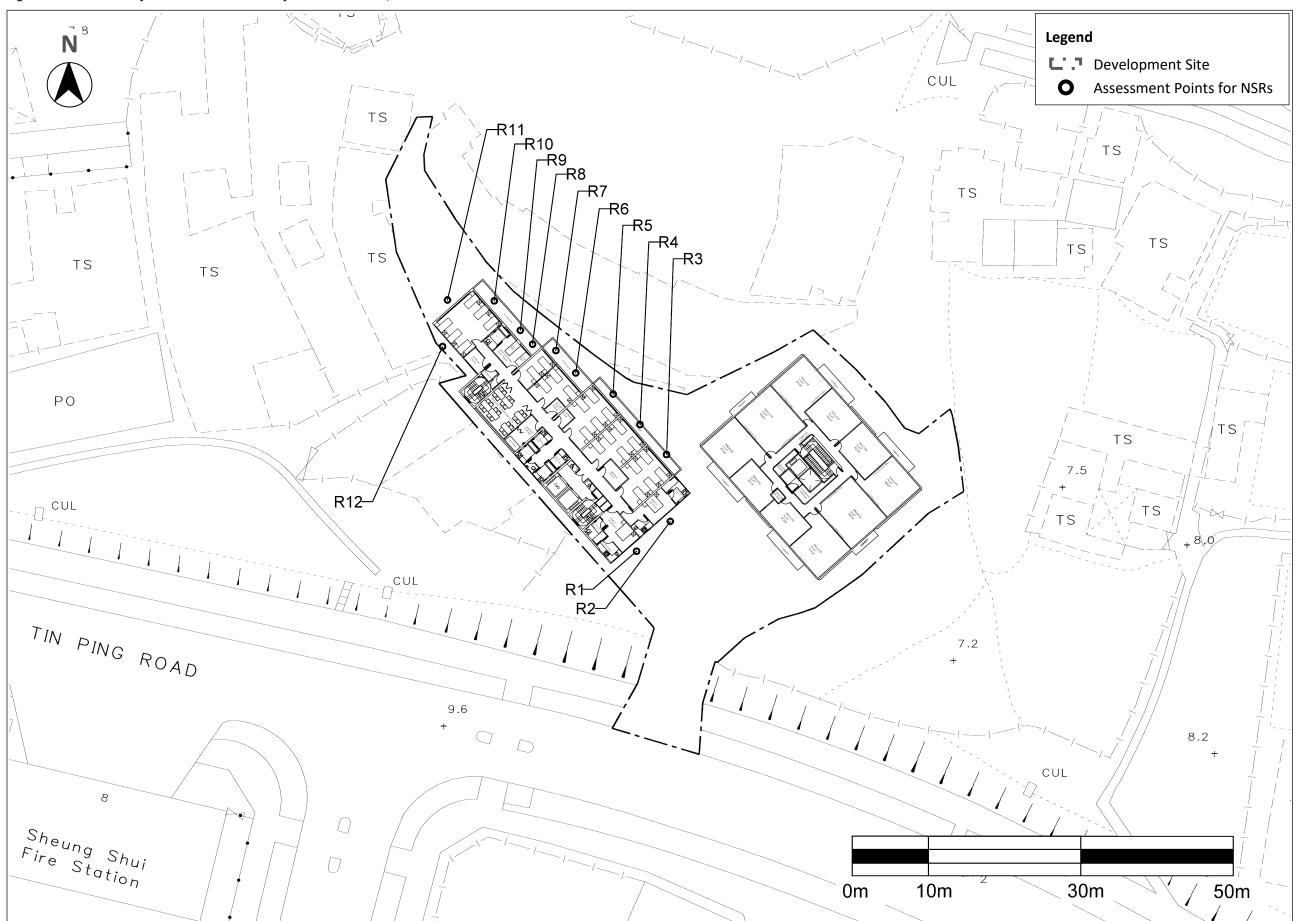
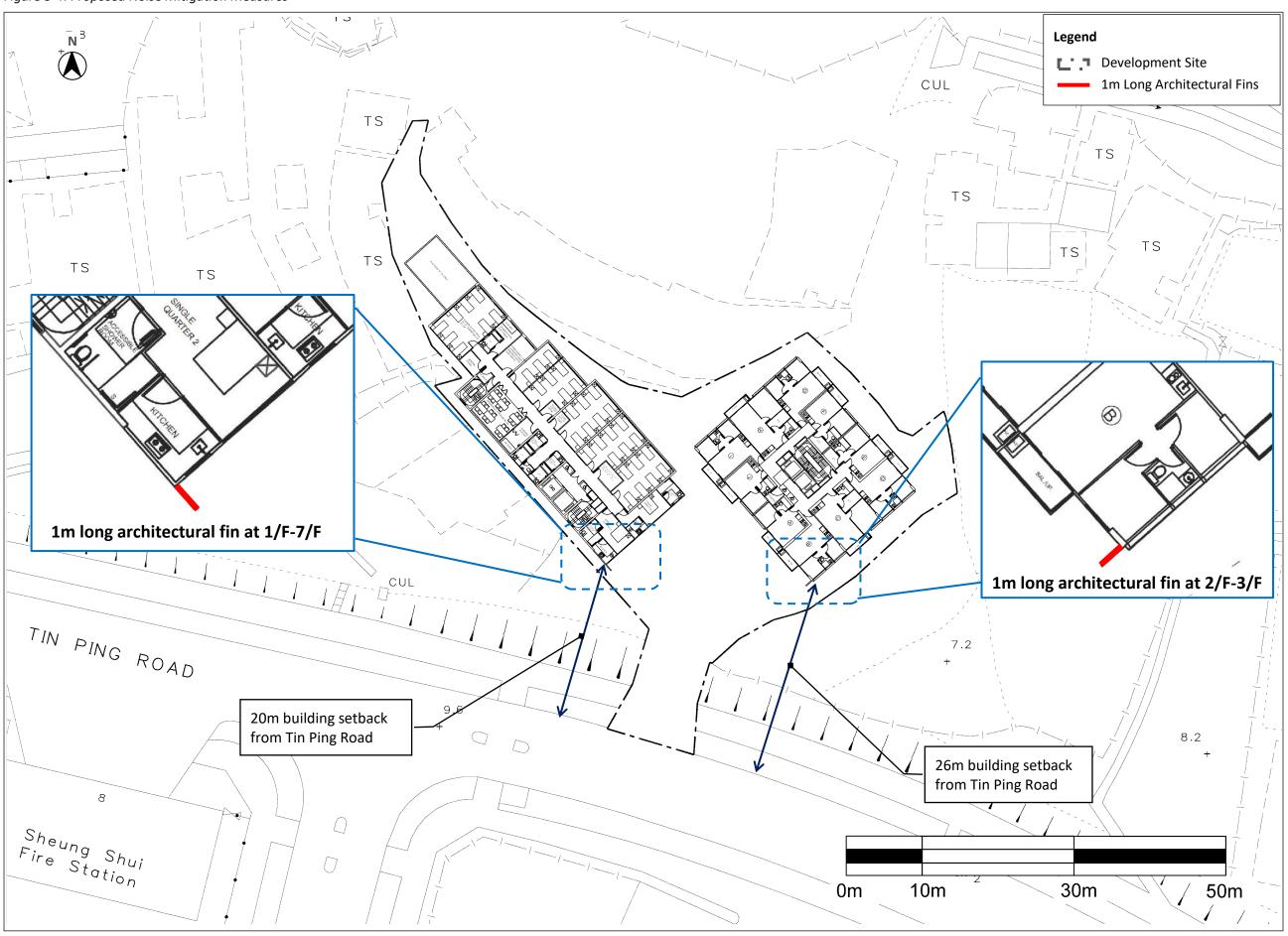


Figure 3-4: Proposed Noise Mitigation Measures



4 WATER QUALITY

4.1 Introduction

4.1.1 This section assesses the potential water quality impact associated with the Proposed Development during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

4.2 Environmental Legislation and Standards

Water Pollution Control Ordinance (Cap. 358)

4.2.1 An amendment to the *Water Pollution Control Ordinance* ("WPCO") was enacted in 1990 and provides a mechanism for setting effluent standards. These are included in the *Technical Memorandum Standards for Effluents Discharged in to Drainage and Sewerage Systems, Inland and Coastal Waters* (WPCO Cap 358, S.21). All discharges into government sewerage systems, marine and inland waters are required to comply with the standards stipulated in the Technical Memorandum.

Construction Site Drainage, ProPECC PN1/94

4.2.2 Under *ProPECC Practice Note PN1/94 Construction Site Drainage* (ProPECC PN1/94), various guidelines for the handling and disposal of construction site discharges are included. The guidelines include the use of sediment traps, wheel washing facilities for vehicles leaving the Site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment.

Drainage Plan subject to Comment by Environmental Protection Department, ProPECC PN5/93

4.2.3 Under ProPECC Practice Note PN5/93 Drainage Plan subject to Comment by Environmental Protection Department (ProPECC PN5/93), various guidelines for the pollution control for discharge to storm drains and foul sewers, such as the use of grease trap for wastewater from the restaurant kitchen, the use of silt removal facilities for open surface channel led to stormwater drains, etc., are included. The guidelines also include the requirements for submission of drainage plans.

4.3 Potential Impacts

Water Sensitive Receiver ("WSR")

- 4.3.1 In accordance with the *Technical Memorandum on Environmental Impact Assessment Ordinance* ("EIAO-TM"), WSR is defined as existing or potential beneficial uses that are sensitive to water pollution, which include, but are not limited to, the following:
 - Areas of ecological or conservation values including marine conservation areas, existing or gazetted proposed marine parks and marine reserves, Sites of Special Scientific Interest ("SSSI"), existing or gazetted proposed country parks and special areas, wetlands, mangroves and important freshwater habitats.
 - Area for abstraction of water for potable water supply.
 - Water abstraction for irrigation and aquaculture;
 - Fish spawning grounds, fish culture zones, shellfish harvesting/culture site and brackish/freshwater fish ponds;
 - Beaches or other recreational areas.
 - Water abstraction for cooling, flushing and other industrial purposes.

- Areas for navigation/shipping including typhoon shelters, marinas and boat parks.
- 4.3.2 Desktop study on the OZP, topographic map and site visit were conducted, one WSR is identified within 500m from the site boundary, which is a nullah at Tin Ping Shan Tsuen. The location of the WSR is shown in *Figure 4-1*.

Construction Phase

- 4.3.3 Muddy runoff from the Site may be generated during the construction phase, especially during the rainy season.
- 4.3.4 In addition, muddy water will include wash water from vehicles and equipment; silt from any onsite stockpiles of soil, cement and grouting materials. If these pollution sources are not properly controlled, it could increase amounts of suspended solids ("SS") and pH of the water conveyed in the drainage system.
- 4.3.5 The Contractor should obtain a Discharge Licence from the EPD in accordance with the WPCO. The water quality of all discharges shall comply with the issued Discharge Licence.
- 4.3.6 There is also the issue of sewage generated by construction workers on-site.

Operation Phase

- 4.3.7 Sewage to be generated during operation comprising sewage from toilets, grey water from bathroom showers and sinks and grey water from kitchen sinks, which will be the major sources of wastewater generation arising from the Proposed development. All such wastewater needs to be properly collected and discharged to existing public foul sewers.
- 4.3.8 There is existing public sewerage connection available adjacent to the Site. The sewerage connection and any necessary infrastructure will be re-designed to allow sewage from the Proposed Development flow into the existing public sewerage system.
- 4.3.9 The sewerage impact on the municipal sewerage system has been assessed in a separate Sewerage Impact Assessment ("SIA") Report supporting this planning application. The SIA concluded that no unacceptable sewerage impact arising from the Proposed Development is anticipated.

4.4 Mitigation Measures

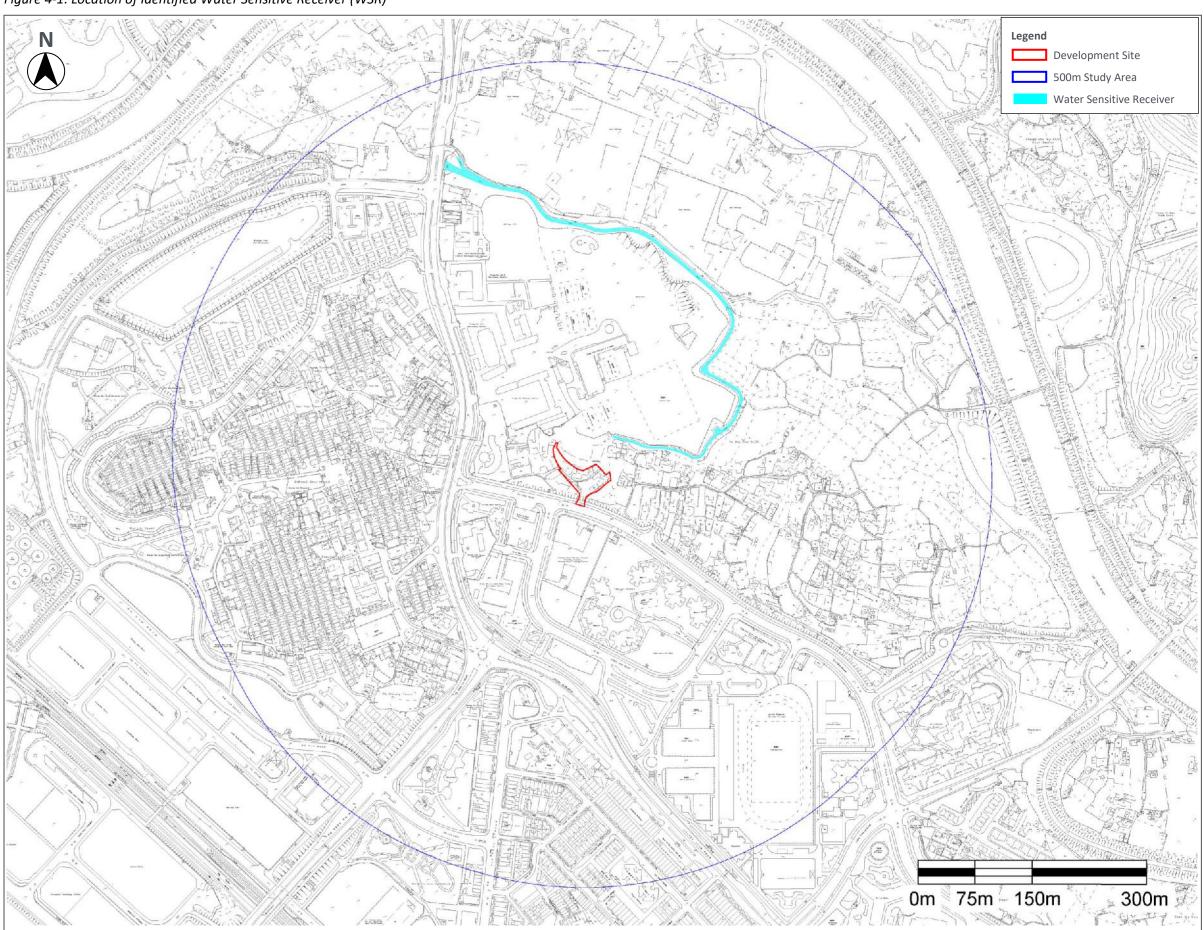
- 4.4.1 During construction, it is recommended that portable toilets should be provided for construction workers. These will be supplied, maintained and emptied (at a sewage treatment facility) by a specialist contractor. The construction contractor shall follow good site practice and be responsible for the design construction, operation and maintenance of all the mitigation measures a specified in ProPECC PN 1/94 for construction site drainage:
 - Surface run-off from construction sites shall be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins.
 Channels or earth bunds or sand bag barriers shall be provided on site to properly direct storm water to such silt removal facilities. Perimeter channels at site boundaries shall be provided where necessary to intercept storm run-off from outside the Site so that it will not wash across the Site.
 - Silt removal facilities, channels and manholes shall be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
 - For the purpose of preventing soil erosion, temporarily exposed slope surfaces shall be covered e.g. by tarpaulin, and temporary access roads shall be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels shall be provided (e.g. along the crest/edge of excavation) to prevent storm runoff from washing across exposed soil

- surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.
- Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels shall be provided where necessary.
- Measures shall be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they shall be dug and backfilled in short sections.
 Rainwater pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities.
- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- Manholes shall always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.
- Discharge of surface run-off into foul sewers shall always be prevented in order not to unduly overload the foul sewerage system.
- 4.4.2 During operation, sewage arising from the Proposed Development will be discharged to the municipal sewerage system, no adverse water quality impact due to the Proposed Development is therefore anticipated.

4.5 Conclusion

- 4.5.1 During construction, water quality impacts can be properly controlled with the implementation of good site practice, as stated in *Section 4.4.1*. Portable toilets will be provided for constructions workers on-site. Provided these measures are implemented, no adverse water quality impacts due to the construction of the Site is anticipated.
- 4.5.2 The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges shall be treated in accordance with the terms and conditions of the Discharge Licence.
- 4.5.3 During operation, all the sewage arising from the Proposed Development will be discharged to the municipal sewerage system. As such, there will be no adverse water quality impact arising from the Proposed Development.
- 4.5.4 Overall, therefore, no adverse water quality impact is anticipated during the construction or operational phases of the Proposed Development.

Figure 4-1: Location of Identified Water Sensitive Receiver (WSR)



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5 WASTE MANAGEMENT AND LAND CONTAMINATION

5.1 Introduction

5.1.1 An evaluation of the potential waste management implications associated with the construction and operation of the Proposed Development is presented in this section. The corresponding mitigation measures are also recommended.

5.2 Environmental Legislation and Standards

- 5.2.1 The Waste Disposal Ordinance (Cap. 354) ("WDO") setting out requirements for storage, handling and transportation of all types of wastes, and subsidiary legislation such as the Waste Disposal (Charges for Disposal of Construction Waste) Regulation and the Waste Disposal (Chemical Waste) (General) Regulation. In addition, the following documents are applicable to waste management and disposal in Hong Kong:
 - Waste Disposal (Chemical Waste)(General) Regulation (Cap.354C)
 - Waste Disposal (Charges for Disposal of Chemical Waste) Regulation (Cap. 354J)
 - Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap.354N)
 - Land (Miscellaneous Provisions) Ordinance (Cap.28)
 - Public Health and Municipal Services Ordinance (Cap.132BK) Public Cleansing and Prevention of Nuisances Regulation
 - Building Department Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP No. ADV-19) Construction and Demolition Waste
 - Building Department Practice Notes for Registered Contractors (PNRC 17), Control of Environmental Nuisance from Construction
 - Guidance Note for Contaminated Land Assessment and Remediation, issued on 15 August 2007 by the EPD (the Guidance Note).
 - Guidance Manual for Use of Risk-Based Remediation Goals (RBRG) for Contaminated Land Management, published in December 2007 by EPD (the Guidance Manual).
 - Practice Guide for Investigation and Remediation of Contaminated Land, published in August 2011 by EPD (the Practice Guide).

5.3 Waste Management during Construction Phase

General

- 5.3.1 The waste generation in site formation, infrastructural and building works would be considered in the assessment. The key potential waste sources during the construction phase will include:
 - Inert Construction and Demolition (C&D) materials (e.g. cement and bricks)
 - Non-inert C&D Materials (e.g. wood and plastics) and general refuse generated by site workers
 - Chemical wastes (e.g. spent lubricants for equipment and waste batteries)
- 5.3.2 The construction period of the Proposed Development will be about 24 months.

Inert C&D Materials

5.3.3 Inert C&D materials are those which do not decompose, such as debris, rubble, earth and concrete, and which are suitable for land reclamation and site formation.

- 5.3.4 The major source of inert C&D materials during construction will be removal of the existing pavement within the Site and re-profiling for the Proposed Development. As the existing structure within the site are some temporary houses, there will be no other demolition material.
- 5.3.5 Assuming the 75% of the Site area i.e. about 1,570m² is paved with a slab thickness of 0.2m, about 314m³ of paving waste will therefore be required to be disposed of.
- 5.3.6 The current elevation of the Site is about 6.6mPD of the ground level. After re-profiling, the ground level will maintain at around 8.2mPD, which is higher than the current elevation. No excavated works is required during the site formation works.
- 5.3.7 In addition to construction waste from site formation works, building waste will also be generated during construction. This includes inert C&D materials, such as concrete waste, waste from blockwork and brickwork, waste from screening and plastering; and non-inert C&D materials from timber formwork, packaging waste and other wastes.
- 5.3.8 Section 3.2 of A Guide for Managing and Minimizing Building and Demolition Waste ("the Guide") published by The Hong Kong Polytechnic University in May 2001 provides a "waste index" for building waste generation in Hong Kong based on the GFA of three different building types:

Private Housing Projects
 Government Housing Projects
 Commercial Office Projects
 0.250m³/m² GFA
 0.200m³/m² GFA

- To provide a conservative estimate of building waste from the Proposed Development, the "waste index" for private housing projects is the most appropriate index to use. However, as noted above, in addition to inert C&D materials, this "waste index" also includes non-inert C&D materials, such as timber formwork, packaging waste and other wastes, and *The Guide* does not identify what proportion of building waste is inert C&D materials and what proportion is non-inert C&D materials.
- Plate 2.12 of *EPD's Monitoring of Solid Waste in Hong Kong Waste Statistics for 2020* identifies that in 2020, 95% of construction waste was either reused on-site or off-site or was sent to public fill reception facilities, meaning it must be inert C&D materials. The proportion of inert C&D materials in the "waste index" can therefore be estimated by applying the Hong Kong-wide proportion of inert C&D materials in construction waste, i.e. 95%, to the "waste index" as follows:

Waste Index INERT C&D MATERIALS = 0.95 x "waste index" for private housing projects

 $= 0.95 \times 0.250 \text{m}^3/\text{m}^2 \text{ GFA}$ = $0.2375 \text{m}^3/\text{m}^2 \text{ GFA}$

5.3.11 The inert C&D materials component of building waste from the Proposed Development, which has a GFA of about 4,972m² (1,691m² of Domestic (Flat) + 3,281m² of RCHE), can therefore be estimated as follows:

Building Waste = Waste Index_INERT_C&D_MATERIALS_X GFA

 $= 0.2375 \text{m}^3/\text{m}^2 \text{ GFA x 4,972} \text{m}^2$

 $= 1,181 \text{m}^3$

5.3.12 The total estimated inert C&D material generated during construction is summarised in *Table 5-1*.

Table 5-1: Total Estimated Inert C&D Materials Generated During Construction

	ESTIMATED INERT C&D MATERIAL GENERATION		
INERT C&D MATERIALS TYPE	VOLUME (m³)	WEIGHT (tonnes)*	
Stage: Site Formation			
Paving	314	565	
Stage: Infrastructural Works			
Building Waste	1,181	2,126	
Total	1,495	2,691	

Note(*): The assumed density of paving and building waste is 1.8 tonnes/m³.

- 5.3.14 As such, the inert C&D materials may be generated from the site formation works which is expected to last for about 6 months. An estimated 314m³ (or 565 tonnes) of inert C&D materials may be generated throughout the 6 months period, equivalent to around 2m³ per day (or 3.6 tpd) on average for 26 working days per month. The inert C&D materials may be generated are dominantly from the infrastructural and building works which is expected to last for about 18 months. An estimated 1,181m³ (or 2,126tonnes) of inert C&D materials may be generated throughout the 18 months period, equivalent to around 2.5m³ per day (or 4.5 tpd) on average for 26 working days per month.
- 5.3.15 Inert C&D materials should be reused on-site as far as practicable. The inert C&D materials will be used for site re-profiling from 6.6mPD to 8.2mPD. Assuming the inert C&D materials from site formation works will be used for backfilling, the quantity of inert C&D materials to be on-site reused/recycled should be about 100% of inert C&D materials generated. Good site practice and mitigation measures should be implemented, as recommended in Section 5.5.
- 5.3.16 Given the above, no adverse waste impact from the handling, transportation or disposal of inert C&D materials during construction of the Proposed Development is anticipated. Control measures are proposed in **Section 5.5** for the identified waste management implications.

Non-inert C&D Materials

- 5.3.17 Non-inert C&D materials, are those which can decompose or generate odour, such as bamboo, timber, vegetation, metal, packaging waste and other organic material, and which are therefore unsuitable for land reclamation.
- 5.3.18 Existing temporary houses which are mainly composed of metal plates will be removed. In demolition stage, reference has been made to the USEPA's Characterization of Building-Related Construction and Demolition Debris in the United States, since there is absence of any local GFAbased estimation method. The typical demolition generation rates for residential buildings of 561kg/m² GFA is adopted for demolition of existing temporary houses at the Site. Therefore, it is estimated that 216,546kg (217 tonnes) of non-inert C&D material will be generated from the demolition of existing single storey temporary house with the GFA about 386m². The demolition is included in the 6 months site formation works, equivalent to around 1.4 tpd on average for 26 working days per month.
- 5.3.19 Plate 2.12 of Waste Statistics for 2020 identifies that 5% of construction and demolition waste was disposed of in landfills, meaning it must non-inert C&D materials. The proportion of noninert C&D materials in the "waste index" can therefore be estimated by applying the Hong Kongwide proportion of non-inert C&D materials in construction waste, i.e. 5%, to the "waste index" as follows:

Waste IndexNON-NERT C&D MATERIALS = 0.05 x "waste index"

 $= 0.05 \times 0.250 \text{m}^3/\text{m}^2 \text{ GFA}$

 $= 0.0125 \text{m}^3/\text{m}^2 \text{ GFA}$

5.3.20 The non-inert C&D materials components in building waste can therefore be estimated as follows:

Building Waste = Waste Index_{NON-INERT C&D MATERIALS} x GFA

 $= 0.0125 \text{m}^3/\text{m}^2 \text{ x 4,972} \text{m}^2$

 $= 62m^3$

- 5.3.21 Assuming a density of 1.0 tonnes/m³, an estimated 62 tonnes of non-inert C&D materials may be generated dominantly throughout the 18 months construction period of infrastructural and building works, equivalent to around 0.13 tpd on average for 26 working days per month.
- 5.3.22 A total of 279 tonnes will be generated during the demolition and construction stage, equivalent to around 1.5 tpd on average for 26 working days per month.On-site sorting should be carried out for non-inert C&D materials generated from the works. Recyclable materials, such as metal, paper product, timber and plastic, should be collected by local recyclers for recycling. All non-inert C&D materials should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is North East New Territories (NENT) Landfill, which is around 5km from the Site.
- 5.3.23 The quantity of the generated non-inert C&D materials could be recycled/reused is expected to be no more than 10% of the generated amount in view of the scale of the Project. As such, it is estimated that the quantity of non-inert C&D materials to be reused/recycled is 28m³ (or 28 tonnes). It is estimated that half of the quantity (i.e. 14 tonnes) would be reused/recycled onsite and the other half would be reused/recycled off-site.
- 5.3.24 Given the above, no adverse waste impact from the handling, transportation or disposal of non-inert C&D materials during construction of the Proposed Development is anticipated. Control measures are proposed in *Section 5.5* for the identified waste management implications.

General Refuse

- 5.3.25 General refuse from workers is similar to domestic waste and includes packaging and organic material.
- 5.3.26 Based on industry experience, we estimate the number of construction workers for a project of this size would average around 100 per day over the 24 months construction period.
- 5.3.27 Each construction worker will generate general refuse, which is similar to domestic waste. Plate 2.7 of *Waste Statistics for 2020* identifies that the 5-year average (Year 2015 to 2020) per capita domestic waste disposal rate was 0.53kg/person/day, although the per worker generation rate of general refuse will likely be less than this. However, to be conservative, the per capita domestic waste disposal rate has been adopted for general refuse generation by construction workers. On this basis:

General Refuse/day = No. workers/day x per capita generation rate

= 100 workers x 0.53kg/worker/day

= 53kg/day

Total General Refuse = General Refuse/day x duration of construction contract

= 53kg/day x (26 days/month x 24 months)

= 33,072kg= 33 tonnes assuming a density of 1.0 tonnes/m³

- 5.3.28 An estimated 33 tonnes of general refuse may be generated throughout the entire 24 months construction period, equivalent to around 0.05 tpd on average.
- On-site sorting should be carried out general refuse generated from the works. Recyclable materials, such as metal, paper and plastic, should be collected by local recyclers for recycling. All general refuse should be recycled as far as possible and landfill disposal should be adopted as the last resort. This nearest disposal facility is NENT Landfill, which is around 5km from the Site.

5.3.30 Given the above, no adverse waste impact from the handling, transportation or disposal of non-inert C&D materials and general refuse during construction of the Proposed Development is anticipated. Control measures are proposed in **Section 5.5** for the identified waste management implications.

Chemical Waste

- 5.3.31 Chemical waste includes spent lubricants for equipment or waste batteries that may be generated in small quantities during the works.
- 5.3.32 No hazardous materials or hazardous wastes are expected to be generated during the construction phase. Chemical waste, such as spent lubricants for equipment or waste batteries, may be generated in small amounts given the small scale of the works. No more than 100kg of such waste is anticipated to be generated throughout the 24 months construction period.
- 5.3.33 The Contractor shall register as a Chemical Waste Producer under the Waste Disposal Ordinance (WDO). All chemical waste shall be stored at a properly designed chemical waste storage area located within the construction site in accordance with EPD's Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. A licensed collector shall be employed to handle and dispose of all chemical wastes, e.g. at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi, or other facility approved by EPD.
- 5.3.34 Given the above, no adverse waste impact from the handling, transportation or disposal of chemical waste during the construction of the Proposed Development is anticipated. Control measures are proposed in *Section 5.5* for the identified waste management implications.

Asbestos-Containing Materials (ACM)

5.3.35 Asbestos waste is classifiable as chemical waste under Waste Disposal (Chemical Waste) (General) Regulation. As the existing site is a paved ground with no structure build upon it and used as car park, asbestos was not anticipated to be identified at the site.

Summary

5.3.36 Based on the above assessments, *Table 5-2* summarises the generation of waste during the construction phase and identifies the appropriate management options for treatment and disposal of each waste type.

Table 5-2: Summary of Waste Generation and Management Options During Construction

	ESTIMATED WASTE QUANTITY MANAGEMENT OPTION		NT OPTIONS	
WASTE TYPE	CUBIC METRES	TONNES	TREATMENT	DISPOSAL
Inert C&D Materials	1,495	2,691	On-site Reuse	Surplus is not expected
			Estimated quantity = 2,691 tonnes	Estimated quantity = 0 tonnes
Non-inert C&D Materials	279	279	Segregation + Off- site Recycling by Local Recyclers	Residual C&D Waste to NENT Landfill
			Estimated quantity = 14 tonnes (on site) and 14 tonnes (off site)	Estimated quantity = 251 tonnes
General Refuse	33	33	Segregation + Off- site Recycling by Local Recyclers	Residual General Refuse to NENT Landfill

	ESTIMATED WASTE QUANTITY		MANAGEMENT OPTIONS	
WASTE TYPE	CUBIC METRES	TONNES	TREATMENT	DISPOSAL
Chemical Waste	0.1	0.1	Chemical Waste Collector deliver to e.g. CWTC for Treatment	
Total	1,807	3,003		

- 5.3.37 In total, therefore, an estimated 3,003tonnes of waste may be generated throughout the 24 months construction period.
- 5.3.38 Overall, provided that good site practices as recommended in **Section 5.5** are followed, there should be no adverse waste impact from the handling, transportation or disposal of inert C&D materials, non-inert C&D materials, general refuse or chemical waste during the construction of the Proposed Redevelopment.

5.4 Operation Phase

- 5.4.1 During the operation phase, the major type of waste will be domestic waste from the residents. According to the EPD's *Waste Statistics for 2020* published in December 2020, the most recent per domestic waste disposal rate waste disposal is 0.91 kg/person/day. The estimated maximum number of residents of the Demestic (Flat) and RCHE is 324 and so the quantity of domestic waste disposed of is expected to be 0.3 tpd.
- 5.4.2 The nearest disposal point for domestic waste is NENT landfill, which is around 5km from the Site.
- 5.4.3 Since domestic waste will be collected on a regular basis by private waste collectors, and since domestic waste will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated. Nevertheless, to minimise domestic waste generation mitigation measures proposed in *Section 5.5* should be implemented.
- 5.4.4 Overall, there should be no adverse waste impact from the handling, transportation or disposal of domestic waste during the operation of the Proposed Development.

5.5 Mitigation Measures

Construction Phase

- 5.5.1 Waste management shall be controlled through contractual requirements as well as through statutory requirements.
- The Waste Management Plan (WMP) should be developed by the Contractor and to be submitted to Architect/Engineer for approval before the commencement of any construction works base on the requirement of Building Department's Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers No. ADV-19 Construction and Demolition Waste. The objectives of the WMP will be to identify any potential environmental impacts from the generation of waste at the Site; to recommend appropriate waste handling, collection, sorting, disposal and recycling measures in accordance with requirements of the current regulations; and to categorise and permit segregation of C&D materials where practicable (i.e. inert C&D materials/non-inert C&D materials) for treatment and disposal considerations i.e. reuse/recycling/ public fill/landfill.
- 5.5.3 The contractors should adopt good housekeeping practices with reference to the WMP such as waste segregation prior to disposal. Besides the provision of stockpiling and segregating areas at site, effective collection of site wastes is required to prevent waste materials being blown around by wind, flushed or leached into nearby waters, or creating odour nuisance or pest and vermin problems. Waste storage areas should be well maintained and cleaned regularly.

- 5.5.4 Mitigation measures listed in *Practice Note for Registered Contractors No. 17 Control of Environmental Nuisance from Construction Sites* shall be adopted. The C&D materials shall be delivered to the appropriate designated outlets by dump trucks fitted with covered box type dump bed to minimize potential nuisance during transportation of waste. Refuse pending removal should be stored in receptacles provided with close fitting covers to avoid waste materials be flushed or leached under inclement weather conditions such as heavy rainfall.
- 5.5.5 A trip-ticket system should be established in accordance with the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation* to monitor the disposal of public fill and solid wastes at public filling facilities and landfills, and to control fly-tipping. A trip-ticket system should be included as one of the contractual requirements for the contractor to strictly implement.
- 5.5.6 Whenever there are excess recyclable construction materials, including bricks, plastics and metals, reuse and recycling should be carried out as far as practicable to minimise the amount of waste disposal. Other inert non-recyclable materials such as concrete, asphalt, etc. should be treated as public fill. Surplus non-inert C&D materials and non-recyclable wastes should be disposed at designated landfill site.
- 5.5.7 For general refuse, provisions of recycle bins for different types of recyclable waste should be provided together with a general refuse bin to separate from C&D materials. Arrangements should be made with the recycling companies to collect the recycle waste. A reputable waste collector should be employed by the construction contractor to remove general refuse from the Site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of "wind-blown" materials.
- 5.5.8 For chemical waste, the Contractor should follow the 'trip-ticket' system of which the arrangement of production, collection and disposal in accordance with the *Waste Disposal* (Chemical Waste) (General) Regulation.

Operation Phase

- 5.5.9 The waste management hierarchy is a concept which shows the desirability of various waste management methods and shall be adopted by the building management to manage domestic waste in a sustainable manner waste in line with government policy. In order of preference, the following shall be adopted:
 - Avoidance
 - Minimisation
 - Recycling/reuse
- 5.5.10 The majority of waste generated during the operation of the Proposed Development will be domestic waste, comprising general refuse, food waste, food packaging, paper, cans, plastic bottles, etc. These shall be collected and stored in recycle bins and appropriate waste receptacles with a secure lid to minimise the potential adverse impact due to wind blowing away garbage and to improve hygiene.
- 5.5.11 Recyclable and non-recyclable waste shall be regularly collected by waste collectors and taken off-site for recycling or disposal, respectively.

5.6 Land Contamination

- 5.6.1 A Site Walkover was carried out on 25 November 2020 to gather information regarding the existing condition of the Site and its environs, and to confirm the likelihood of any potential land contamination due to former land uses.
- 5.6.2 Based on the site observation, the Site are currently occupied by some temporary structures for dwellings and partly covered by vegetation (see *Figure 5-1*). No stains were observed and there was no sign of vegetation stress, which can be indicative of contaminated soils. In view of this, it

is unlikely that the ground below the concrete/asphalt pavement has been contaminated by any leakage/spillage from the present land use as a vehicle park.

5.6.3 Aerial photographic records for the Site between 1963 and 2020 downloaded from the Survey Map Office as shown on *Appendix C*, were reviewed. These records revealed that the Site had been used as farmland from 1963 to1983, and used as farmland and village houses since 1993. The historical land uses and activities identified from the review are summarised in *Table 5-3*.

Table 5-3: Past L	and Use Summar	y of the Site
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YEAR	LANDUSE / DESCRIPTION	IDENTIFIED ACTIVITIES	AERIAL PHOTO ID
1963	Farmland	Farming	1963-9978
1973	Farmland	Farming	07760
1983	Farmland	Farming	50971
1993	Farmland and village houses	Farming	A36347
2003	Farmland and village houses	Farming	CW49005
2013	Farmland and village houses	Farming	CS46854
2020	Farmland and village houses	Farming	E093922C

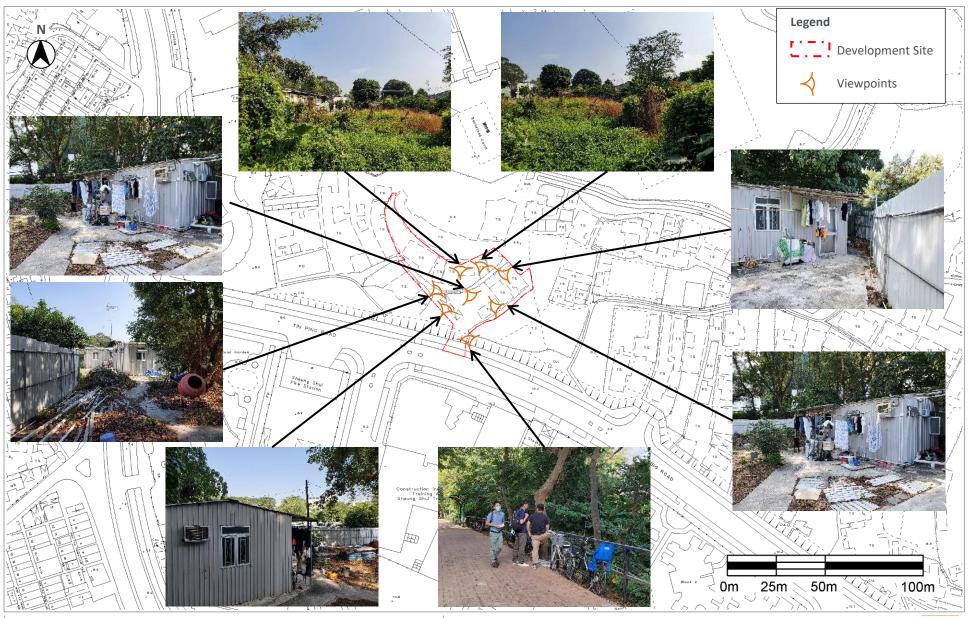
- Activities associated with the operation of farmland and temporary houses do not have the potential to cause land contamination. Enquiries regarding Dangerous Goods licences, Chemical Waste Producers Registration and records of any incident of chemical spillage/leakage, etc. relating to the site were made to EPD and FSD (see *Appendix DD*). Both records have shown that no dangerous good was stored or chemical spillage was occurred on Site. The registry of Chemical Waste Producers Registration was also inspected on 28 April 2022 in EPD office and no record of valid or invalid registration related to the Site was found in the registry.
- 5.6.5 In consideration of the previous land uses on Site, no potential of land contamination was identified. As such, it is concluded that the land of the Site is unlikely contaminated.

5.7 Conclusion

- 5.7.1 With the development of WMP and to implement the good site practices recommended therein, the waste generation during construction phase could be minimized. It is estimated that around 3,003 tonnes will be generated during the 24 months construction period. The estimated quantity of inert C&D materials to be generated during the peak period during site formation works is 4.5 tpd. The estimated quantity of non-inert C&D materials to be generated during the peak period is 1.5 tpd.
- 5.7.2 Provided that good site practices as recommended in **Section 5.5** are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.
- 5.7.3 During the operation phase, the major type of waste generated will be domestic waste.

 Residents of the Proposed Redevelopment are expected to dispose of around 0.2 tonnes of domestic waste each day. Since domestic waste will be collected on a regular basis by private waste collectors and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.
- 5.7.4 With the implementation of the recommended mitigation measures, adverse waste impacts generated during the construction and operational phases of the project are not anticipated.

Figure 5-1: Existing Site Condition



D01 – ENVIRONMENTAL ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd

SMEC Internal Ref. 7076867 17 August 2022

6 CONCLUSIONS AND RECOMMENDATIONS

- 6.1.1 This EA report has been conducted for the proposed development of 4-storeys Domestic (Flat) and 7-storeys RCHE at Lots 834 and 838 in DD 52 and adjoining Government Land in Tin Ping Road, Sheung Shui, New Territories.
- 6.1.2 The results of the assessments in indicate that the proposed development will not generate any unacceptable environmental impacts during construction and operation phases, provided that all recommended mitigation measures and good site practices are strictly implemented by the Applicant.
- 6.1.3 Overall, no adverse environmental impact is anticipated during the construction or operation phases of the Proposed Redevelopment. Specific conclusions for air quality, noise, water quality and waste management are as follows:

Air Quality

- 6.1.4 With the implementation of the recommended mitigation measures and good site practice, adverse impacts during the construction phases are not anticipated.
- 6.1.5 No industrial chimney or other community uses that would cause potential odour impact was identified within 200m from the boundary of the Project Site. No major activities have been identified during the operation of the proposed development that will cause any off-site adverse air quality impacts. No adverse air quality impact on the proposed development from vehicle emissions, oily fume/odour emissions from the canteen/kitchen is anticipated during the operation phase.
- 6.1.6 Overall, therefore, no adverse air quality impact is anticipated during the construction or operation phases of the Proposed Redevelopment.

Noise

- 6.1.7 During the construction phase of the Proposed Redevelopment, with the implementation of the recommended noise mitigation measures, no adverse noise impacts are anticipated.
- 6.1.8 The Proposed Development is located at a residential area, which is surrounded by residential buildings, temporary dwellings and educational institutions in the vicinity, such as Tsui Lai Garden, Fung Kai Kindergarten and etc. These buildings provided effective acoustic shielding for the Proposed Development with buildings up to four storeys. Moreover, no existing fixed source is identified. As such, no adverse fixed source noise impact on the Proposed Development is anticipated.
- 6.1.9 Most of the E&M equipment will be installed inside plant rooms. With the provision of good noise practices as mentioned in *Section 3.4.2*, adverse fixed noise impact from the operation of the Proposed Development is not anticipated.
- 6.1.10 For traffic noise, the traffic noise impact on the Proposed Development will comply with the standards as recommended in Chapter 9 of the HKPSG with the mitigation measures recommended in *Section 3.5.10*.
- 6.1.11 Overall, therefore, no adverse noise impact is anticipated during either the construction or operation stage of the Project.

Water Quality

During construction, water quality impacts can be properly controlled with the implementation of good site practice. Portable toilets will be provided for constructions workers on-site.

Provided these measures are implemented, it is unlikely than any adverse water quality impacts from the Site will be generated during the construction phase.

- 6.1.13 The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges should be treated as necessary in accordance with the Discharge License.
- 6.1.14 During operation, no adverse water quality impact is anticipated from the toilets, kitchens, etc., because the sewage and wastewater will be collected and discharged to the public sewerage system to be constructed prior to occupation of the units. The separate SIA Report has concluded that there will be no adverse impact on the downstream sewer capacity with the addition of peak flow sewage discharges from the Proposed Development.
- 6.1.15 Overall, therefore, no adverse water quality impact is anticipated during the construction or operational phases of the Proposed Development.

Waste Management

- 6.1.16 With the development of WMP and to implement the good site practices recommended therein, the waste generation during construction phase could be minimized. It is estimated that around 3,003 tonnes will be generated during the 24 months construction period. The estimated quantity of inert C&D materials to be generated during the peak period is 4.5 tpd. The estimated quantity of non-inert C&D materials to be generated during the peak period is 1.5 tpd.
- 6.1.17 Provided that good site practices as recommended in **Section 5.5** are followed, there should be no adverse impacts related to the management, handling and transportation of waste during the construction phase.
- During the operation phase, the major type of waste generated will be domestic waste.

 Residents of the Proposed Redevelopment are expected to dispose of around 0.2 tonnes of domestic waste each day. Since domestic waste will be collected on a regular basis by private waste collectors and will be disposed at a landfill managed by EPD, no adverse waste impacts from handling, transportation or disposal are anticipated during operation.
- 6.1.19 With the implementation of the recommended mitigation measures, adverse waste impacts generated during the construction and operational phases of the project are not anticipated.

APPENDIX A	TRAFFIC FORECAST FOR YEAR 2046	

Table 8.1 Year 2046 Traffic Forecast Results

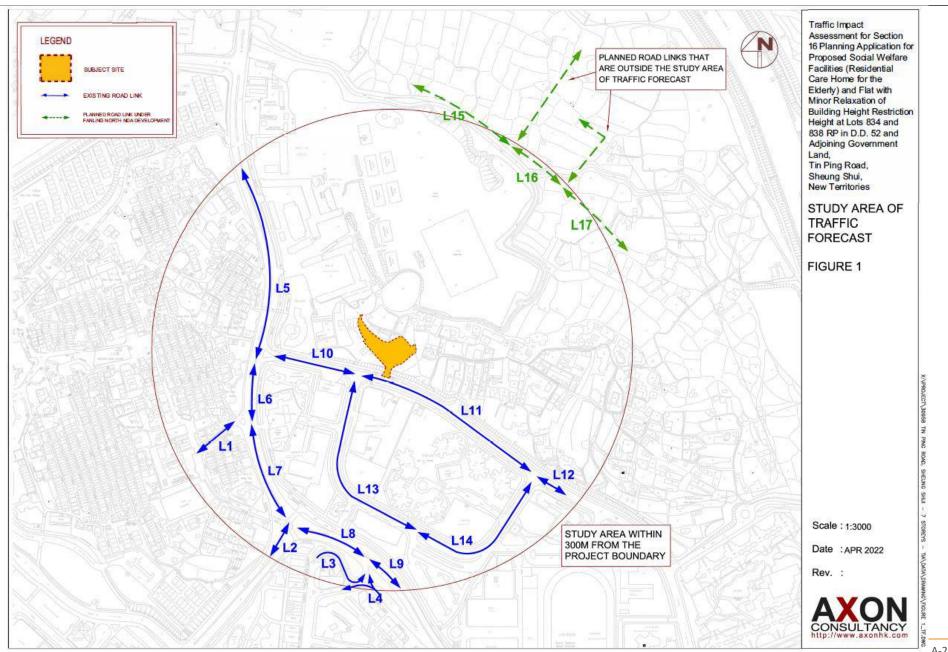
Description Peak Hour Traffic Flow in Year 2046 (veh/hr) Proportion of Heavy Vehicles¹	able o.	Teal 2040 Hallic Folecas	st iveanita					
L1	ID	Road Link	Direction					
L2	14	Assess Boad to Chaung Chui Wei	E/B	34	11.8%			
L2	Li	Access Road to Snedrig Sndi Wai	W/B	40	10.0%			
S/B 1508 35.6%	12	Do Shek Wu Road	N/B	1512	27.2%			
L4		Po Silek Wu Noau	S/B	1508	35.6%			
L4	L3	San Fung Road	E/B	491	6.1%			
L5	14	San Fung Road	N/B	24	33.3%			
L6		Sairi ung Noad	W/B	136	20.6%			
S/B 1308 31.7%	1.5	Jockey Club Road	N/B	1803	25.3%			
L6	Lo	ookey Clab Noad	S/B	1308	31.7%			
S/B 1315 39.5%	16	Jockey Club Road	N/B	1803	25.3%			
L7		Jockey Club Noad	S/B	1315	39.5%			
S/B 1315 39.5%	17	Jockey Club Road	N/B	1809	25.3%			
L8	Li	Journey Club Noau	S/B	1315	39.5%			
L9 Jockey Club Road E/B 370 20.5%	1.9	Jockey Club Road	E/B	370	20.5%			
L10	Lo		W/B	832	14.4%			
L10	10	Jackey Club Road	E/B	370	20.5%			
L10	LS	Jockey Club Noad	W/B	317	25.2%			
L11	140	Tin Ding Road	E/B	257	24.1%			
L11		III Filig Nodu	W/B	266	21.8%			
L12 Tin Ping Road E/B 365 19.2%	144	Tip Ding Road	E/B	251	27.9%			
L12 Tin Ping Road W/B 503 20.7% L13 Fung Nam Road N/B 205 34.1% S/B 351 29.1% L14 Fung Nam Road N/B 233 17.2% S/B 221 23.5% S/B 221 23.5% L15 Planned Local Distributor Road under Fanling North NDA Development ² W/B 350 25.0% L16 Planned Local Distributor Road under Fanling North NDA Development ² E/B 400 25.0% L17 Planned Local Distributor Road under Fanling North NDA Development ² E/B 350 25.0%	LIII	III Filig Noau	W/B	401	21.9%			
N/B 503 20.7%	142	Tip Ding Road	E/B	365	19.2%			
L13 Fung Nam Road S/B 351 29.1% L14 Fung Nam Road N/B 233 17.2% S/B 221 23.5% L15 Planned Local Distributor Road under Fanling North NDA Development ² E/B 550 25.0% L16 Planned Local Distributor Road under Fanling North NDA Development ² E/B 400 25.0% L17 Planned Local Distributor Road under Fanling North NDA Development ² E/B 350 25.0% L17 Planned Local Distributor Road under Fanling North NDA Development ² E/B 350 25.0%	LIZ	IIII Filig Noau	W/B	503	20.7%			
S/B 351 29.1%	143	Fung Nam Road	N/B	205	34.1%			
L14 Fung Nam Road S/B 221 23.5% L15 Planned Local Distributor Road under Fanling North NDA Development ² E/B 550 25.0% L16 Planned Local Distributor Road under Fanling North NDA Development ² E/B 400 25.0% L17 Planned Local Distributor Road under Fanling North NDA Development ² E/B 350 25.0% L17 Planned Local Distributor Road under Fanling North NDA Development ² E/B 350 25.0%	LIS	r ung Nam Noau	S/B	351	29.1%			
S/B 221 23.5%	144	Fung Nam Road	N/B	233	17.2%			
Earling North NDA Development W/B 350 25.0%	L14	rung Nam Noau	S/B	221	23.5%			
L16 Planned Local Distributor Road under Fanling North NDA Development ² W/B 350 25.0%	145		E/B	550	25.0%			
L16 Fanling North NDA Development ² W/B 500 25.0%	L15	Fanling North NDA Development ²	W/B	350	25.0%			
Planned Local Distributor Road under E/B 350 25.0%	146		E/B	400	25.0%			
L17 I talling 2001 Biolington House and on	L10	Fanling North NDA Development ²	W/B	500	25.0%			
Fanling North NDA Development ² W/B 400 25.0%	147		E/B	350	25.0%			
	L17	Fanling North NDA Development ²	W/B	400	25.0%			

Note: 1. Vehicle types with pcu factor greater or equal than 2.0 are classified as heavy vehicle.

Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining

- 2. The forecast of peak hour traffic flows from road link ID. L1 to L14 are based on the survey data, proposed annual growth rate, estimated traffic generation and attraction of the subject development, anticipated development flows in Fanling North NDA and the traffic diversion effect of FLBP, as discussed in the previous chapters.
- 3. The forecast of peak hour traffic flows from road link ID. L15 to L17 are based on the subject road types, future transport network and anticipated development flows in Fanling North NDA as discussed in the previous chapters.

17 August 2022



APPENDIX B	PREDICTED ROAD TRAFFIC NOISE LEVELS	

Base Case Scenario

	RCHE										
Floor	mPD	R1	R2	R3	R4	R5	R6				
G/F	9.4	-	-	-	-	-	55				
1/F	14.4	70	69	62	60	59	56				
2/F	17.9	71	70	63	61	60	57				
3/F	21.4	71	70	63	62	61	58				
5/F	24.9	71	70	63	62	62	58				
6/F	28.4	71	70	63	62	62	59				
7/F	31.9	71	70	63	63	63	60				
Floor	mPD	R7	R8	R9	R10	R11	R12				
G/F	9.4	56	54	53	53	61	63				
1/F	14.4	58	55	55	56	64	66				
2/F	17.9	59	56	56	57	65	67				
3/F	21.4	60	57	57	58	66	68				
5/F	24.9	59	57	58	60	66	69				
6/F	28.4	60	58	59	61	67	69				
7/F	31.9	61	59	60	62	68	69				

Residential House										
Floor	mPD	A1	A2	А3	B1	B2	В3	C1	C2	
G/F	9.4	65	65	65	66	65	64	63	63	
1/F	12.9	68	68	-	69	69	67	66	65	
2/F	16.1	69	70	-	70	70	69	68	67	
3/F	19.2	70	70	-	71	71	69	69	68	
Floor	mPD	D1	D2	D3	E1	E2	F1	F2	G1	
G/F	9.4	63	62	57	55	54	54	54	55	
1/F	12.9	65	65	60	59	58	58	58	58	
2/F	16.1	67	67	61	61	60	60	59	59	
3/F	19.2	68	68	62	61	61	61	60	60	
Floor	mPD	G2	G3	H1	H2	l1	12	13	J1	J2
G/F	9.4	55	54	54	54	-	-	-	-	-
1/F	12.9	57	56	55	55	55	54	66	67	67
2/F	16.1	58	57	56	56	55	55	68	68	69
3/F	19.2	59	57	57	57	56	56	68	69	69

Notes:

- 1. "N/A" means not applicable for no noise sensitive facade.
- 2. "mPD" means the level of the assessment point.
- 3. Red shading indicates that predicted noise level exceeds road traffic noise standard of 70 dB(A) L_{10(1 hour)}.

Mitigated Case Scenario

RCHE									
Floor	mPD	R1	R2	R3	R4	R5	R6		
G/F	9.4	-	-	-	-	-	55		
1/F	14.4	69	68	61	59	59	56		
2/F	17.9	70	69	62	60	60	56		
3/F	21.4	70	70	63	61	60	57		
5/F	24.9	70	70	63	62	62	58		
6/F	28.4	70	70	63	62	63	59		
7/F	31.9	70	70	63	63	63	60		
Floor	mPD	R7	R8	R9	R10	R11	R12		
G/F	9.4	55	54	53	53	61	63		
1/F	14.4	57	55	55	56	64	66		
2/F	17.9	58	56	56	57	65	67		
3/F	21.4	59	57	57	58	66	68		
5/F	24.9	59	57	58	60	66	69		
6/F	28.4	60	58	59	61	67	69		
7/F	31.9	61	59	60	62	68	69		

	Residential House									
Floor	mPD	A1	A2	А3	B1	B2	В3	C1	C2	
G/F	9.4	64	65	65	65	65	64	63	63	
1/F	12.9	67	67	-	68	68	67	66	65	
2/F	16.1	69	69	-	70	70	69	68	67	
3/F	19.2	69	70	-	70	70	69	69	68	
Floor	mPD	D1	D2	D3	E1	E2	F1	F2	G1	
G/F	9.4	63	62	57	55	54	54	54	55	
1/F	12.9	65	65	60	59	58	58	58	58	
2/F	16.1	67	67	61	61	60	60	59	59	
3/F	19.2	68	68	62	61	61	61	60	60	
Floor	mPD	G2	G3	H1	H2	l1	12	13	J1	J2
G/F	9.4	55	54	54	54	-	-	-	-	-
1/F	12.9	57	56	55	55	55	54	66	66	67
2/F	16.1	58	57	56	56	55	55	67	68	68
3/F	19.2	59	57	57	57	56	56	68	69	69

Notes:

- 1. "N/A" means not applicable for no noise sensitive facade.
- 2. "mPD" means the level of the assessment point.
- 3. Green shading indicates that predicted noise level with adoption of architectural fins.

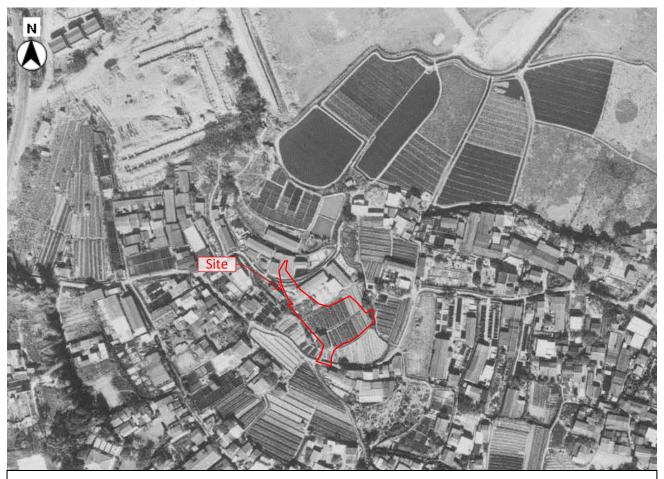
APPENDIX C	HISTORICAL	AERIAL PHO	OTOS		
D01 – ENVIRONMENTAL ASSESS Section 16 Planning Application f	MENT REPORT for Proposed Social Welfare Facility	(Residential Care Home for the	a Flderly) and	SMEC Internal Ref. 7076867	

Figure C-1: Aerial Photo in Year 1963



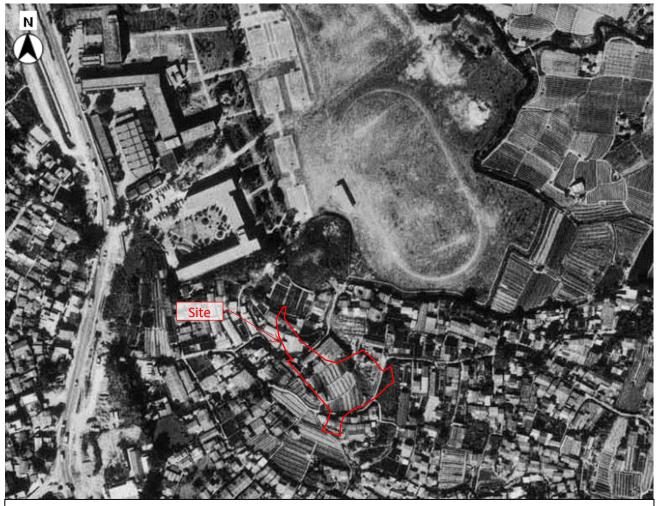
In 1963, the Site was a piece of farmland. No activities likely to result in land contamination were observed.

Figure C-1: Aerial Photo in Year 1973



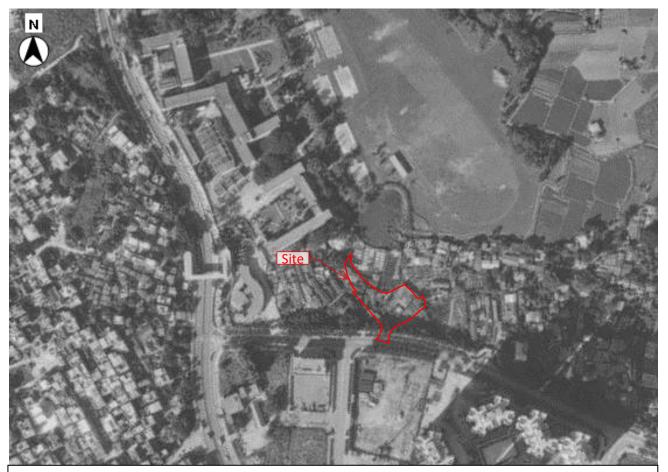
In 1973, the Site was a piece of farmland. No activities likely to result in land contamination were observed.

Figure C-3: Aerial Photo in Year 1983



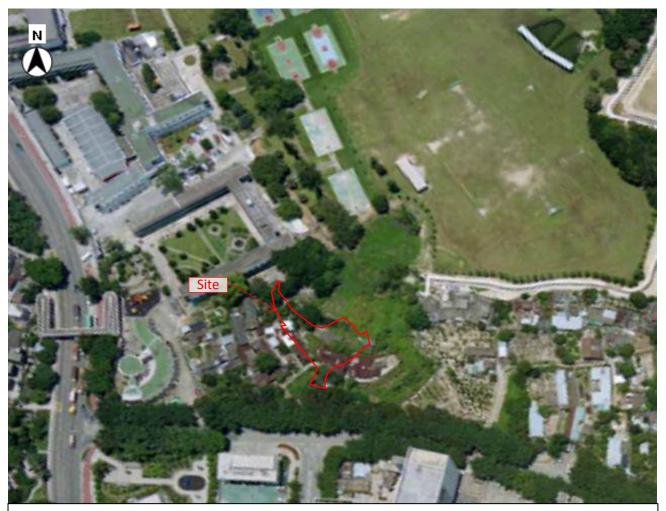
In 1983, the Site was a piece of farmland. No activities likely to result in land contamination were observed.

Figure C-4: Aerial Photo in Year 1993



In 1993, the Site was occupied by several village houses. No activities likely to result in land contamination were observed.

Figure C-5: Aerial Photo in Year 2003



In 2003, the Site was occupied by several village houses. No activities likely to result in land contamination were observed.

Figure C-6: Aerial Photo in Year 2013

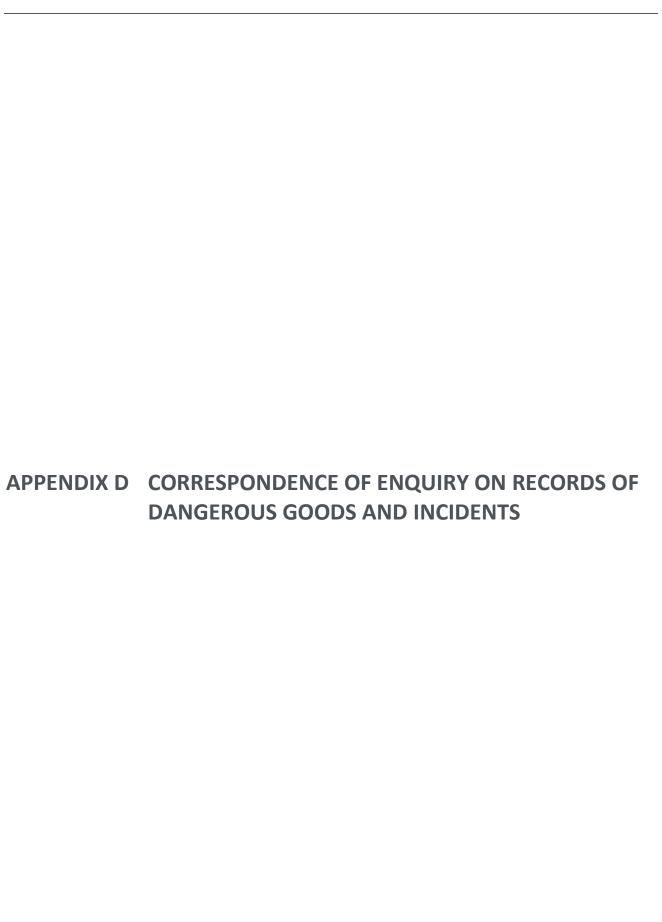


In 2013, the Site was occupied by several village houses. No activities likely to result in land contamination were observed.

Figure C-7: Aerial Photo in Year 2020



In 2020, the Site was occupied by several village houses. No activities likely to result in land contamination were observed.





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7076867/L28436/AW/FN/CL/rw Our ref:

29 March 2022

Environmental Compliance Division/Regional Office (North) Sheung Shui **Environmental Protection Department** 10/F Shatin Government Offices No.1 Sheung Wo Che Road, Sha Tin N.T., Hong Kong

By Email (alicewytang@epd.gov.hk) & Fax (2685 1133)

Attention: Ms. TANG Wing Yin

Dear Madam

Section 16 Application for Proposed Residential and RCHE Development Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T. Request for Information - Land Contamination Study

We have been appointed by the Sustaina Ltd as the Environmental Consultant to undertake an Environmental Assessment ("EA") for the captioned project. A copy of appointment letter (ref: 17601076-0725/L28110/AB/AW/FN/CL/rw) dated 14 December 2021 regarding the appointment of the captioned Agreement is enclosed for your information. The location of the Subject Site is also shown on the attached figure.

In order for us to address the potential land contamination issue, we would be most grateful if you could provide us with a list of records of Chemical Waste Producers Registration or incidents of chemical spillage/leakage, etc. relating to the Site, if any.

Should you have any enquiries regarding the above, please do not hesitate to contact the undersigned on tel. 3995 8147 or to fred.ng@smec.com or our Charls LIANG on tel. 3995 8128 or to charls.liang@smec.com.

Yours faithfully

Fred NG Associate

Encl.

SMEC ASIA LIMITED 27/F Ford Glory Plaza, 37-39 Wing Hong Street Cheung Sha Wan, Kowloon, Hong Kong 1852 3995 8100 +852 3995 8101

E hongkong@smec.com W www.smec.com





SMEC Internal Ref. 7076867

17 August 2022

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Our ref: 17601076-0725/L28110/AB/AW/FN/CL/rw

14 December 2021

Champ Dynasty Ltd c/o R-Riches Property Consultants Ltd Block D, The Richfield 236 Kat Hing Wal Kam Tin, NT Hong Kong

By Email (kwokpongt@hotmail.com)

Attn. Mr Ken WONG

Dear Sir

Section 16 Application for Proposed Residential and RCHE Development Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T. Revised Proposal for Environmental Consultancy Services

Further to the email from the Planning Consultant Aikon on 16 November 2021, the Site at Lots 834 and 838 RP in D.D. 52, Tin Ping Road is proposed to be developed into a residential building and a Residential Care Home for the Elderly ("RCHE") building with different parameters and minor height relaxation compared with the approved planning application no. A/FSS/279. Therefore, we are pleased to provide this Technical and Fee Proposal including our scope of services and the fees, as appended to this letter, for your consideration.

We trust that you find this arrangement acceptable and we look forward to receiving your formal instruction to proceed by providing a signed copy of this letter, a works order/purchase order, or a letter confirming your acceptance of the attached proposal.

Should you have any queries regarding this proposal, please do not hesitate to contact our Mr Antony WONG on 3995 8120 or to antony.wong@smec.com; or our Mr Fred NG on 3995 8147 or to fred.ng@smec.com.

Yours faithfully for and on behalf of SMEC Asia Ltd.

Ir Alexi BHANJA Managing Director

Encl.

Signed and Agreed
for and on behalf of
Compare HAMP DYNASTY LIMITED

ppr

Name:

Position:

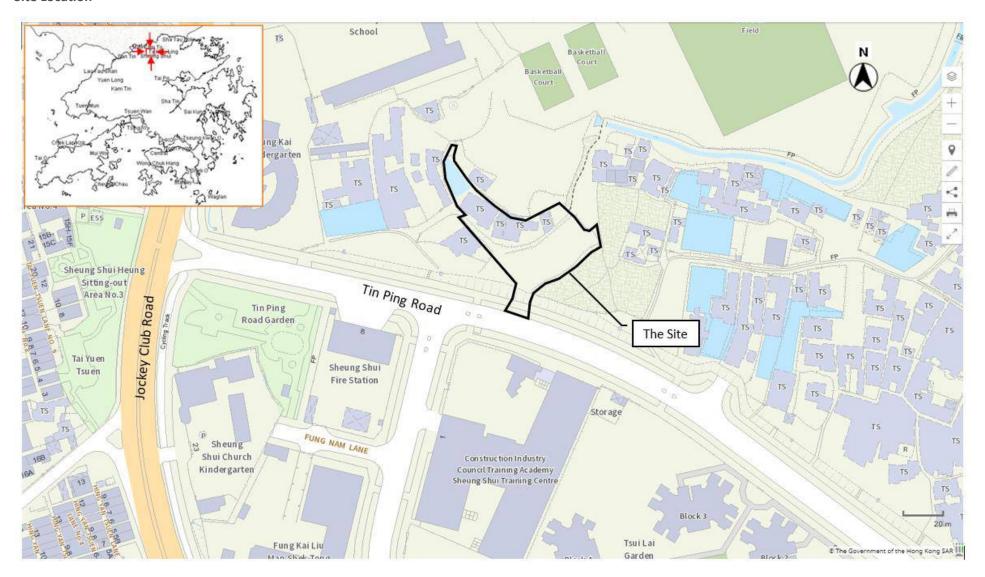
SMEC ASIA LIMITED

27/F Ford Glory Plaza, 37-39 Wing Hong Street Cheung Sha Wan, Kowloon, Hong Kong

- T +852 3995 8100
- F +852 3995 8101
- E hongkong@smec.com
- W www.smec.com

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Site Location



D01 - ENVIRONMENTAL ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd

Charls LIANG

From: alicewytang@epd.gov.hk Wednesday, 6 April 2022 9:36 am Sent:

To: Charls LIANG

Fred NG; kityeecheung@epd.gov.hk; kwokholee@epd.gov.hk Cc:

Re: 7076867 - Enquiry of Chemical Waste Producers Registration for Proposed Subject:

Development at Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Attachments: 220329 EPD Info Reguest L28436.pdf

This message Is From an External Sender

Please do not click the links or attachments and do not respond to this message if you are unsure of its

Report Suspicious

Dear Mr. Liang,

I refer to your preceding email dated 29 March 2022 in regard to the captioned.

This Office has no record of any reported chemical spillage / leakage incident at the captioned locations in the past 5 years. You may like to check with other relevant parties / departments for such information as appropriate.

For record of Chemical Waste Producers Registration, a registry is available at our Territory Control Office in Wan Chai. Please contact our Mr. C.K. Tsang at 2835 1017 for details during the office hours.

Regards,

Alice TANG E(RN)34 / EPD 2158 5842

From:

Charls LIANG <Charls.Liang@smec.com> "alicewytang@epd.gov.hk" <alicewytang@epd.gov.hk> To:

Fred NG <Fred.Ng@smec.com> Cc

29/03/2022 15:15 Date:

Subject: 7076867 - Enquiry of Chemical Waste Producers Registration for Proposed Development at Lots 834 and 838 RP in

D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Dear Madam,

We have been appointed by the Champ Dynasty Ltd as the Environmental Consultant to undertake an Environmental Assessment ("EA") for a proposed development at Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T. The location of the Subject Site is shown on the Attachment.

1

SMEC Internal Ref. 7076867

17 August 2022



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Our ref: 7076867/L28437/AW/FN/CL/rw

29 March 2022

Fire Services Headquarters Command Management Group Fire Services Department 9/F, Fire Services Headquarters Building 1 Hong Chong Road, Tsim Sha Tsui East Kowloon, Hong Kong

By Email (hkfsdenq@hkfsd.gov.hk) & Fax (2739 5879)

Attention: Mr NG Wing Chit

Dear Sir

Section 16 Application for Proposed Residential and RCHE Development Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T. Request for Information - Land Contamination Study

We have been appointed by the Sustaina Ltd as the Environmental Consultant to undertake an Environmental Assessment ("EA") for the captioned project. A copy of appointment letter (ref: 17601076-0725/L28110/AB/AW/FN/CL/rw) dated 14 December 2021 regarding the appointment of the captioned Agreement is enclosed for your information. The location of the Subject Site is also shown on the attached figure.

In order for us to address the potential land contamination issue to be reviewed in the EA, we would appreciate if you could provide us with a list of records of fire incidents or incidents of spillage/leakage of dangerous goods, etc. relating to the Site, if any.

Should you have any enquiries regarding the above, please do not hesitate to contact the undersigned on tel. 3995–8147 or to fred.ng@smec.com or our Charls LIANG on tel. 3995–8128 or to charls.liang@smec.com.

Yours faithfully

Fred NG Associate

Encl.

SMEC ASIA LIMITED 27/F Ford Glory Plaza, 37-39 Wing Hong Street Cheung Sha Wan, Kowloon, Hong Kong T +852 2995 8100 F +852 3995 8101

E hongkong@smec.com W www.smec.com







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Member of the Surbana Jurong Group

Our ref: 17601076-0725/L28110/AB/AW/FN/CL/rw

14 December 2021

Champ Dynasty Ltd c/o R-Riches Property Consultants Ltd Block D, The Richfield 236 Kat Hing Wal Kam Tin, NT Hong Kong

By Email (kwokpongt@hotmail.com)

Attn. Mr Ken WONG

Dear Sir

Section 16 Application for Proposed Residential and RCHE Development Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T. Revised Proposal for Environmental Consultancy Services

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We trust that you find this arrangement acceptable and we look forward to receiving your formal instruction to proceed by providing a signed copy of this letter, a works order/purchase order, or a letter confirming your acceptance of the attached proposal.

Should you have any queries regarding this proposal, please do not hesitate to contact our Mr Antony WONG on 3995 8120 or to antony.wong@smec.com; or our Mr Fred NG on 3995 8147 or to fred.ng@smec.com.

Yours faithfully for and on behalf of SMEC Asia Ltd.

Ir Alexi BHANJA Managing Director

Encl.

Signed and Agreed
for and on behalf of
Compare HAMP DYNASTY LIMITED
樂 明 五 公 司

Authorized Signature(s)

ECO-Healthy Office

Position:

SMEC ASIA LIMITED

27/F Ford Glory Plaza, 37-39 Wing Hong Street Cheung Sha Wan, Kowloon, Hong Kong

T +852 3995 8100

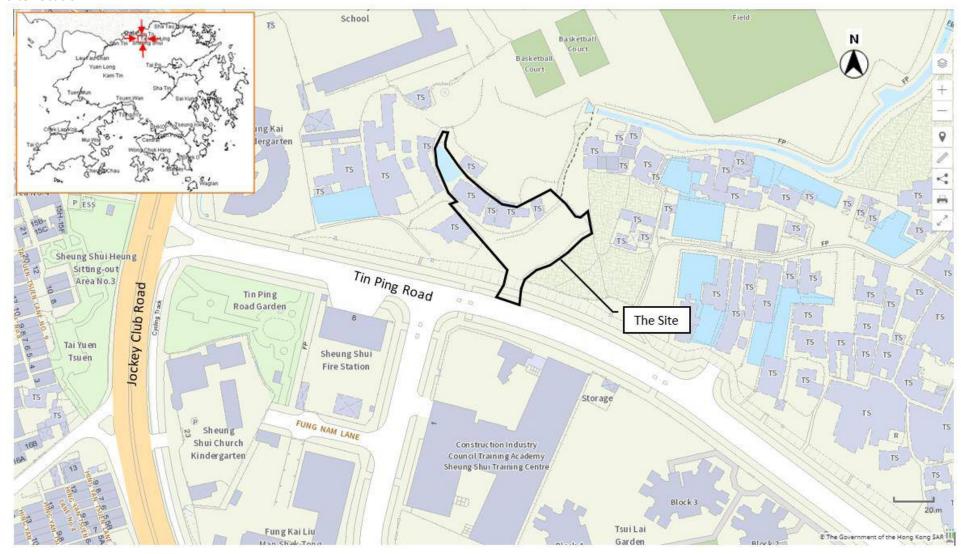
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W www.smec.com

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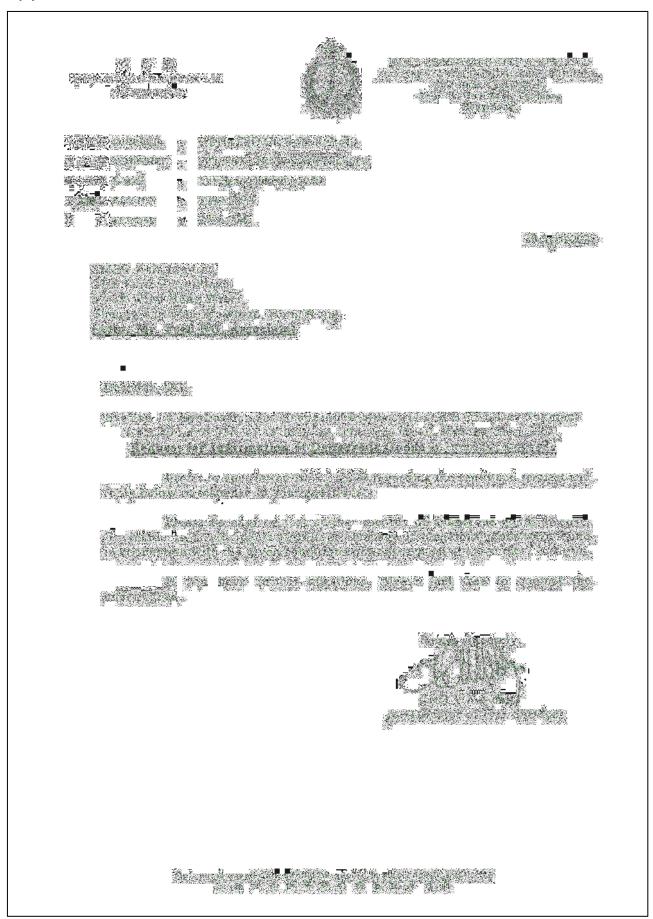
Site Location



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd

Reply from FSD



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SMEC is recognised for providing technical excellence and consultancy expertise in urban, infrastructure and management advisory. From concept to completion, our core service offering covers the life-cycle of a project and maximises value to our clients and communities. We align global expertise with local knowledge and state-of-the-art processes and systems to deliver innovative solutions to a range of industry sectors.



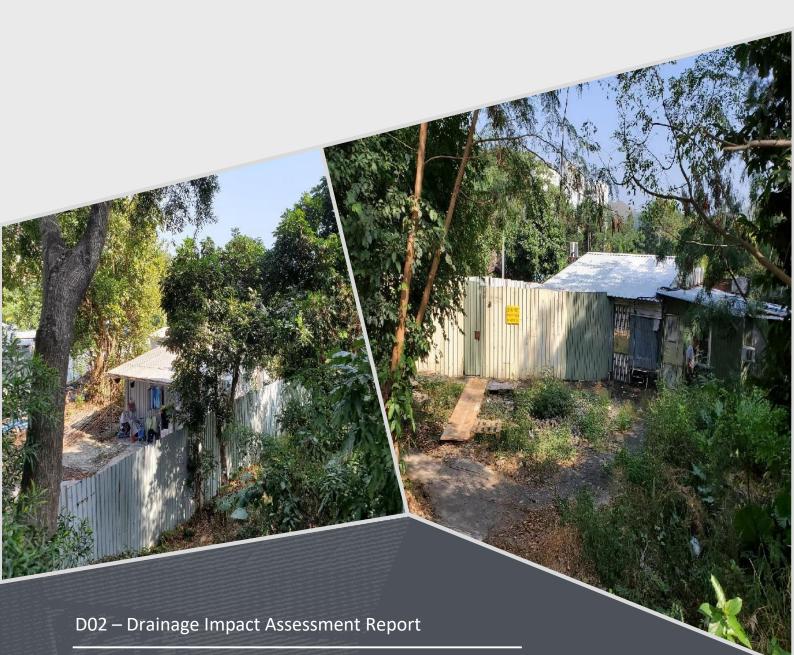
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL_PLG_10238_R001a

Appendix | V

Drainage Impact Assessment





Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Prepared for Champ Dynasty Ltd 7 June 2022

Document Control

Document:	D02 – Drainage Impact Assessment Report
File Location:	Z:\Jobs\7076867 - Champ - S16 Ting Ping Rd\08 Submission\D02 DIA
Project Name:	Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories
Project Number:	7076867
Revision Number:	1.0

Revision History

REVISION NO.	DATE	PREPARED BY	REVIEWED BY	APPROVED FOR ISSUE BY
0	1 June 2022	Charls LIANG	Fred NG	Antony WONG
1	7 June 2022	Charls LIANG	Fred NG	Antony WONG

Issue Register

DISTRIBUTION LIST	DATE ISSUED	NUMBER OF COPIES
Champ Dynasty Ltd	7 June 2022	1 electronic soft copy

SMEC Company Details

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Tel:	+852 3995 8100	Fax:	+852 3995 8101		
Email:	alexi.bhanja@smec.com	Website:	www.smec.com		

The information within this document is and shall remain the property of:

SMEC Asia Limited

Important Notice

This report is confidential and is provided solely for the purposes of supporting Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories. This report is provided pursuant to a Consultancy Agreement between SMEC Asia Limited ("SMEC") and Champ Dynasty Ltd, under which SMEC undertook to perform specific and limited tasks for Champ Dynasty Ltd. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

This report must be read as a whole. Any subsequent report must be read in conjunction with this report.

The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters that might have a material effect on its contents or which come to light after the date of the report. SMEC is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which SMEC becomes aware, after the date of this report.

Unless expressly agreed otherwise in writing, SMEC does not accept a duty of care or any other legal responsibility whatsoever in relation to this report, or any related enquiries, advice or other work, nor does SMEC make any representation in connection with this report, to any person other than Champ Dynasty Ltd. Any other person who receives a draft or a copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with SMEC, does so on the basis that he or she acknowledges and accepts that he or she may not rely on this report nor on any related information or advice given by SMEC for any purpose whatsoever.

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1 PROJECT BACKGROUND

1.1 Introduction

- 1.1.1 A previous planning application A/FSS/279 was made for a Proposed Development with a 4-storeys residential building ("Domestic (Flat)") and a 4-storeys Residential Care Home for the Elderly ("RCHE") at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Ting Ping Road, Sheung Shui, NT, which has been approved by Town Planning Board ("TPB") on 29 October 2021.
- 1.1.2 Champ Dynasty Ltd ("the Applicant"), now would like to submit a new application under Section 16 of the Town Planning Ordinance ("TPO") for the Proposed Development with a 4-storeys Domestic (Flat) and a 7-storeys RCHE with minor relaxation of building height restriction and different development parameters at the same location.
- 1.1.3 In order to support the S16 planning application made to TPB, SMEC Asia Ltd ("SMEC") has been commissioned by the Applicant to prepare this Drainage Impact Assessment ("DIA") Report to support the new Section 16 Planning Application.

1.2 Site Description

- 1.2.1 The Site area is approximately 2,092.6 m² and it is located to the north of Tin Ping Road as shown on *Figure 1-1*. The Site is currently occupied with some temporary structures for dwellings and partly covered by vegetation.
- 1.2.2 The Site location and its environs are shown on *Figure 1-1* which the uses surrounding the Site include:
 - To the north: Fung Kai Kindergarten, Fung Kai Primary School, Fung Kai No.1 Secondary School and Fung Kai Innovative School
 - To the west and east: Village dwellings and residential temporary structures
 - To the south: Tin Ping Road, Sheung Shui Fire Station and Hong Kong Institute of Construction Sheung Shui Campus
- 1.2.3 The Proposed Development will comprise a 4-storeys Domestic (Flat) and a 7-storeys RCHE. For the details of the Proposed Development, the indicative layout and sectional plans can be referred to **Appendix 1** of the Planning Statement of the Planning Application.

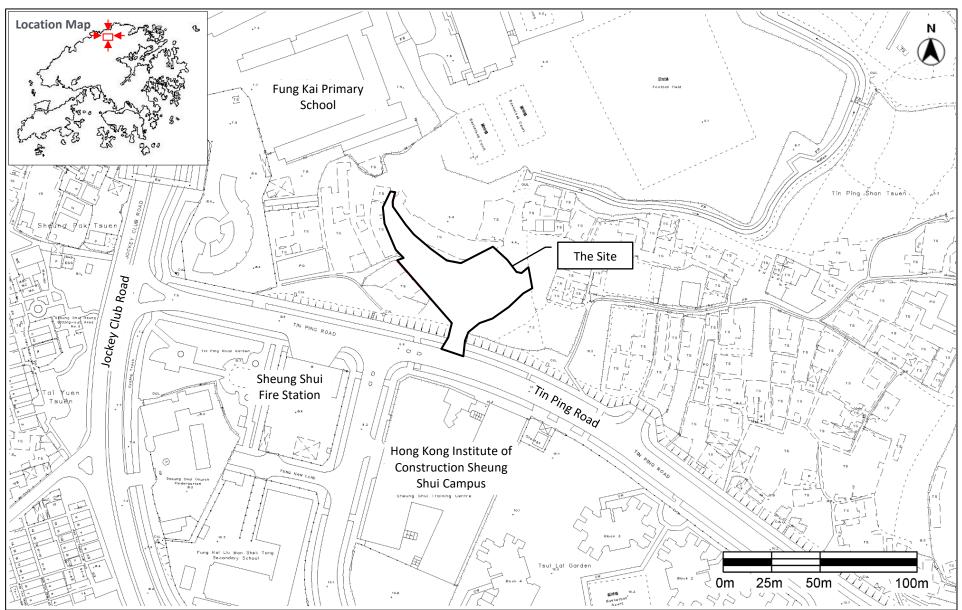
1.3 Objectives of this Report

- 1.3.1 The objectives of this DIA Report are to:
 - Assess the potential drainage impacts arising from the Site.
 - Recommend the necessary mitigation measures to alleviate any impacts.

1.4 Reference Materials

- 1.4.1 In evaluating the drainage impact arising from the Proposed Development, the following materials have been referred to:
 - Drainage Services Department ("DSD") publication Stormwater Drainage Manual (with Eurocodes incorporated) Planning, Design and Management (2018 Edition).
 - DSD Advice Note No. 1 Application of the Drainage Impact Assessment Process to Private Sector Projects.
 - GeoInfo Map (www.map.gov.hk) reviewed on 6 April 2022.

Figure 1-1: Site Location and its Environs



D02 - DRAINAGE IMPACT ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories Prepared for Champ Dynasty Ltd

SMEC Internal Ref. 7076867 7 June 2022

2 DESCRIPTION OF EXISTING ENVIRONMENT AND DRAINAGE CONDITIONS

2.1 Site Location and Topography

- 2.1.1 As mentioned in *paragraph 1.2.1*, the area of the application site is about 2092.6 m² is located in Sheung Shui with existing elevations between + 6.14mPD and + 7.70mPD. The Site is currently occupied with several temporary structures with some paved areas and footpaths that run on the west side and through the middle of the Site. There is also a few abandoned ponds and an area for cultivation/farmland. The rest of the Site is unpaved land with different vegetation or bare soil.
- 2.1.2 The Site is mainly surrounded by Fung Kai Primary School, temporary structures and scattered village dwellings.

2.2 Existing Baseline Conditions

2.2.1 In order to understand the existing drainage condition of the Site and the surrounding areas, the Site was visited on 25 November 2020. Based on the site observations, the Site is about 80% paved where there are temporary structures, paved areas and footpaths. The rest of the Site is considered unpaved. There is a concrete cast nullah located outside the Site to the northeast, which is connected to surrounding catchments. The nullah is connected with several DSD catchpits.

3 DRAINAGE ANALYSIS

3.1 Assumptions and Methodology

- 3.1.1 Peak instantaneous runoff before and after the Proposed Development was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.
- 3.1.2 The Rational Method has been adopted for hydraulic analysis and the peak runoff is given by the following expression:

 $Q_p = 0.278 C i A$ --- Equation 1

where $Q_p = peak runoff in m^3/s$

C = runoff coefficient

i = rainfall intensity in mm/hr
 A = catchment area in km²

3.1.3 Rainfall intensity is calculated using the following expression:

 $i = \frac{a}{(t_d + b)^c}$ --- Equation 2

where i = rainfall intensity in mm/hr

t_d = duration in minutes (t_d≤240)

a, b, c = storm constants given in Table 3 of SDM

3.1.4 For a single catchment, duration (t_d) can be assumed equal to the time of concentration (t_c) which is calculated as follows:

 $t_c = t_0 + t_f$ --- Equation 3

where t_c = time of concentration

 t_0 = inlet time (time taken for flow from the remotest point to reach the most upstream point of the urban drainage

system) $t_f = flow time$

3.1.5 Generally, t_0 is much larger than t_f . As shown in Equation 2, t_d is the divisor. Therefore, larger t_d will result in smaller rainfall intensity (i) as well as smaller Q_p . For the worst-case scenario, t_f is assumed to be negligible and so:

 $\begin{array}{lll} t_d & = & t_c & = & t_0 \\ \\ t_0 & = & \frac{0.14465 \, L}{H^{0.2} \, \Delta^{0.1}} & & & --- \, \textit{Equation 4} \end{array}$

where $A = \text{catchment area } (m^2)$

H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m) 3.1.6 The capacities of the drainage pipes have been calculated using the Colebrook-White Equation, assuming full bore flow with no surcharge, as follows, incorporating 10% sedimentation in the calculation of drainage flow capacity in accordance with the *Stormwater Drainage Manual*:

$$V = -\sqrt{32gRs} \times \log\left(\frac{k_s}{14.8R} + \frac{1.25v}{R\sqrt{32gRs}}\right)$$
 --- Equation 5

where V = mean velocity (m/s)

g = gravitational acceleration (m/s²)

R = hydraulic radius (m)

 k_s = hydraulic pipeline roughness (m) υ = kinematic viscosity of fluid (m²/s)

s = hydraulic gradient (energy loss per unit length due to friction)

3.1.7 On the other hand, the capacity of open channel has been calculated using the Manning's Equation:

$$V = \frac{R^{1/6}}{n} \times \sqrt{Rs}$$
 --- Equation 6

where V = mean velocity (m/s)

R = hydraulic radius (m)

n = Manning coefficient ($s/m^{1/3}$)

s = hydraulic gradient (energy loss per unit length due to friction)

3.2 Assessment Assumptions

Identification of Catchment

- 3.2.1 Catchment Areas A to H were identified in accordance with the topographical data on the basemaps obtained from the Survey and Mapping Office (SMO) in April 2022. The site condition is shown on *Figure 3-1*.
- 3.2.2 The runoff from the Site will gather at the catchpit south of the Site and drain into a 525mm storm pipe underneath Tin Ping Road. Details are descripted in below paragraphs.

Project Site (Internal Catchment)

- 3.2.3 The Site is located in Catchment A. Catchment A is comprised of two sub-catchments A1, A2 and A3. Sub-Catchment A1 is the main site area where the Proposed Development is, A2 is a paved ramp connecting Tin Ping Road and A3 is the existing pedestrian. The sub-catchments A1, A2 and A3 are shown in the enlarged plan on *Figure 3-1*.
- 3.2.4 The Site is currently occupied with several temporary structures and also unpaved land with different vegetation and bare soil. The Site is currently around 20% grassland and 80% concrete paved area.
- 3.2.5 For the Proposed Development, the Site will be filled to a uniform level of 8.24mPD. Around 28% site coverage of greenery will be provided. Therefore, it was assumed that the paving condition of the Proposed Development (A1) will comprise approximately 28% soft landscape and 72% paved area. The new ramp (A2) will be 100% paved area. The paving condition of A3 will remain unchanged after development.
- 3.2.6 With reference to the *Stormwater Drainage Manual*, as the Site is relatively flat, the runoff coefficients of paved surface and grassland at existing site are 0.95 and 0.25, respectively. As a result, the respective average runoff coefficients of 0.81 and 0.75 were adopted for the Site before and after the Proposed Development, respectively, as summarised in *Table 3-1*.

Table 3-1: Surface Characteristics and Runoff Coefficients of the Site

SCENARIO OF PROJECT	CATCHMENTS	AREA	SURFACE CHARACTERISTICS	RUNOFF COEFFICIENT
Before Development	A1	1,970 m ²	80% paved + 20% grassland	0.81
	A2	50 m ²	90% paved + 10% grassland	0.88
	A3	73 m ²	100% paved	0.95
After Development	A1	1,970 m ²	72% paved + 28% soft landscape	0.75
	A2 (underneath the proposed ramp)	50 m ²	90% paved + 10% grassland	0.88
	A2 (proposed ramp)	50 m ²	100% paved	0.95
	A3	73 m ²	100% paved	0.95

Cumulative Runoff (Surrounding Catchments)

- 3.2.7 Out of all the catchments identified surrounding the Site, only the Site itself (i.e. Catchment A) is identified to be the cumulative catchment for this DIA, as shown on *Figure 3-1*.
- 3.2.8 With reference to the topographical data of the survey maps obtained from Lands Department, there is no obvious drainage connection between Catchments A3, B to H and the Site. It is assumed that the runoff of Tin Ping Road pavement is collected by the roadside drainage system; the runoff from Catchment A3 will be collected by the pedestrian side drainage along the Ting Ping Road; runoff of Catchment B is drained through other catchments since the elevation of the Site is higher; runoff of Catchment C is collected by the drainage system at the downhill side along Tin Ping Road; runoff of Catchment D is collected by the downhill sides of the school perimeter drainage system and directed to the nullah that runs to the north to west of the Catchment; runoff of Catchment E is collected by the nullah to the north of the Catchment; runoff of Catchment F is collected by the drainage system on Tin Ping Road; runoff of Catchment H is collected by the drainage system on Tin Ping Road.
- 3.2.9 As such, only runoff arising from Catchments A1 and A2 should be taken into account in this DIA. The runoff from Catchments A1 and A2 was estimated by Rational Method and information of the catchment area and runoff coefficients is necessary.
- 3.2.10 As discussed in *paragraph 3.2.6*, Catchments A1 and A2 are relatively flat and the runoff coefficients of paved surface and soft landscape are 0.95 and 0.25. The elevation will be 8.24mPD over the whole Catchment A1 after development, thus, a slope value of 0.002 has be adopted in the calculation. The paving conditions and runoff coefficients of Catchments A1 and A2 are summarised in *Table 3-2*.

Table 3-2: Surface Characteristics and Runoff Coefficients of Surrounding Catchments

CATCHMENT	AREA, m²	SURFACE CHARACTERISTICS	OVERALL RUNOFF COEFFICIENT
Catchment A1	1,970	72% paved + 28% soft landscape	0.75
Catchment A2 (underneath the proposed ramp)	50	90% paved + 10% grassland	0.88

3.3 Estimated Existing and Future Runoff

Peak Runoff from the Site

- 3.3.1 Based on the assumption as described in *paragraphs 3.2.1* to *3.2.6*, the runoff from the Site before and after development was estimated based on the return periods of 2, 10 and 50 years.
- As shown in *Table 3-3*, the estimated peak runoff generated from the Site is 0.069m³/s under 50 years return period. There will be around -28% of change in the estimated peak runoff after the proposed development under all assessed return periods. Detailed calculations are provided in *Appendix A*.

Table 3-3: Estimated Peak Runoff of the Site

	ESTIMATED PEAK RUNOFF (m³/s)				
RETURN PERIOD	BEFORE DEVELOPMENT	AFTER DEVELOPMENT	% CHANGE		
2 Years	0.063	0.044	-30%		
10 Years	0.080	0.058	-28%		
50 Years	0.096	0.069	-28%		

3.4 Proposed Drainage Layout

Drainage Point

- 3.4.1 Since the Site will be re-profiled to a higher elevation than the surrounding catchments, to prevent surcharge into other catchments, a perimeter drainage system will be constructed along the site boundary. The perimeter drainage system will be connected to an existing catchpit SCH1001794 south of the Site leading into an Ø525mm storm pipe which is located underneath Tin Ping Road to collect all runoff from the Proposed Development. The location of the existing catchpit SCH1001794 is shown on *Figure 3-1*.
- 3.4.2 Flow capacities of the existing storm pipe under the Tin Ping Road has been assessed. The assessment results of the maximum estimated discharge based on the return period of 50 years are summarised in *Table 3-4*, and the detailed assessment is provided in *Appendix B*.

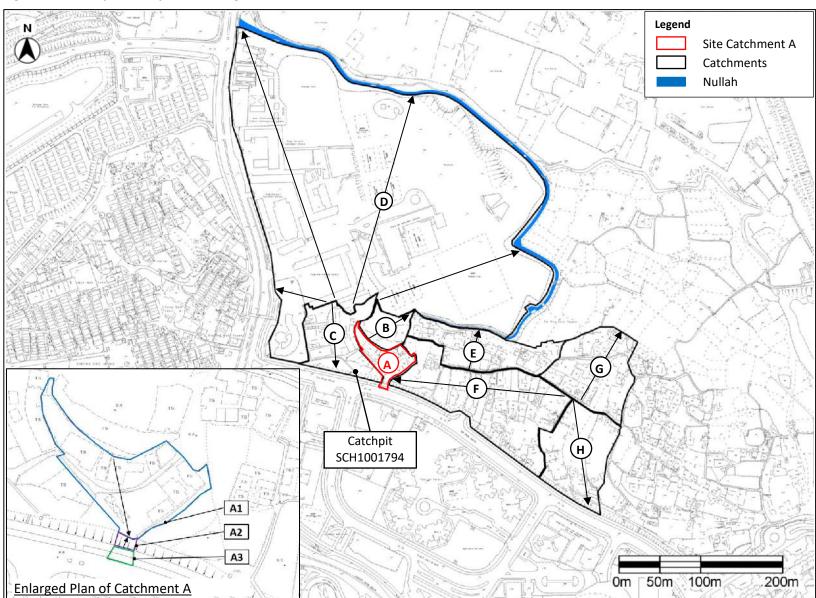
Table 3-4: Drainage Capacity of Existing Storm Pipe

Description	Size, mm	Related Catchment	Runoff, m³/s	Capacity, m³/s	% of Capacity Used	Sufficient Capacity?
Storm Pipe	525	A1 and A2	0.07	0.20	35%	YES

Summary

- 3.4.3 Drainage assessment of the proposed/existing drainage systems was conducted. Under the worst-case scenario, the existing storm pipe will be at approximately 35% of capacity.
- 3.4.4 As there is sufficient capacity of the storm pipe to collect runoff from Catchments A1 to A2 and there will be no increase in peak run off after the Proposed Development, it is anticipated that no adverse drainage impact would be arising from the Site after the Proposed Development, given that around 28% soft landscape through greenery and landscaping within the Site area.

Figure 3-1: Identification of Surrounding Catchments



D02 - DRAINAGE IMPACT ASSESSMENT REPORT

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories
Prepared for Champ Dynasty Ltd

4 CONCLUSION

- 4.1.1 Potential drainage impacts that may arise from the Site after construction of the Proposed Development have been assessed.
- 4.1.2 The peak runoff before and after the development of the Site were estimated using Rational Method and based on the catchment surface characteristics for the existing environment and the Proposed Development. The paving area of the Site will be about 72%, no additional surface runoff will be generated from the site.
- 4.1.3 Flow capacities of the existing storm pipe underneath Tin Ping Road were calculated using Manning's Equation. The maximum estimated peak flow of 0.069m³/s (runoff calculated based on a return period of 50 years) from the Site will account for 35% capacity of Ø525mm storm pipe under Tin Ping Road.
- 4.1.4 Thus, the existing stormwater system will have sufficient capacity to receive stormwater runoff from the Proposed Development and surrounding catchments. As a result, no adverse drainage impact to the existing drainage system is anticipated after the development of the Site, subject to the following condition:
 - (a) Around 28% of the Site area shall be soft landscape; and
 - (b) A perimeter drainage system will be installed along the site boundary to prevent surcharge into other catchments.
- 4.1.5 This DIA Report indicates the initial findings regarding drainage impact and indicative drainage layout. A qualified engineer should be engaged by the Architect/Contractor of the Proposed Development to review and provide detailed designs for the internal Site drainage layout, including the water storage tank. A "Drainage Proposal" including detailed designs based on calculations and quantitative assessments, as well as hydraulic model if necessary, shall be prepared by the qualified engineer and submitted to the drainage Authority, DSD, for their review and approval prior to the commencement of work.

Appendix A RUNOFF CALCULATIONS

Calculation of Runoff for Return Period of 2 Years

Catchment ID	Catchment Area (A),	Average slope (H),	Flow path length	Inlet time (t ₀), min	Duration (t _d),	Sto	rm Consta	nts	Runoff intensity (i),	Runoff coefficient (C)	CA	Peak runoff (Q _p),
Catchment ID	km²	m/100m	(L), m	iniet time (t ₀), min	min	а	b	С	mm/hr	Runon coemcient (C)	CxA	m³/s
Before the Proposed Develo	pment											
Catchment A1	0.0020	1.59	76.2	4.71	4.71	1004.5	17.24	0.644	137.44	0.81	0.0016	0.061
Catchment A2	0.0000	45.44	5.7	0.26	0.26	1004.5	17.24	0.644	159.01	0.88	0.0000	0.002
											Total	0.063
After the Proposed Develop	ment											
Catchment A1	0.0020	0.00	76.2	17.89	17.89	1004.5	17.24	0.644	101.52	0.75	0.0015	0.042
Catchment A2	0.0000	37.02	5.7	0.27	0.27	1004.5	17.24	0.644	158.95	0.88	0.0000	0.002
		•	•	•			•				Total	0.044

Calculation of Runoff for Return Period of 10 Years

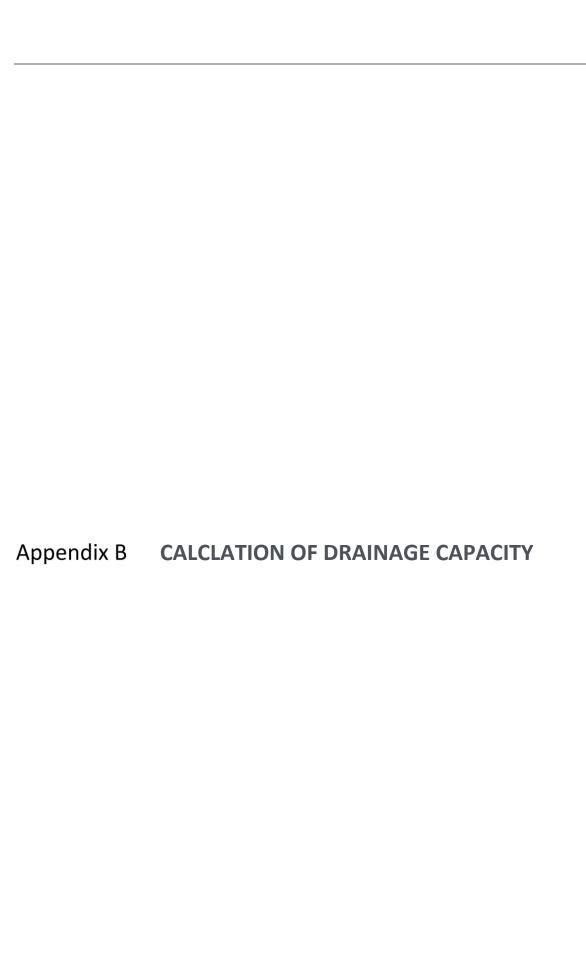
Cotab manual ID	Catchment Area (A),	Average slope (H),	Flow path length	La la tata a la ancha	Duration (t _d),	Sto	rm Consta	nts	Runoff intensity (i)	B	04	Peak runoff (Q _p),
Catchment ID	km²	m/100m	(L), m	iniet time (t ₀), min	min	а	b	С	mm/hr	Runoff coefficient (C)	CxA	m³/s
Before the Proposed Develo	pment											
Catchment A1	0.0020	1.59	76.2	4.71	4.71	1157.7	19.04	0.597	174.73	0.81	0.0016	0.078
Catchment A2	0.0000	45.44	5.7	0.26	0.26	1157.7	19.04	0.597	197.75	0.88	0.0000	0.002
											Total	0.080
After the Proposed Develop	ment											
Catchment A1	0.0020	0.00	76.2	17.89	17.89	1157.7	19.04	0.597	134.24	0.75	0.0015	0.055
Catchment A2	0.0000	37.02	5.7	0.27	0.27	1157.7	19.04	0.597	197.68	0.88	0.0000	0.002
											Total	0.058

Calculation of Runoff for Return Period of 50 Years

Catchment ID	Catchment Area (A),	Average slope (H),	Flow path length	Inlet time (t ₀), min	Duration (t _d),	Sto	rm Consta	nts	Runoff intensity (i)	Runoff coefficient (C)	CxA	Peak runoff (Q _p),
Catchment ID	km²	m/100m	(L), m	iniet time (t ₀), min	min	а	b	С	mm/hr	Runom coemicient (C)	CXA	m³/s
Before the Proposed Develo	pment											
Catchment A1	0.0020	1.59	76.2	4.71	4.71	1167.6	16.76	0.561	209.02	0.81	0.0016	0.093
Catchment A2	0.0000	45.44	5.7	0.26	0.26	1167.6	16.76	0.561	238.08	0.88	0.0000	0.003
After the Proposed Develop	ment										Total	0.096
Catchment A1	0.0020	0.00	76.2	17.89	17.89	1167.6	16.76	0.561	159.78	0.75	0.0015	0.066
Catchment A2	0.0000	37.02	5.7	0.27	0.27	1167.6	16.76	0.561	238.00	0.88	0.0000	0.003
											Total	0.069

Note:

1) Runoff is calculated in accordance with DSD's "Stormwater Drainage Manual (with Eurocodes incorporated) - Planning, Design and Management" (SDM), fifth edition, January 2018.



Calculation of Drainage Capacity for Return Period of 50 Years

Drainage Capacity of Existing Storm Pipe

From	То	Description	Shape	Base Width	Depth	Leg	Diameter	Start Level	Emd Level	Slope (s)	Cross Section Area, m2	Wetted Perimeter	Hydaralius Radius, m	_	Mean Velocity, m/s		Total Runoff	% of capacity	Remark
Proposed Site Perimeter Drainage	Storm Pipe	Existing Storm Pipe	U-Shape	-	1		0.525	-		0.0020	0.25	1.35	0.18	0.018	0.80	0.20	0.07	35%	ОК

<u>Legend</u>

d = pipe diameter, m

r = pipe radius (m) = 0.5d

 $A_w = wetted area (m^2) = \pi r^2$

 P_w = wetted perimeter (m) = 2π r R = Hydraulic radius (m) = A_w/P_w s = Slope of the total energy line

k_s = equivalent sand roughness, mm

V = Velocity of flow calculated based on Colebrook White Equation, m/s

Q_c = Flow Capacity (10% sedimentation incorporated), m³/s

Q_p = Estimated total peak flow from the Site during peak season, m³/s

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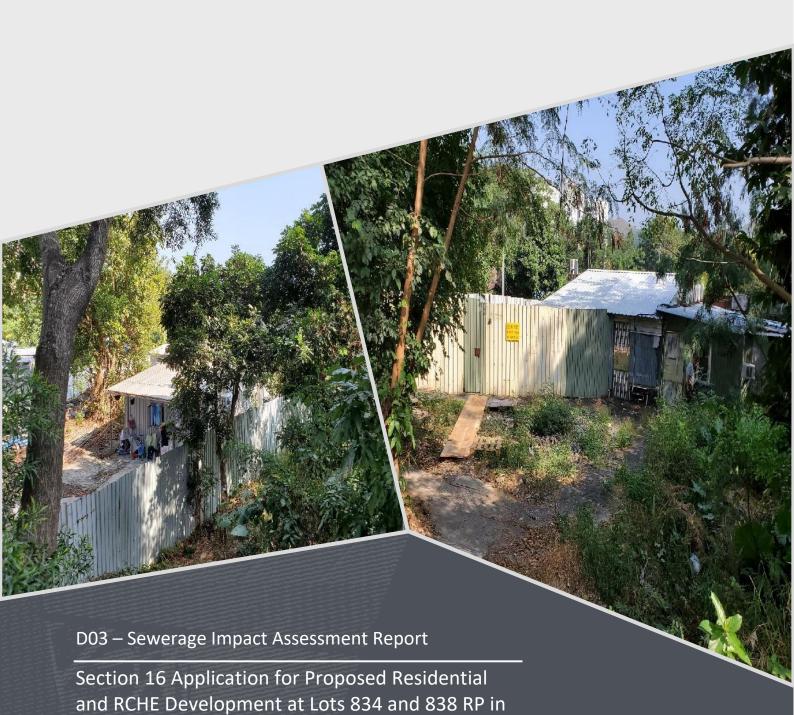
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Ref.: ADCL_PLG_10238_R001a

Appendix | VI

Sewerage Impact Assessment





Prepared for Champ Dynasty Ltd 17 August 2022

D.D.52 and adjoining Government Land, Tin Ping

Road, Sheung Shui, New Territories

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1 INTRODUCTION

1.1 Background

- 1.1.1 A previous planning application A/FSS/279 was made for a Proposed Development with a 4-storeys residential building ("Domestic (Flat)") and a 4-storeys Residential Care Home for the Elderly ("RCHE") at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Ting Ping Road, Sheung Shui, NT, which has been approved by Town Planning Board ("TPB") on 29 October 2021.
- 1.1.2 Champ Dynasty Ltd ("the Applicant"), now would like to submit a new application under Section 16 of the Town Planning Ordinance ("TPO") for the Proposed Development with a 4-storeys Domestic (Flat) and a 7-storeys RCHE with minor relaxation of building height restriction and different development parameters at the same location.
- 1.1.3 In order to support the S16 planning application made to TPB, SMEC Asia Ltd ("SMEC") has been commissioned by the Applicant to prepare this Sewerage Impact Assessment ("SIA") Report to support the new Section 16 Planning Application.

1.2 **Site Description**

- 1.2.1 The Site area is approximately 2,092.6 m² and it is located to the north of Tin Ping Road as shown on *Figure 1-1*. The Site is currently occupied with some temporary structures for dwellings and partly covered by vegetation.
- 1.2.2 The Site location and its environs are shown on *Figure 1-1* which the uses surrounding the Site include:
 - To the north: Fung Kai Kindergarten, Fung Kai Primary School, Fung Kai No.1 Secondary School and Fung Kai Innovative School
 - To the west and east: Village dwellings and residential temporary structures
 - To the south: Tin Ping Road, Sheung Shui Fire Station and Hong Kong Institute of Construction Sheung Shui Campus
- 1.2.3 The Proposed Development will comprise a 4-storeys Domestic (Flat) and a 7-storeys RCHE. For the details of the Proposed Development, the indicative layout and sectional plans can be referred to **Appendix 1** of the Planning Statement of the Planning Application.

1.3 Objectives of the Report

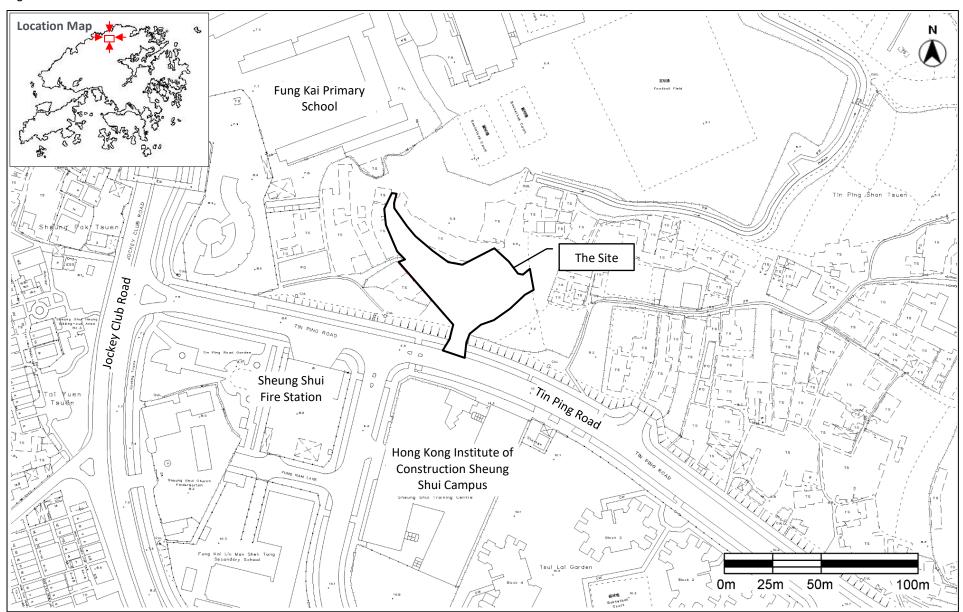
- 1.3.1 The objectives of this SIA Report are to:
 - Assess potential sewerage impacts arising from the Project
 - Recommend necessary mitigation measures to alleviate the impacts

1.4 Reference Materials

- 1.4.1 In evaluating the sewerage impacts arising from the Proposed Development, the following sources have been specifically referred to:
 - Drainage Services Department (DSD) publication Sewerage Manual (with Eurocodes incorporated) (Part 1) Key Planning Issues and Gravity Collection System, Third Edition, May 2013.
 - Environmental Protection Department (EPD) publication Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0, March 2005, (GESF).

- Planning Department (PlanD) planning study *Commercial and Industrial Floor Space Utilization Survey* (CIFSUS).
- Drainage Record Sheets (Sheet No. 3-SW-1D-1, 3-SW-1D-2, 3-SW-1D-3 and 3-SW-1D-4) obtained from DSD on 7 December 2020.
- GeoInfo Map (www.map.gov.hk) reviewed on 6 April 2022.

Figure 1-1: Site Location and its Environs



2 EVALUATION OF SEWERAGE IMPACT

2.1 Existing Baseline Conditions

- 2.1.1 The pubic sewers in the vicinity of the Site are shown on *Figure 2-1*.
- 2.1.2 With reference to the drainage record plans no. 3- SW-1D-1, 3-SW-1D-2, 3-SW-1D-3 and 3-SW-1D-4 obtained from DSD, there are existing municipal sewers in the vicinity of the Site with one pipe with diameter of 300mm that runs from southeast to southwest of the Site.
- 2.1.3 The 300mm pipe at the southeast of the Site will convert to a 225mm pipe after it flows southeast towards the end of Tin Ping Road, reaching Jockey Club Road, it connects to a 225m pipe. This 225mm pipe further runs south for a few segments then links to a 450mmm pipe and further flows downstream.

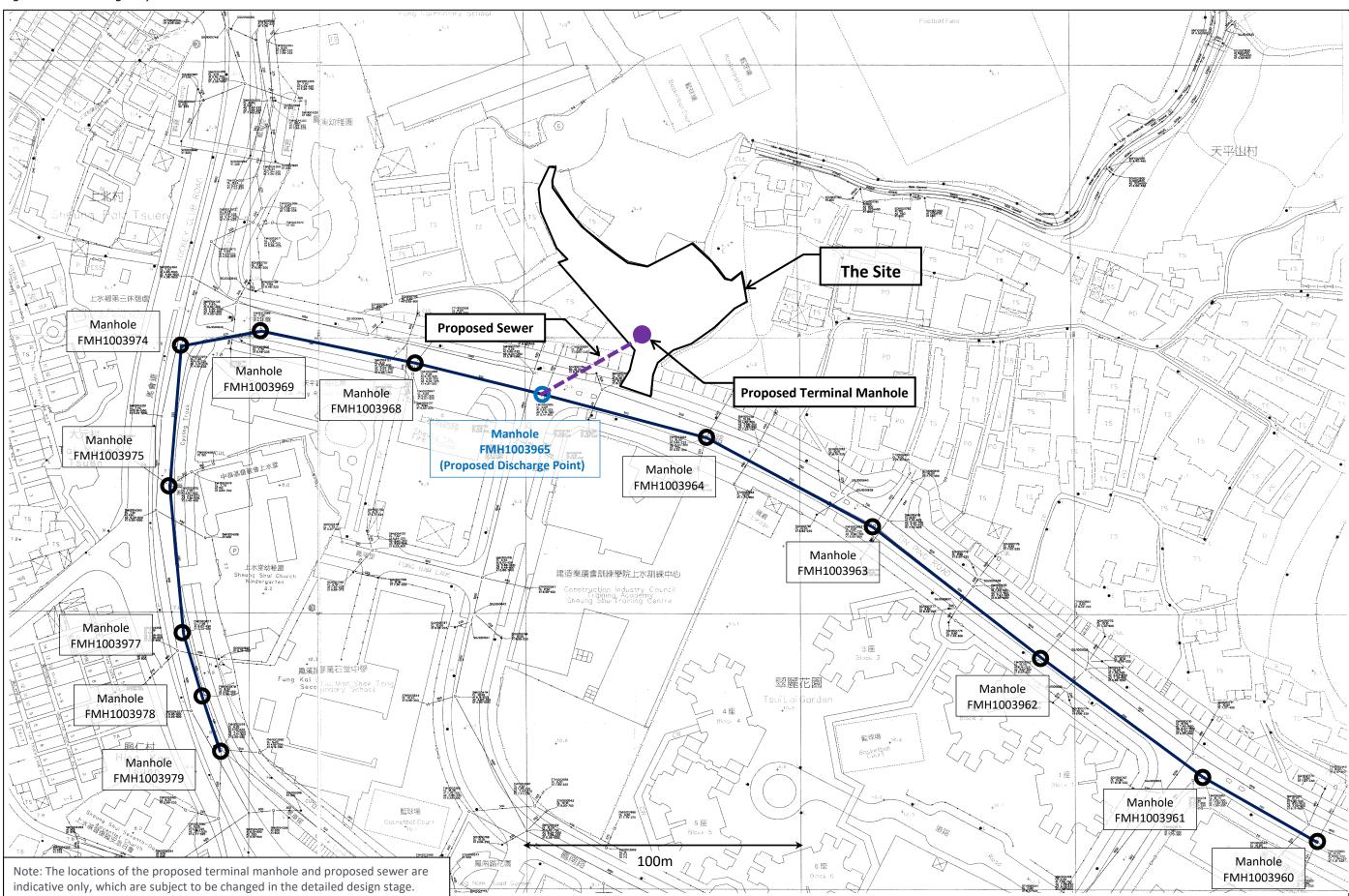
2.2 Sewage Discharge for the Proposed Development

2.2.1 Sewage arising from the Proposed Development will be proposed to discharge to the proposed terminal manhole and convey to Manhole FMH1003965 at the south of the Site and flow through the existing sewer of 300mm diameter beneath Tin Ping Road. The abovementioned sewer flow west to join the 225mm sewer for upper catchments at Manhole FMH1003974 which will then flows to the south along Jockey Club Road to join a 450mm sewer. The proposed sewerage connection to existing municipal sewer is shown *Figure 2-1*.

2.3 Sewerage Impact during Operation Phase

- 2.3.1 During the operation of the Proposed Development, the major source of wastewater from the residential block will be sewage from toilets and kitchens generated by the residents of the Proposed Development. For the elderly home, the major source of wastewater will be sewage from toilets generated by the residents and employees, and wastewater generated from the kitchen.
- 2.3.2 Wastewater will be discharged to the proposed terminal manhole and further to Manhole FMH1003965 at the south of the Site and from there will flow along the public sewerage system beneath Tin Ping Road.

Figure 2-1: Sewerage Layout Plan



3 SEWERAGE ANALYSIS

3.1 Assumptions

3.1.1 In order to assess the acceptability of the sewerage impact arising from operation of the Proposed Development, the sewage generation has been estimated based on the assumptions shown in *Table 3-1*. Unit Flow Factors (UFF), catchment inflow factors and peaking factors were made reference to GESF.

Table 3-1: Parameters for Estimating Wastewater Generation from the Site

PARAMETER	VALUE	JUSTIFICATION
Generation from Domestic		
No. of Units	38 flats	Based on current scheme.
Resident Density	2.7 persons per household	According to 2021 population census, based on Fung Tsui, North District
UFF of Residents	0.37m³/day/person	UFF for Private R3 type in Table T-1 of GESF is assumed.
Generation from RCHE		
No. of Employees	24	Based on requirements for care and attention home stated in Schedule 1 of CAP 459A Residential Care Homes (Elderly Persons) Regulation.
UFF of Employee	0.28m³/day/employee	UFF for "Commercial Employee+J11 Community, Social & Personal Services" in Table T2 of GESF.
No. of Residents	210	Based on the no. of beds of current scheme
UFF of Residents	0.19m³/day/person	Unit flow factor for "Institutional and special class" in Table T-1 of GESF.
Area of Kitchen	15m ²	Based on current scheme
Staff Occupancy Density	4.5m ² /person	Based on occupancy factor in Table B1 of Code of Practice for Fire Safety in Building 2011.
UFF of Residents	1.58m³/day/person	Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of GESF.
Catchment Inflow Factor a	nd Peaking Factor	
Catchment Inflow Factor	1.00	Catchment inflow factor for North District is adopted as stated in Table T-4 of GESF.
Peaking Factor	8 for <1,000 6 for 1,000 - 5,000 5 for 5,000 - 10,000	Peaking factor (including stormwater allowance) for facility with existing upstream sewerage is adopted as stated in Table T-5 of GESF.

3.2 Methodology

- 3.2.1 In order to evaluate the capacities of sewers, the wastewater generation from the upstream and downstream catchments of the receiving sewers are estimated to further study the acceptability of the sewerage impact arising from operation of the Proposed Development.
- 3.2.2 The capacities of the downstream sewers have been calculated using Colebrook-White Equation for circular pipes flowing full, assuming full bore flow with no surcharge, as below:

$$V = -\sqrt{8gDs} * \log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{2gDs}}\right)$$

where

V = mean velocity (m/s)

g = gravitational acceleration (m/s²)

D = internal pipe diameter (m)

ks = hydraulic pipeline roughness (m)

v = kinematic viscosity of fluid (m²/s)

s = hydraulic gradient (energy loss per unit length due to friction)

- Flow capacities for pipe segments from Manhole FMH1003960 all the way to Manhole FMH1003979 underneath Tin Ping Road and Jockey Club Road were calculated.
- 3.2.4 Sewerage systems are designed and sized to ensure that (when examined from any point) the downstream sections have sufficient capacity for the sewage flowing from all the sections upstream, provided that the capacity of the upstream sections is not exceeded. Thus, if the sewerage system can provide sufficient receiving capacity for the cumulative sewage quantities generated from the Project and from the upstream catchments, there should be no unacceptable impact on the downstream sewerage system.
- 3.2.5 To evaluate the flow rate from residents in the domestic premise, the UFFs as recommended in GESF have been used. To evaluate the flow rate from employees and residents in the elderly home, the UFFs as recommended in GESF have been used
- 3.2.6 Sewage generation from operation of the Proposed Development and also the upstream and downstream catchments has been calculated, a layout plan showing the catchment areas is detailed in *Appendix A* and sewage generation calculations are provided in *Appendix B*. Flow capacities for pipe segments of the receiving sewerage system are estimated via Colebrook-White Equation and detailed in *Appendix C*.

3.3 Results and Discussion

- 3.3.1 Detailed sewage generation calculations are provided in *Appendix B*. As can be seen, the total estimated average daily dry weather flow from the Proposed Development is calculated to be 91.05m³/day during operation which will be discharged to Manhole FMH1003965 and flow through the existing sewer of 300mm diameter beneath Tin Ping Road.
- 3.3.2 To determine potential sewerage impact arising from the Proposed Development, the capacity of proposed sewer and the existing municipal sewerage system between adjacent upstream and downstream manholes has been evaluated in *Appendix C*.
- 3.3.3 If the peak sewage flow from the Proposed Development and the existing sewage flows do not exceed the capacity of the existing downstream sewerage system (i.e., less than 100% capacity), there should be no unacceptable impact on the existing sewerage system resulting from the addition of the Proposed Development.
- 3.3.4 Sewage from other properties/uses upstream and downstream discharged to the sewerage system between the Manhole FMH1003960 to Manholes FMH1003979 have been taken into account in the evaluation. The estimation result was summarised in *Table 3-2*.

Table 3-2: Utilisations between Manholes FMH1003960 and FMH1003979

MANHOLE		LEVEL	LEVEL (IN),	LENGTH,	PIPE	% OF
From	То	(OUT), mPD	mPD "	m	DIAMETER, mm	CAPACITY USED
Terminal Manhole	FMH1003965	6.20	5.60	45.0	0.150	58%
FMH1003960	FMH1003961	7.31	7.00	47.4	0.300	18%
FMH1003961	FMH1003962	7.00	6.51	73.6	0.300	21%
FMH1003962	FMH1003963	6.51	6.00	78.1	0.300	22%
FMH1003963	FMH1003964	6.00	5.54	69.4	0.300	23%
FMH1003964	FMH1003965	5.54	5.14	61.2	0.300	27%
FMH1003965	FMH1003968	5.14	4.81	48.6	0.300	30%
FMH1003968	FMH1003969	4.81	4.42	56.4	0.300	31%
FMH1003969	FMH1003974	4.42	4.15	29.6	0.225	58%
FMH1003974	FMH1003975	4.15	3.67	51.6	0.225	94%
FMH1003975	FMH1003877	3.45	3.23	52.8	0.450	32%
FMH1003877	FMH1003978	3.23	3.08	23.2	0.450	26%
FMH1003978	FMH1003979	3.08	3.05	20.6	0.450	55%

- 3.3.5 As shown in *Table 3-2*, the utilisation of public submain sewer from Manholes FMH1003960 to FMH1003975 is between 18% and 94% of the available sewerage capacity when taking into consideration the sewage contributed by the Proposed Development and also the upstream and downstream catchments. The utilisation rate of proposed sewer connecting terminal manhole and FMH1003965 is 58%. This shows that less than 100% of the available capacity will be used and so there should be no unacceptable impact on the existing sewerage system resulting from the addition of the Proposed Development.
- 3.3.6 Overall, therefore, the sewerage analysis indicates there will be no unacceptable impact on the existing downstream sewerage system under the worst-case scenario for existing flows and the peak sewage discharge from the Proposed Development.

Prepared for Champ Dynasty Ltd

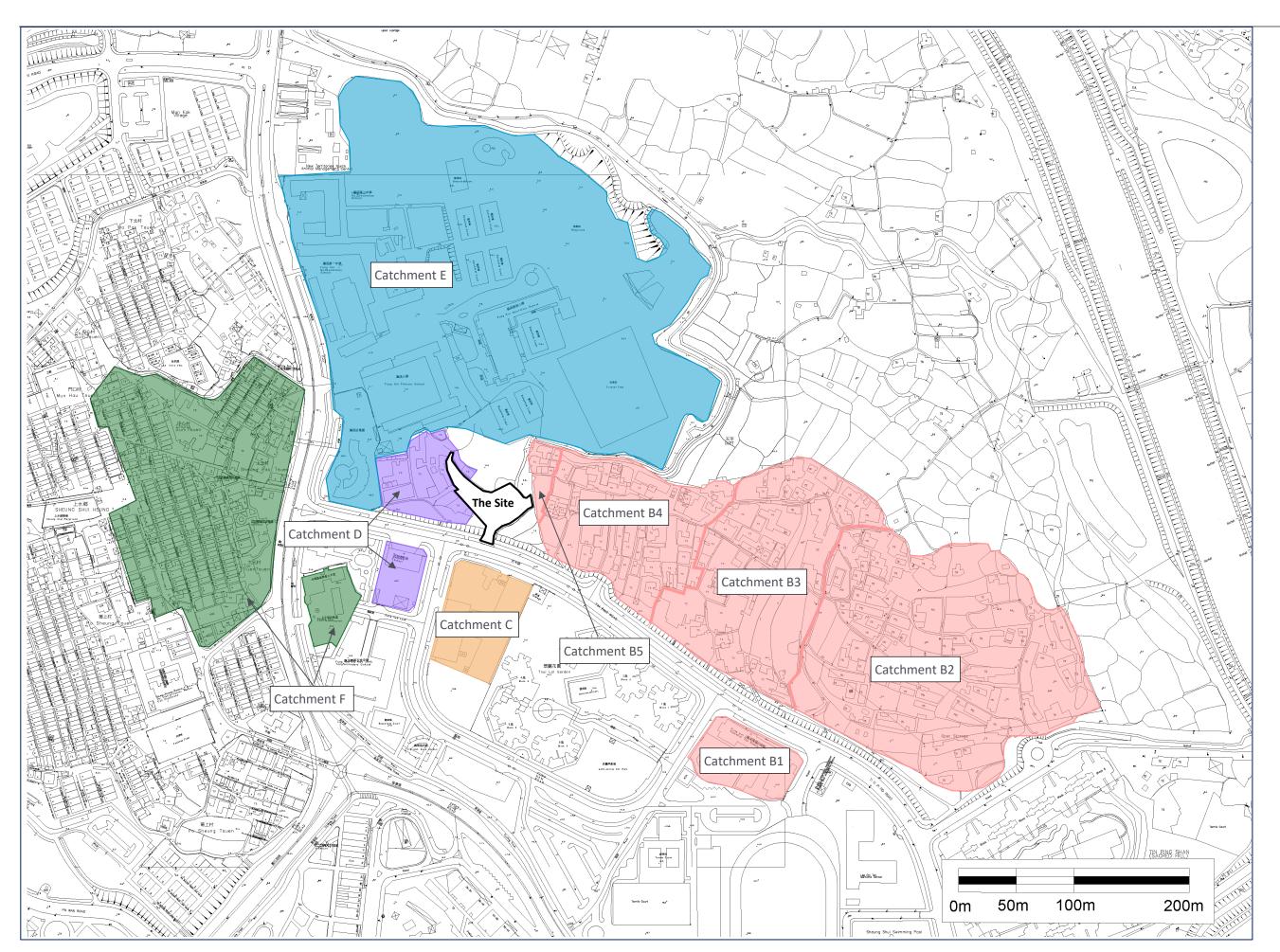
3-3

4 CONCLUSIONS AND RECOMMENDATIONS

- 4.1.1 Potential sewerage impacts arising from the Proposed Development have been assessed.

 Sewage generated from the Proposed Development will be collected and conveyed to the public sewerage system at Manhole FMH1003965 underneath Tin Ping Road.
- 4.1.2 The capacity of the sewerage system has been evaluated while sewage from other properties/uses upstream and downstream discharged to the sewerage system between the Manholes FMH1003960 and FMH1003979 have been taken into account in the evaluation.
- 4.1.3 The total estimated average daily dry weather flow from Proposed Development is calculated to be 91.05m³/day. The utilisations between Manholes FMH1003960 and FMH1003979 are ranged between 18% and 94% of the available sewerage capacity, when taking into consideration the sewage contributed by the Proposed Development and also the upstream and downstream catchments. The utilisation rate of proposed sewer connecting terminal manhole and FMH1003965 is 58%. This shows that less than 100% of the available capacity will be used and so there should be no unacceptable impact on the existing sewerage system resulting from the addition of the Proposed Development.
- 4.1.4 Overall, therefore, the sewerage analysis indicates there will be no unacceptable impact on the existing downstream sewerage system under the worst-case scenario for existing flows and the peak sewage discharge from the Proposed Development at the Site.

Annendiy A	LOCATION PLAN OF CATCHMENT AREAS
Appendix A	LOCATION PLAN OF CATCHMENT AREAS
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Appendix A	LOCATION PLAN OF CATCHMENT AREAS



Appendix B	CALCULATION OF SEWAGE FLOW GENERATION

Health worker = 5 Ferrono(s) Nume = 1 Persono(s) Nume = 1 Persono(lation of Sewage Generation from the Proposed Develop	ment		Remarks / Justification
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Conce unifor (15.00 - 15.00)	Ancillary worker	_	6 Porcon(c)	1 ancillary worker for every 40 residents or part thereof, between 7 a.m. and 6 p.m. for care and
Circ worker (1250-0720) = 0 Person(s) Circ worker (1250-0720) = 0 Person(s) 1948 Worker		=	6 Person(s)	
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Learner (27200 0700) - \$ 4 Person(s) When - \$ 5 Person(s) When - \$ 1 Person(s) When - \$ 2 Person(s) When -	Care worker (15:00 - 22:00)			
Second Content (220-1200)	Cure Worker (25:00 22:00)	=	6 Person(s)	
teath warer S Person(s)	Care worker (22:00 - 07:00)	_	4 Person(s)	1 care worker for every 60 residents or part thereof, between 10 p.m. and 7 a.m. for care and atten-
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of leaf 12 Of Ref. 2 Are and Folithon Continents inflow Factor for "Commercial Employee-113 Rectaurants & Mortels" in Table 1-2 of Ref. 1. As advised by the Applicant Beautiful Community, Social & Personal Services" in Table 1-2 of Ref. 1. As advised by the Applicant Are advised to the Folithon Factor for "North Distorct" in Table 1-2 in Ref. 1. As advised by the Applicant Are advised in the Folithon Factor for "Commercial Employee-113 Rectaurants & Mortels" in Table 1-2 of Ref. 1. As advised by the Applicant Are advised in the Folithon Factor for "Commercial Employee-113 Rectaurants & Mortels" in Table 1-2 of Ref. 1. As advised by the Applicant Are advised in the Folithon Factor for "Commercial Employee-113 Rectaurants & Mortels" in Table 1-2 of Ref. 1. As advised by the Applicant Are an Are advised in the Folithon Factor for "Commercial Employee-113 Rectaurants & Mortels" in Table 1-2 of Ref. 1. As	Nurse			
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Saff Coupany Density				
Saff Coupany Density	Area of Kitchen	=	15.0 m ²	As advised by the Applicant
No. of Exhibition Staff		=		
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Stark Star and Attention Home for the Elderty	Total ADWF from Catchment (A)	=	91.05 m ³ /day	
Stark Star and Attention Home for the Elderty				
Section Sect	lation of Sewage Generation from Upstream and Downst			Remarks / Justification
No. of Employee Init Flow Factor (DFF) per resident Init Flow Factor (DFF) per resi		ream Catchi	ment	itematiks / Justinication
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Estimated Total average daily dry weather flowflow rate 42.0 m²/day No. of Residents 232 Person(s) Unit flow Factor (UFF) per resident 232 Person(s) Lint flow Factor (UFF) per resident 234 flat(s) Lint flow Factor (UFF) per resident 235 m²/day/person Lint flow Factor (UFF) per resident	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly			
No. of Residents = 222 Person(s) Unit flow Factor (UFF) per resident = 0.19 m²/day/person 44.1 m²/day No. of Kitchen Staff = 5 Person(s) No. of Kitchen Staff = 5 Person(s) With reference to the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 residents of the Proposed Development, 4 kitchen staff can serve 220 reside	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee	=	150 employee(s)	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨=
Unit flow factor (UFF) per resident = 0.19 m²/day/person 44.1 m²/day No. of Kitchen Staff = 5 Person(s)	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee	=	150 employee(s) 0.28 m³/day/employee	
Unit flow factor (UFF) per resident = 0.19 m²/day/person 44.1 m²/day No. of Kitchen Staff = 5 Person(s)	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee	=	150 employee(s) 0.28 m³/day/employee	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨=
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No. of Residents = 76 Person(s) Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rat = 11.4 m³/day 15 Village (part D) Residential Use No. of Units = 10 flat(s) No. of Residents = 27 Person(s) Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rat = 4.1 m³/day	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residentia Use No. of Units Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C)		150 employee(s) 0.28 m³/day/employee 42.0 m²/day 232 Person(s) 0.19 m²/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen statessumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census
Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rate = 11.4 m³/day Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. Unit flow factor for Traditional Village type in Table T-1 of Ref. 1. Unit flow factor for Traditional Village type in Table T-1 of Ref. 1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day/person	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen sta assumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow rate = 11.4 m³/day 15. Village (part D) Residential Use No. of Units = 10 flat(s) As advised by the Applicant No. of Residents = 27 Person(s) Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rate = 4.1 m³/day Unit flow factor for Traditional Village type in Table T-1 of Ref.1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units	= = = = = = = = = = = = = = = = = = =	150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow rate = 11.4 m³/day 15. Village (part D) Residential Use No. of Units = 10 flat(s) As advised by the Applicant No. of Residents = 27 Person(s) Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rate = 4.1 m³/day Unit flow factor for Traditional Village type in Table T-1 of Ref.1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units	= = = = = = = = = = = = = = = = = = =	150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
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Residential Use No. of Units No. of Pesidents No. of Residents No. of Inits No. of Residents No. of Inits No. o	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Olinits No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+)11 Community, Social & Personal Services" in Table Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+)10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
No. of Units Ro. of Residents 10 flat(s) 27 Person(s) 27 Person(s) 4.1 m³/day/person Estimated Total average daily dry weather flowflow rate = 4.1 m³/day As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor (UFF) per resident 20.15 m³/day/person 4.1 m³/day Unit flow factor for Traditional Village type in Table T-1 of Ref.1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Onlits No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residental Use No. of Units No. of Residential Use No. of Inits		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+)11 Community, Social & Personal Services" in Table Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+)10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
No. of Residents = 27 Person(s) Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow Factor (UFF) per resident = 0.15 m³/day/person Estimated Total average daily dry weather flowflow rate = 4.1 m³/day Unit flow factor for Traditional Village type in Table T-1 of Ref.1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Gesidents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D)		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow rate = 4.1 m ³ /day	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use Residential Use		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day/person 16.2 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen stassumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow rate = 4.1 m ³ /day	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Onlits No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Hostor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units		150 employee(s) 0.28 m³/day/employee 42.0 m²/day 232 Person(s) 0.19 m²/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day 28 flat(s) 76 Person(s) 0.15 m³/day/person 11.4 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Propr RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen sta assumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow rati = 4.1 m³/day	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Onlits No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Hostor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units		150 employee(s) 0.28 m³/day/employee 42.0 m²/day 232 Person(s) 0.19 m²/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day 28 flat(s) 76 Person(s) 0.15 m³/day/person 11.4 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Propa RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen sta assumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units No. of Olitis No. of Olitis No. of Olitis No. of Olitis No. of Units No. of Units No. of Olitis No. of Residents		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day 28 flat(s) 76 Person(s) 0.15 m³/day/person 11.4 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prope RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen sta assumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Catchment Inflow Factor = 1.00 Catchment Inflow Factors for "North District" in Table T4 in Ref. 1.	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowfilow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowfilow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowfilow rate 2 Village (part A) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowfilow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowfilow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowfilow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day/person 11.4 m³/day 10 flat(s) 76 Person(s) 0.15 m³/day/person 11.4 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prope RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen sta assumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.
Total ADWF from Catchment (B) = 159.68 m ³ /day	Catchment (B) 1 Fung Kai Care and Attention Home for the Elderly No. of Employee Unit Flow Factor (UFF) per employee Estimated Total average daily dry weather flowflow rate No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate No. of Kitchen Staff Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 2 Village (part A) Residential Use No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 3 Village (part B) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 4 Village (part C) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Units No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Residents Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate 5 Village (part D) Residential Use No. of Residents Unit flow Factor (UFF) per resident		150 employee(s) 0.28 m³/day/employee 42.0 m³/day 232 Person(s) 0.19 m³/day/person 44.1 m³/day 5 Person(s) 1.58 m³/day/person 7.9 m³/day 84 flat(s) 227 Person(s) 0.15 m³/day/person 34.1 m³/day 40 flat(s) 108 Person(s) 0.15 m³/day/person 16.2 m³/day/person 11.4 m³/day 10 flat(s) 76 Person(s) 0.15 m³/day/person 11.4 m³/day	https://ngo.hkcss.org.hk/ngo/153?search_str=?⟨= Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table 1 Information provided in http://www.fungkaiss.org.hk/ Unit flow factor for "Institutional and special class" in Table T-1 of Ref.1. With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop. RCHE. As such, for 232 residents of Fung Kai Care and Attention Home for the Elderly, 5 kitchen statessumed. Unit flow factor for "Commercial Employee+J10 Restaurants & Hotels" in Table T-2 of Ref.1. Based on information provided by Survey Map Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1. As advised by the Applicant Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census Unit flow factor for Traditional Village type in Table T-1 of Ref.1.

Catchment (C)		
HK Institution of Construction Sheung Shui Campus		
Floor Area (1 storey)	= 3,426 m ² 2,741	Based on information provided in Survey Map Assumed 80% of total floor area.
Staff Occupancy Density	= 20 m ² /sta	
No of Staff	= 27 staff	Assume 1/5 storey is used as office
Unit Flow Factor (UFF) per staff	= 0.28 m³/da	Ref.1.
Estimated Total average daily dry weather flowflow rate	•	
No. of Students	= 265 studer	2021 (i.e. 530) go to the Sheung Shui Campus as worst case scenario.
Unit flow rate	= 0.040 m ³ /da	//student Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref. 1.
Estimated flow rate	= 10.6 m ³ /da	
No. of Kitchen Staff	= 7 Perso	n(s) With reference to the Proposed Development, 4 kitchen staff can serve 210 residents of the Prop RCHE. As such, for 265 students of Sheung Shui HKIC, 7 kitchen staff is assumed.
Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate	= 1.58 m ³ /da	
Catchment Inflow Factor =	= 11 m ³ /da = 1.00	Catchment Inflow Factors for "North District" in Table T4 in Ref. 1.
Total ADWF from Catchment (D)	= <u>29.33</u> m ³ /da	
Catchment (D)		
1 <u>Sheung Shui Fire Station</u> Total Floor Area	= 1,104 m ²	Based on information provided in Survey Map
Usable Floor Area	= 773	Assumed 70% of total floor area.
Staff Occupancy Density	20 111 /512	ff Worker density for "Business Use" is 20 - 25 m ² /staff as stated in Table 2 of Ref.4, 20 m ² /staff ado as worst case scenario.
No of Staff Unit Flow Factor (UFF) per staff	= 39 staff = 0.28 m ³ /da	//staff Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table
Ont Flow Pactor (OFF) per stan	- 0.26 m /da	Ref.1.
Estimated Total average daily dry weather flowflow	= 10.8 m ³ /da	,
2 <u>Village</u> No. of Units	= 6 flat(s)	Based on information provided in Survey Map
No. of Residents	= 17 Perso	
Unit flow Factor (UFF) per resident Estimated Total average daily dry weather flowflow rate	= 0.15 m ³ /da = 2.6 m ³ /da	
Catchment Inflow Factor =	= 1.00	Catchment Inflow Factors for "North District" in Table T4 in Ref. 1.
Total ADWF from Catchment (D)	= <u>13.37</u> m ³ /da	
Catchment (E)		
1 <u>Fung Kai Kindergarten</u> No. of Students	= 405 studer	its Based on information on the school website.
Unit flow rate	= 0.040 m³/da	l
Estimated flow rate	= 16.2 m³/da	
No. of Staff	= 56 staff	Based on information on the school website.
Unit flow rate	= 0.280 m ³ /da	//staff Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Ref.1.
Estimated flow rate		
Estimated flow rate	= 15.68 m ³ /da	
Estimated flow rate Estimated Total average daily dry weather flowflow rate		,
		,
Estimated Total average daily dry weather flowflow rates 2 Fung Kai Primary School No. of Students	= 31.9 m ³ /da = 1118 studer	ts Based on information on the school website.
Estimated Total average daily dry weather flowflow rates 2 Fung Kai Primary School	= 31.9 m³/da	uts Based on information on the school website. #/student Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref. 1.
Estimated Total average daily dry weather flowflow rate: 2 <u>Fung Kai Primary School</u> No. of Students Unit flow rate	= 31.9 m ³ /da = 1118 studer = 0.040 m ³ /da	its Based on information on the school website. #/student Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref. 1.
Estimated Total average daily dry weather flowflow rate 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate	= 31.9 m ³ /da = 1118 studer = 0.040 m ³ /da = 44.7 m ³ /da	Based on information on the school website. //student
Estimated Total average daily dry weather flowflow rate: 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff	= 31.9 m ³ /da = 1118 stude: = 0.040 m ³ /da = 44.7 m ³ /da	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T Ref.1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Ref.1.
Estimated Total average daily dry weather flowflow rate: 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff Unit flow rate	= 31.9 m ³ /da = 1118 stude = 0.040 m ³ /da = 44.7 m ³ /da = 74 staff = 0.280 m ³ /da = 20.72 m ³ /da	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T Ref. 1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Ref. 1.
Estimated Total average daily dry weather flowflow rate: 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff Unit flow rate Estimated flow rate	= 31.9 m ³ /da = 1118 stude = 0.040 m ³ /da = 44.7 m ³ /da = 74 staff = 0.280 m ³ /da = 20.72 m ³ /da	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T Ref. 1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Ref. 1.
Estimated Total average daily dry weather flowflow rate: 2 Fung Kal Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff Unit flow rate Estimated flow rate Estimated flow rate Estimated Total average daily dry weather flowflow rate: 3 Fung Kal No.1 Secondary School No. of Students	= 31.9 m ³ /da = 1118 studen = 0.040 m ³ /da = 44.7 m ³ /da = 74 staff = 0.280 m ³ /da = 20.72 m ³ /da = 65.4 m ³ /da = 825 studen	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T Ref. 1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table Ref. 1. Based on information on the school website.
Estimated Total average daily dry weather flowflow rate- 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff Unit flow rate Estimated flow rate Estimated flow rate Estimated flow rate	= 31.9 m³/da = 1118 stude = 0.040 m³/da = 44.7 m³/da = 74 staff = 0.280 m³/da = 20.72 m³/da = 65.4 m³/da	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref.1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table T- Ref.1. Based on information on the school website. Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref.1.
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Estimated Total average daily dry weather flowflow rate- 2 Fung Kai Primary School No. of Students Unit flow rate Estimated flow rate No. of Staff Unit flow rate Estimated flow rate Estimated flow rate Estimated Total average daily dry weather flowflow rate- 3 Fung Kai No.1 Secondary School No. of Students Unit flow rate Estimated flow rate Estimated flow rate Estimated flow rate	= 31.9 m³/da = 1118 stude = 0.040 m³/da = 44.7 m³/da = 74 staff = 0.280 m³/da = 20.72 m³/da = 65.4 m³/da = 825 stude = 0.040 m³/da = 33.0 m³/da = 40 staff	Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref. 1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table T- Ref. 1. Based on information on the school website. Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T- Ref. 1. Based on information on the school website. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table T- Ref. 1. Unit flow factor for "Commercial Employee+J11 Community, Social & Personal Services" in Table T- Ref. 1.
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Catchment (F)			
F1 Church of Christ in China Sheung Shui Church			
Kindergarten			
No. of Students	=	345 students	Based on information on the school website.
Unit flow rate	=	0.040 m³/day/student	Assume the characteristics of the unit flow rate is the same as that of "School Student" in Table T-2 of Ref.1.
Estimated flow rate	=	13.8 m ³ /day	
No. of Staff	=	33 staff	Based on information on the school website.
Unit flow rate	=	0.280 m ³ /day/staff	Assume the characteristics of the unit flow rate is the same as that of "Commercial Employee" in Table T-2 of Ref.1.
Estimated flow rate	=	9.24 m³/day	
Estimated Total average daily dry weather flowflow	v rat =	23.0 m ³ /day	
F2 Church of Christ in China Sheung Shui Church			
No. of Staff	=	8 staff	Based on information on the school website.
Unit flow rate	=	0.280 m ³ /day/staff	Assume the characteristics of the unit flow rate is the same as that of "Community, Social & Personal Services" in Table T-2 of Ref. 1.
Estimated flow rate	=	2.24 m ³ /day	
F3 <u>Village</u>			
No. of Units	=	266 flat(s)	Based on information provided in Survey Map
No. of Residents	=	719 persons	Average domestic household size of 2.7 for Fung Tsui, North District from 2021 Population Census.
Unit flow Factor (UFF) per resident	=	0.27 m ³ /day/person	Unit flow factor for Modern Village type in Table T-1 of Ref.1.
Estimated Total average daily dry weather flowflow	v rati =	194.1 m ³ /day	
Estimated Total average daily dry weather flowflow	v rat =	219.4 m ³ /day	
Catchment Inflow Factor	=	1.00	Catchment Inflow Factors for "North District" in Table T4 in Ref. 1.
Total ADWF from Catchment (E)	=	219.41 m ³ /day	

- Reference:

 Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0, Environmental Protection Department of HK Government, March 2005

 Schedule 1 of CAP 459A Residential Care Homes (Elderly Persons) Regulation.

 Code of Practice for Fire Safety in Building 2011, Building Department, April 2012

 Apparer S Industry, Hong Kong Planning Standards and Guidelines

 University of Hong Kong Planning Standards and Guidelines

 University of Hong Kong Annual Digest of Statistics, https://www.censtatd.gov.hk/en/data/stat_report/product/B1010003/att/B10100032021AN21B0100.pdf

Appendix C	CALCULATION OF FLOW CAPACITY	

Calculation of Flow Capacity of the Proposed Development

Pipe Segment ID	Pipe Segment bet	avoon Monholos	Length	Level (OUT)	Level (IN)	d	r	A _w	P _w	R	s	k _s	V	Q _c	ADWF	0	n	Q_p	Catchment	Is Q _c > Q _p ?	% of capacity
Pipe Segment ID	Pipe Segment bet	ween Mannoles	m	mPD	mPD	m	m	m ²	m	m	-	mm	m/s	m³/s	m³/day	P _c	r	m³/s		Y/N	%
S0*	Terminal Manhole	FMH1003965	45	6.20	5.60	0.150	0.075	0.018	0.471	0.038	0.013	3	0.896	0.015	91.05	337	8	0.008	(A) - Proposed Development	Υ	58%
S1	FMH1003960	FMH1003961	47.4	7.31	7.00	0.300	0.150	0.071	0.942	0.075	0.007	3	1.005	0.064	128.03	474	8	0.012	(B1) + (B2)	Υ	18%
S2	FMH1003961	FMH1003962	73.6	7.00	6.51	0.300	0.150	0.071	0.942	0.075	0.007	3	1.014	0.065	144.23	534	8	0.013	(B1) to (B3)	Υ	21%
S3	FMH1003962	FMH1003963	78.1	6.51	6.00	0.300	0.150	0.071	0.942	0.075	0.007	3	1.004	0.064	155.63	576	8	0.014	(B1) to (B4)	Υ	22%
S4	FMH1003963	FMH1003964	69.4	6.00	5.54	0.300	0.150	0.071	0.942	0.075	0.007	3	1.012	0.065	159.68	591	8	0.015	(B1) to (B5)	Υ	23%
S5	FMH1003964	FMH1003965	61.2	5.54	5.14	0.300	0.150	0.071	0.942	0.075	0.007	3	1.005	0.064	189.01	700	8	0.018	(B) + (C)	Υ	27%
S6	FMH1003965	FMH1003968	48.6	5.14	4.81	0.300	0.150	0.071	0.942	0.075	0.007	3	1.024	0.065	280.06	1037	6	0.019	(A) + (B) + (C)	Υ	30%
S7	FMH1003968	FMH1003969	56.4	4.81	4.42	0.300	0.150	0.071	0.942	0.075	0.007	3	1.034	0.066	293.44	1087	6	0.020	(A) + (B) + (C) + (D)	Υ	31%
S8	FMH1003969	FMH1003974	29.6	4.42	4.15	0.225	0.113	0.040	0.707	0.057	0.009	3	0.978	0.035	293.44	1087	6	0.020	(A) + (B) + (C) + (D)	Υ	58%
S9	FMH1003974	FMH1003975	51.6	4.15	3.67	0.225	0.113	0.040	0.707	0.057	0.009	3	0.988	0.036	481.08	1782	6	0.033	(A) + (B) + (C) + (D)+ (E)	Υ	94%
S10	FMH1003975	FMH1003877	52.8	3.45	3.23	0.450	0.225	0.159	1.414	0.112	0.004	3	1.050	0.150	700.49	2594	6	0.049	(A) + (B) + (C) + (D)+ (E)+(F)	Υ	32%
S11	FMH1003877	FMH1003978	23.2	3.23	3.08	0.450	0.225	0.159	1.414	0.112	0.006	3	1.309	0.187	700.49	2594	6	0.049	(A) + (B) + (C) + (D)+ (E)+(F)	Υ	26%
S12	FMH1003978	FMH1003979	20.6	3.08	3.05	0.450	0.225	0.159	1.414	0.112	0.001	3	0.620	0.089	700.49	2594	6	0.049	(A) + (B) + (C) + (D)+ (E)+(F)	Υ	55%

Legend

d = pipe diameter, m

r = pipe radius (m) = 0.5d

 A_w = wetted area (m²) = (r²/2) (b + sing)

 P_w = wetted perimeter (m) = br

 $R = Hydraulic radius (m) = A_w/P_w$

k_s = hydraulic pipeline roughness, mm

V = Velocity of flow calculated based on Colebrook-White Equation, m/s

Q_c = Flow Capacity, m³/s

ADWF = Total average dry weather flow, m3/day

P_c = Contributing Population = ADWF/0.27

P = Peaking Factor (including stormwater allowance) for facility with existing upstream sewerage

Q_o = Estimated total peak flow from the Site during peak season, m³/s

Note

- 1. Whilst sewage generation from the Site is estimated based on the "Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0" (published by the Environmental Protection Department (EPD), 2005) using the best available information, the flow capacities of pipe segments are calculated based on Colebrook-White Equation.
- 2. The roughness value is referred to Table 5 of the "Sewerage Manual, Key Planning Issues and Gravity Collection System" published by the Drainage Services Department (DSD) in 1995.
- *: The invert level of the proposed terminal manhole and proposed sewer are indicative only, which are subject to be changed in the detailed design stage.

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Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care
Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at
Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung
Shui, New Territories

Ref.: ADCL_PLG_10238_R001a

Appendix | VII

Quantitative Risk Assessment



Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, N.T.

QRA for LPG Storage Installation at Tsui Lai Garden, Sheung Shui

Champ Dynasty Limited

7 June 2022

001



Notice

This document and its contents have been prepared and are intended solely as information for Champ Dynasty Limited and use in relation to QRA for LPG Storage Installation at Tsui Lai Garden.

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Executive Summary

A Planning Application (A/FSS/279) was submitted to Rural and New Town Planning Committee (RNTPC) in 2021 for a development of Social Welfare Facility (Residential Care Home for the Elderly) and Flat at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui. The proposed development previously involved a development of a 4-storey social welfare facility comprising 143 beds and a 4-storey residential block comprising 28 flats.

Since the proposed development is located in the vicinity of an existing LPG storage installation at Tsui Lai Garden, a Quantitative Risk Assessment (QRA) for the LPG installation was prepared and submitted to the Gas Authority of the Electrical and Mechanical Services Department for review and acceptance. In October 2021, the Planning Application was approved by the RNTPC.

Since the design of the proposed development has been recently revised to include 67 more beds for the social welfare facility and 10 more flats for the residential block, the QRA is updated to take into account of the design changes.

The individual risk level of 1E-5 is contained inside the boundary of the installation. The societal risk level falls into lower bound of the ALARP region for both construction and operation phase of the proposed development. Although the identified mitigation measures are found not to be cost effective, good practices are recommended to enhance the safety awareness of the person inside the proposed development site. The risk level of the LPG storage installation is therefore complied with the Hong Kong Risk Guideline.



1. Introduction

An application for the proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui has been submitted to the Town Planning Board of the HKSAR.

The application site has a total area of approximately 2,093m² and it is situated at the fringe of Tin Ping Shan Tsuen. The proposed development involves the development of a 7-storey social welfare facility comprising 210 beds and a 4-storey residential block comprising 38 flats. The location of the proposed development and the LPG storage installation are shown in Figure 1-1.

Since the application site is located in the vicinity of an existing LPG storage installation at Tsui Lai Garden, Sheung Shui, it is necessary to conduct a Quantitative Risk Assessment for the installation to ascertain that its risk levels are still compliant with Hong Kong Planning Standards and Guidelines after taking into account of the of the proposed development.

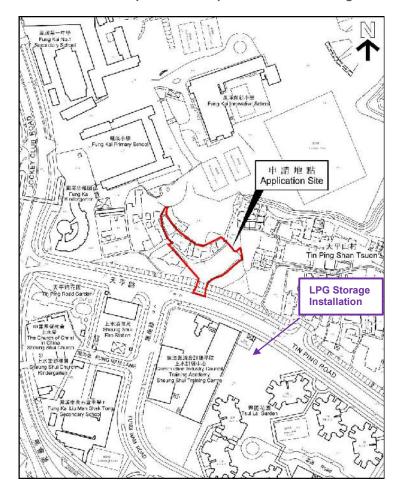


Figure 1-1 - Location of Proposed Development and LPG Storage Installation



2. Objective and Scope of Works

2.1. Objective

The objective is to conduct a quantitative risk assessment (QRA) to assess the individual risk and societal risk level of the existing LPG storage installation at Tsui Lai Garden, Sheung Shui taking into account of the proposed development.

2.2. Scope of Work

The scopes of the QRA are to

- Quantify the individual risk and societal risk posed by the existing LPG storage installation at Tsui Lai Garden, Sheung Shui to the surrounding population including the proposed development;
- Compare the risk levels with the Hong Kong Risk Guidelines;
- Whenever necessary, identify and assess risk mitigation measures; and
- Report findings in a QRA report.



3. Risk Criteria

The individual and societal risk criteria specified in Chapter 12 of Hong Kong Planning Standards and Guidelines will be applied in the current study.

Individual risk is the predicted increase in the chance of death per year to a most exposed individual due to a hazardous operation. When comparing with the risk guidelines, the estimated duration of exposure of the person to the hazardous operation should be taken into consideration. The maximum level of offsite individual risk should not exceed 1 in 100,000 per year, i.e. 1 x 10⁻⁵/yr.

Societal risk expresses the risks to the whole population living, working or travelling near a hazardous operation. The societal risk criteria are presented graphically on an F-N graph as shown in Figure 3-1.

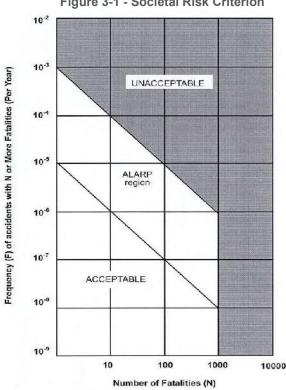


Figure 3-1 - Societal Risk Criterion

There are three regions in the graph, namely Acceptable region, ALARP region and Unacceptable region. The placement of the risk curve on the F-N graph determines what action would be required. These are defined as follows:

- Unacceptable Region Risk is so large and outcomes so unacceptable that it cannot be justified on any
 grounds. Risk should be reduced regardless of the cost of mitigation or operation should not be carried
 out:
- ALARP Region Risk is tolerable only if reduction is impracticable or if cost is grossly disproportionate
 to the improvement gained. It is necessary to demonstrate that risk has been reduced to as low as
 reasonably practicable;
- Acceptable Region Risk is broadly acceptable and further risk reduction is not required.

The societal risk criteria have integrated a vertical cut-off line at the 1,000 fatalities level extending down to a frequency of 10⁻⁹ / year (1 in a billion years). Any hazardous scenario resulting in more than 1,000 fatalities will be considered as unacceptable and must be avoided.



4. Background Information

4.1. LPG Storage Installation at Tsui Lai Garden

The LPG storage installation is located inside Tsui Lai Garden, Sheung Shui. It was previously operated by DSG Energy Limited, but now operated by Sinopec (Hong Kong) Gas Company Limited. The design of the LPG storage installation was provided by the DSG Energy Limited on 30 June 2021, while the operation details were provided by Sinopec on 1 September 2021, with a re-confirmation with Sinopec on 20 April 2022.

There are 2 underground LPG storage tanks. The maximum storage capacity of each tank is 11m³, but each tank is only filled up to 9.35m³ of LPG which is applied in the analysis. During operation, LPG is drawn from underground storage tank to vaporiser where the LPG is converted into gas. The gas is then delivered to each household inside the garden. According to the operator, there is no gas leakage incident happened in the past inside the installation.

LPG road tanker visits the installation to refill the storage tank 80 times per year and the capacity of the tanker is 9 ton which is applied in the analysis.

The site view of the LPG storage installation is provided from Figure 4-1 to Figure 4-3.

Figure 4-1 – Exterior View of LPG Storage Installation

Figure 4-2 – Unloading Bay for LPG Road Tanker



Figure 4-3 – Interior View of LPG Storage Installation



Figure 4-4 – Entrance of the LPG Storage Installation







4.2. Physical Properties and Flammability of LPG

LPG has a composition of 28 mol% of propane and 72 mol% of butane with vapour pressure of LPG is 639kPa.

It is normally stored in liquid state under pressure and because of its boiling point below room temperature, it will evaporate quickly at normal atmospheric temperature and pressure. LPG is non-odorous and an agent is therefore dosed to provide a distinctive smell to it to help detection of any leaks.

LPG is a highly flammable liquid which is classified as Category 2 Class 2 Dangerous Goods in Hong Kong. It can give off LPG vapour even at very low temperature with a flammability (%vol/vol) range between 2.2 and 10. LPG vapour is denser than air; butane is about twice as heavy as air and propane about one and half times as heavy as air. Consequently, the vapour may flow along the ground and into drains, sinking to the lowest level of the surroundings and be ignited at a considerable distance from the source of leakage.

When a large quantity of LPG is accidentally released outside a pressurized storage tank, it results in a fireball/BLEVE if it is ignited immediately after release. However, if an ignition source is not immediately available, LPG liquid will vaporize and mixes with air to form a gas plume. Flash fire will happen if there is a delayed ignition of the flammable gas plume that is within the flammable range. Jet fire will happen if there is an immediate ignition of LPG release from a hole of the pressurized storage tank.

4.3. Proposed Development

A Social Welfare Facility and Flat is proposed to be developed at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui. The proposed development involves the development of a 7-storey social welfare facility comprising 210 beds and a 4-storey residential block comprising 38 flats with an estimated population of 348.

The site layout of the proposed development is given in Figure 4-5. The social welfare facility is located at the northwest region of the site while the residential block is located at the northeast region of the site. The construction and operation of the proposed development will be in year 2029 and year 2031 respectively.

Currently, the redevelopment site is mainly covered by vegetation as shown in Figure 4-6 and Figure 4-7. Temporary structures are also observed in the site, as shown in Figure 4-8. Those structure will be vacated before the commencement of the redevelopment.

The proposed social welfare facility and flat are about 54m away from the LPG storage installation.

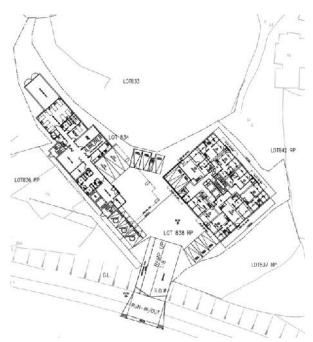


Figure 4-5 - Site Layout of proposed Development



Figure 4-6 – Site View of Redevelopment Site (1)

Figure 4-7 – Site View of Redevelopment Site (2)





Figure 4-8 - Site View of Redevelopment Site (3)





5. Methodology

5.1. Hazard Assessment

5.1.1. Release Scenario

A review has been conducted about the installation. LPG leakage is identified as the potential hazard associated with the installation and the causes of the leakage can be due to spontaneous failure of the equipment, external event such as earthquake, failure of safety device, etc. The LPG release scenarios and the causes of the release are listed in Table 5-1 and Table 5-2 respectively.

Table 5-1 - Summary of LPG Release Scenarios

Event ID	Release Scenario
1	Cold catastrophic failure of storage tank
2	Cold catastrophic failure of road tanker
3	Cold partial failure of storage tank
4	Cold partial failure of road tanker
5	Guillotine failure of liquid filling line to storage tank
6	Guillotine failure of liquid line to vaporiser
7	Failure of vaporiser
8	Failure of flexible hose to liquid filling line
9	Failure of valve
10	Guillotine failure of gas line

Table 5-2 – Summary of Potential Causes of Failures for LPG Release

Type of Failure	Cause of Failure
Spontaneous failure of pressurised LPG equipment	 Storage tank failure Road tanker failure Pipework failure Vaporiser failure Hose failure Valve leak failure
Delivery failure	 Hose misconnection error Hose disconnection error Tanker drive-away error Tanker collision Storage vessel overfilling Vehicle impact
External event	EarthquakeLandslideSubsidenceLightningAircraft
Escalation	BLEVE of road tanker due to jet fire from LPG facilities



Safety system and firefighting system failure

- Safety valve failure (i.e. non-return valve, pressure relief valve, excess flow valve, etc)
- Breakaway coupling failure
- · Chartek coating failure
- Failure of fire services
- Human error

5.2. Frequency Assessment

5.2.1. Fault Tree and Event Tree Analysis

The purpose of the frequency assessment is to estimate the likelihood of the initial events and the frequencies of the hazardous outcomes.

Fault tree analysis (FTA) technique has been adopted to analyze the initiating events of the identified release scenarios. FTA is a technique by which many events that interact to produce other events can be related using logical relationship (AND, OR, etc.). These relationships permit the construction of a logical structure which models the failure modes of a system.

By applying the Fault tree analysis, the failure frequencies for the LPG release scenarios are estimated and listed in Table 5-3. The fault tree analysis can be referred to Appendix A. The failure rates and probabilities applied in the analysis are given in Table 5-4.

Table 5-3 - Summary of Failure Frequency for LPG Release

Event ID	Release Scenario	Frequency
1	Cold catastrophic failure of storage tank	4.63E-7
2	Cold catastrophic failure of road tanker	2.94E-8
3	Cold partial failure of storage tank	1.01E-5
4	Cold partial failure of road tanker	7.76E-7
5	Guillotine failure of liquid filling line to storage tank	2.35E-7
6	Guillotine failure of liquid line to vaporiser	1.05E-6
7	Failure of vaporiser	1.47E-5
8	Failure of flexible hose to liquid filling line	6.86E-6
9	Failure of valve	2.70E-4
10	Guillotine failure of gas line	5.21E-6

Table 5-4 - Failure Rates and Probabilities

Item	Failure Rate/Probability	Unit	Reference
LPG tank / tanker			
Catastrophic failure of LPG tank	1.8E-7	per tank year	Ref. 1
Partial failure of LPG tank	5.0E-6	per tank year	Ref. 3
Catastrophic failure of LPG tanker	2.0E-6	per tanker year	Re. 1
Partial failure of LPG tanker	5.0E-6	per tanker year	Ref. 1



Portion of time LPG tanker on site	0.0091	-	= (60/60) * 80 / (24*365)
Hose/Pipework/Vaporiser/Valve			
Hose failure	1.35E-7	per year	Ref. 7
Pipework failure	1.0E-6	per m year	Ref. 3
Vaporiser failure	1.0E-6	per meter (coil length) per year	Ref. 6
Valve failure	3.0E-5	per valve	Ref. 10
Loading/Unloading			
Overfilling failure	2.0E-2	-	Ref. 1
Tanker collision	6.37E-9	per km year	Ref. 8
Probability to cause tanker catastrophic failure upon tanker collision	0.1	-	Assumption
Probability to cause tanker partial failure upon tanker collision	0.4	-	Assumption
Probability to cause pipework/vaporiser rupture upon tanker collision	0.9	-	Assumption
Tanker drive away	4.0E-6	per operation	Ref. 2
Hose misconnection	3.0E-5	per operation	Ref. 1, 2
Hose disconnection	2.0E-6	per operation	Ref. 1, 2
Vehicle impact	1.0E-8	per operation	Ref. 7
Probability to cause tanker catastrophic failure upon vehicle impact	0.01	-	Ref. 7
Probability to cause tanker partial failure upon vehicle impact	0.9	-	Ref. 7
Earthquake			
Earthquake of Modified Mercali Intensity VII	1.0E-5	per year	Ref. 2
Probability of failure due to earthquake	0.01	-	Ref. 2
Safety System and Fire Fighting System			
Failure of pressure relief valve/hydrostatic pressure relief valve	1.0E-4	per demand	Ref. 7
Excess flow valve failure	0.13	per demand	Ref. 4, 7
Breakaway coupling failure	0.013	per demand	Ref. 2, 4
Non-return valve failure	0.013	per demand	Ref. 2, 4
Failure of Emergency Isolation System (EIS)	1.0E-4	per demand	Ref. 7
Fail to activate EIS	0.1	per demand	Ref. 7
Chartek coating fail under jet fire	0.1	-	Ref. 2
Failure of Fire Services	0.5	per demand	Ref. 1
Operator fails to rectify upon incident (i.e. human error)	0.2	per demand	Ref. 7

Fault sequences with individual frequencies have been generated using event tree analysis (ETA). Event tree has been developed to systematically identify the sequence of development of ultimate hazardous events, such as flash fire and pool fire, after an initial fuel leakage incident. The analysis has considered all the safety and



operational controls adopted in the station. Generic event tree for LPG release is shown in Figure 5-1 and Figure 5-2.

Figure 5-1 - Generic Event Tree for LPG Release for LPG Release from Tank and Road Tanker

	Immediate Ignition		Delayed Ignition		Vapor Cloud Explosion?	Event Outcome	
Yes No						Fireball	
		Yes		Yes		VCE	
		No		No		Flash Fire	
						Unignited Release	

Figure 5-2 - Generic Event Tree for LPG Release from Facilities (e.g. pipeworks/vaporizer etc)

	Immediate ignition	Delay	ed Ignition	VCF?	IPG Tanker Imp before BLEVE Occursi	V	Flame Implingment		Fire Protection/Fighting Inellective	Event Outcon
Yes					Yes No					Jet Fine
						Yes No		Yes No		BLEVE
										let Eire
										Jet Fire
		Yes		les .						VCE
		No		No.						
					Yes No					Flash Fire
					70	Yes		Yes		BLEVE
						No		1.0		
										flash i re
										Flesh Fire
										Unignited Rela

5.2.2. Ignition Probability

Immediate ignition probability of 0.9 and 0.05 are adopted for instantaneous release and continuous release of LPG ^[1]. Delayed ignition probability of 1 and 0.2 are adopted for instantaneous release and continuous release of LPG ^[1]. Of

5.3. Meteorological Data

Meteorological data have been obtained from Ta Kwu Ling Weather Station where wind speed, stability class, weather class and wind direction are available. Table 5-5 and Table 5-6 present the stability category – wind speed frequency for day time and night time respectively. The probability for each weather class at a particular wind direction is shown in Table 5-7 and Table 5-8 which have been used in the study.

Table 5-5 - Stability Category - Wind Speed Frequency (Day-time)

Wind Speed (m/s)	А	В	С	D	E	F	Total (%)
0.0-1.9	4.78	15.34	0.00	9.36	0.00	15.27	44.74



2.0-3.9	0.00	21.25	13.48	8.11	4.01	2.45	49.30
4.0-5.9	0.00	1.25	2.20	1.68	0.32	0.00	5.44
6.0-7.9	0.00	0.00	0.00	0.39	0.00	0.00	0.39
Over 8.0	0.00	0.00	0.00	0.14	0.00	0.00	0.14
Total (%)	4.78	37.83	15.68	19.66	4.33	17.72	100

Table 5-6 - Stability Category - Wind Speed Frequency (Night-time)

Wind Speed (m/s)	Α	В	С	D	E	F	Total (%)
0.0-1.9	0.00	0.00	0.00	2.23	0.00	69.47	71.70
2.0-3.9	0.00	0.00	0.00	5.47	11.73	7.40	24.61
4.0-5.9	0.00	0.00	0.00	2.18	1.31	0.00	3.49
6.0-7.9	0.00	0.00	0.00	0.17	0.00	0.00	0.17
Over 8.0	0.00	0.00	0.00	0.03	0.00	0.00	0.03
Total (%)	0.00	0.00	0.00	10.08	13.04	76.87	100

Table 5-7 - Weather Probability (Day-time)

Direction	2.5B	1.5D	3.5D	8.0D	3.0E	1.0F	Total
0	7.33	2.01	2.96	0.16	0.75	2.42	15.62
30	1.45	0.66	0.23	0.05	0.11	0.86	3.35
60	13.02	3.14	1.79	0.05	0.23	3.21	21.43
90	9.13	4.54	4.16	0.11	1.31	5.56	24.90
120	2.35	1.33	0.47	0.00	0.18	2.24	6.58
150	1.20	0.57	0.14	0.00	0.00	1.11	3.01
180	2.76	0.93	0.61	0.02	0.07	0.93	5.31
210	3.53	0.66	0.79	0.00	0.07	0.75	5.79
240	1.33	0.29	0.02	0.00	0.00	0.23	1.88
270	1.04	0.25	0.00	0.00	0.00	0.11	1.40
300	1.38	0.32	0.05	0.00	0.02	0.36	2.13
330	4.34	1.54	1.11	0.00	0.16	1.50	8.61
	48.86	16.23	12.32	0.38	2.89	18.74	100

Table 5-8 - Weather Probability (Night-time)

Direction	2.5B	1.5D	3.5D	8.0D	3.0E	1.0F	Total
0	0.00	0.30	3.83	0.03	3.87	11.04	19.07
30	0.00	0.17	0.30	0.03	0.43	2.93	3.87
60	0.00	0.57	0.67	0.00	1.20	13.27	15.71
90	0.00	0.77	2.43	0.00	4.07	25.24	32.51
120	0.00	0.10	0.40	0.00	0.40	3.30	4.20
150	0.00	0.07	0.07	0.00	0.00	6.64	6.77
180	0.00	0.03	0.03	0.00	0.13	4.33	4.53



210	0.00	0.17	0.03	0.00	0.03	2.70	2.93
240	0.00	0.13	0.10	0.00	0.00	1.17	1.40
270	0.00	0.03	0.03	0.00	0.00	0.90	0.97
300	0.00	0.23	0.03	0.03	0.00	1.47	1.77
330	0.00	0.60	0.63	0.00	0.70	4.33	6.27
	0.00	3.17	8.57	0.10	10.84	77.33	100

5.4. Consequence Modeling

Depending on the properties of the hazardous chemical, each of the identified releases results in different types of consequences such as flash fire, jet fire, etc. Computer simulation is, therefore, conducted to determine the hazard distance for each consequence using the software PHAST 8.0. The consequences that are considered applicable to LPG and petrol are discussed in the following paragraphs.

5.4.1. Fireball and BLEVE

Immediate ignition following a catastrophic release of flammable material stored inside the underground vessel will result in a fireball and gives a massive transient dose of thermal radiation. Fireball is not significantly influenced by weather, wind direction or wind speed due to its short duration, large size and high intensity. The software PHAST will be used to model the size of the fireball.

BLEVE is a sudden release of a large quantity of pressurized superheated liquid to the atmosphere. BLEVE is similar to a fireball except that it is caused by a hot failure from fire impingement and its physical effects will be modelled in the same way as for fireballs.

Due to the high thermal intensity inside the fireball, outdoor population staying inside the fireball is subject to 100% fatality rate. A lower fatality rate of 50% is assumed for indoor population as they are partially shielded by the building.

5.4.2. Flash Fire

When a flammable gas is not ignited immediately after being released from a storage tank, it will form a flammable gas plume which travels along the distance. If the plume comes into contact with an ignition source in an open space while it is still within its flammable limits, a flash fire will occur. The hazard distance of the flash fire is modelled using the PHAST.

Due to the high thermal intensity, it is considered that there is no possibility for escape from the flash fire and a fatality rate of 100% for outdoor population inside the flammable cloud is assumed. The short duration of the flash fire means that thermal dose received by a person standing outside the flash fire is not significant and therefore, no fatality is assumed outside the flash fire envelope. A lower fatality rate of 10% is assumed for indoor population as they are partially shielded by the building.

The proprietary program, RiskTool is capable of using ignition information to predict the probability of a flammable cloud being ignited (delayed ignition) as the cloud moves downwind over an ignition source (i.e. Flash Fire). The following offsite ignition sources were identified in the previous study and they are summarized in the following paragraphs.

- 1. Roads are defined as line source. The following assumptions are applied to estimate the presence factor of the line source and the ignition probability [7].
 - Probability of ignition for a vehicle is taken as 0.4 in 60 seconds; and
 - Traffic density is based on the projected peak traffic flow as adopted for population estimation.
- 2. Population area is defined as area source. The potential sources of ignition include activities such as cooking, smoking, use of heating and electrical appliance. The ignition probability, which is derived from population densities in the concerned area, is taken as 0.01 per person [16].

5.4.3. Vapor Cloud Explosion

From Figure 4-1 to Figure 4-4, it can be seen that the LPG storage installation is mainly an open area and large holes are closely and evenly distributed along the walls and the entrance gate, it is therefore considered that



there is no significant areas of confinement/congestion to generate the turbulence required for a vapor cloud explosion to occur upon ignition. As a result, the probability of occurrence of VCE is insignificant for all LPG release events.

5.4.4. Jet Fire

An immediate ignition of a flammable gas released with momentum from a pressurized storage tank or piping results in a jet fire. The thermal radiation emitted from the jet fire will affect the population in immediate vicinity. The size of jet fire will be calculated by using PHAST.

In this study, the following probit equation [16] will be used to assess the fatality rate due to the thermal effect with the exposure duration estimated to be 30s:

Probit =
$$-36.38 + 2.56 * \ln (I^{4/3} * t)$$

where, I is thermal flux (kW/m⁻²) and t is exposure duration (sec)

The fatality rates for outdoor and indoor population are assumed to be 100% and 10% respectively.

Table 5-9 – Summary of Probability of Fatality for Indoor and Outdoor Population

Consequence Event	Endpoint Criteria	Probabili	ty of Fatality
Flash fire	LFL	1	0.1
	Fire zone	1	0.1
let fine / Deal fine	20.9 kW/m ²	0.9	0.09
Jet fire / Pool fire	14.4 kW/m²	0.5	0.05
	7.3 kW/m ²	0.01	0.001
Fireball and BLEVE	Fireball radius	1	0.1
Flash fire	LFL	1	0.1



6. Population

6.1. Background Population

The existing population living and working near the LPG storage installation have been identified through desktop review and site survey.

According to the population projected by the Planning Department, the population for Tertiary Planning Unit 624 remains stable from 2019 to 2025 [14], as shown in Table 6-1. Since the TPU 624 covers the population considered in the current study, the existing population will therefore be applied for year 2029 and 2031.

Table 6-1 - Projected Population by Tertiary Planning Unit (TPU) 2021 to 2025

TPU	Projected Population										
	2019 2020 2021 2022 2023 2024 2025										
624	55,500	54,700	54,900	54,800	54,300	54,100	53,700				

The Kwu Tung North and Fanling North New Development Areas proposed by the Development Bureau has been reviewed ^[13]. As shown in red circle of Figure 6-1, a portion of the new development areas (remaining phase) will be approximately 200m away from the LPG storage installation and it has been considered in the current study since the infrastructure works programme for the remaining phase will be 2024 to 2031.

Figure 6-1 - Kwu Tung North and Fanling North New Development Areas



6.2. Proposed Residential Care Home for Elderly Development

6.2.1. Construction Phase

Considering the size of the proposed development, the number of construction workers at the site is assumed to be 100.

6.2.2. Operation Phase

According to the project proponent, there will have 324 residents inside the proposed development. The maximum number of staff working in the Residential Care Home for the Elderly is estimated to be 24 according



to the requirement specified in the Schedule 1 of CAP 459A Residential Care Homes (Elderly Persons) Regulation.

The total number of people inside the proposed development is, therefore, equal to 348.

The fixed population data are presented in Table 6-4.

6.2.3. Road Population

The following three roads have been identified near the LPG storage installations:

- Tin Ping Road
- Jockey Club Road
- Fung Nam Road

For both Tin Ping Road and Jockey Club Road, traffic data from Annual Traffic Census (2015 to 2020) published by the Transport Department have been made reference, with the following equation being applied:

Persons per kilometer = No of vehicles/hour / Speed * Number of persons per vehicle

The 2020 Annual Traffic Census published by the Transport Department provided a detailed description of the vehicle occupancy (i.e. no of persons per vehicle) for Jockey Club Road which is relevant for the study. The average occupancy is evaluated as 2.0. To be conservative, an occupancy of 3 is assumed.

The speed is referred to the posted speed limit of the road.

For the Nam Fung Road, site survey has been conducted to count the traffic flow.

With reference to the Traffic Impact Assessment report, the annual traffic growth would be 2.8% [12], the road population data are presented in Table 6-5. A summary of the analysis is given in Appendix E.

The location of the population considered in the study is shown in Figure 6-2.

6.3. Time Modes and Indoor/Outdoor Ratio

The population living and working near the LPG storage installation varies with time and day of the year. In order to take the temporal changes into account, four time modes have been specified in the study. The definition and weighting of these periods are summarized in Table 6-2 and indoor/outdoor ratios for different population are shown in Table 6-3.

Table 6-2 - Definition of Time Modes

Time Mode	Description	Period	Hours per Day	Weighting per Year
1	Peak Period	Monday to Saturday (7:00 to 9:00)	2	0.07143
2	Weekday Day	Monday to Saturday (9:00 to 19:00)	10	0.35714
3	Weekend Day	Sunday (7:00 to 19:00)	12	0.07143
4	Night	Monday to Sunday (19:00 to 7:00)	12	0.50000

Table 6-3 – Indoor/Outdoor Ratio for Different Population Categories

Population Category	Indoor (Outdoor) Ratio
Residential	0.95 (0.05)
Industrial / Office	0.95 (0.05)



School	0.95 (0.05)
Park / Carpark	0.00 (1.00)
Road	0.00 (1.00)

Figure 6-2 – Population Map

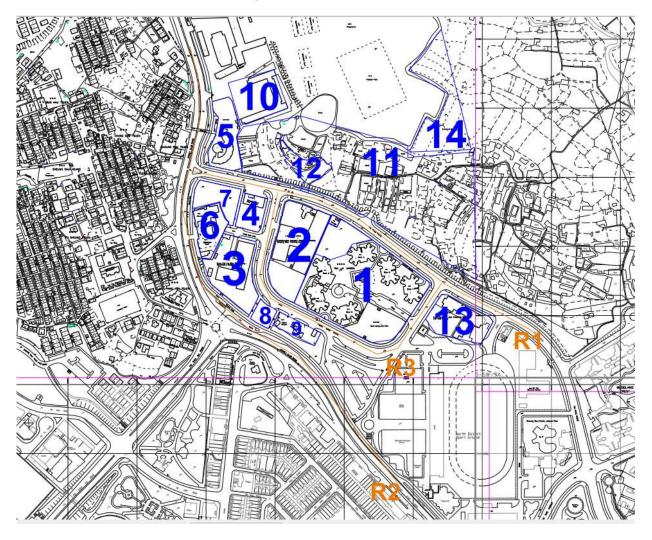




Table 6-4 – Fixed Population Data

Item	Name	Popu	lation	Portion				Remarks	
				Indoor	Peak	Working	Weekend	Night	
		2029	2031] H	Hour	Day	Day		
1	Tsui Lai Garden	5835	5835	0.95	0.5	0.5	0.7	1	No of unit: 2012 [19] Average household size: 2.9 [11] Total population = 2012 * 2.9
									= 5835
2	CIC Sheung Shui Training Centre	2590	2590	0.95	0.1	1	0	0.5	The total floor area is estimated as 23300m². The centre contains not only classrooms, but also equips with workshops to match different training discipline such as bricklaying; plastering and tiling; plumbing and pipe-fitting; joinery and welding, etc. Since those workshops contain equipment or open space to allow students to practise the training, the centre should not be highly populated. An average population density of one person per every 9m² is therefore considered appropriately inside the centre.
3	Fung Kai Liu Man Shek Tong Secondary School	944	944	0.95	0.5	1	0	0	No of student and staff are 881 and 63 respectively ^[20] Total population = 881 + 63 = 944
4	Sheung Shui Fire Station	20	20	0.95	1	1	1	1	Site survey



5	Fung Kai Kindergarten	415	415	0.95	0.5	1	0	0	No of student: 359 ^[20] No of staff: 56 ^[21] Total population = 359 + 56 = 415
6	Church of Christ in China Sheung Shui Church Kindergarten	237	237	0.95	0.5	1	0	0	No of student and staff are 218 and 19 respectively ^[20] Total population = 218 + 19 = 237
7	Ting Ping Road Garden	10	10	0	1	0.5	1	0.1	Site survey
8	Fung Nam Road Garden	3	3	0	1	0.5	1	0.1	Site survey
9	Car Park	1	1	0	1	1	1	1	Site survey
10	Fung Kai No. 1 Primary School	1192	1192	0.95	0.5	1	0	0	No of student is 1118 ^[26] No of staff is 74 ^[26] Total population = 1118 + 74 = 1192
11	Ting Ping Shan Village	580	580	0.95	0.5	0.5	0.7	1	A total of 200 units were counted from GeoInfo map. Average household size: 2.9 [11] Total population = 200 * 2.9 = 580
12	Proposed Residential Care Home for Elderly – Construction Phase	100	-	0	1	1	0	0	Based on the size of the proposed development, a total of 100 construction workers is assumed.



	Proposed Residential Care Home for Elderly – Operation Phase	-	348	0.95	1	1	1	1	No of resident: 324 (from project proponent No of staff: 24 [26, 27] Total population = 324 + 24 = 348
13	Fung Kai Care and Attention Home for the Elderly	700	700	0.95	1	1	1	1	No of resident: 596 ^[23, 24] No of staff: 104 ^[23,24] Total population = 596 + 104 = 700
14	Kwu Tung North and Fanling North New Development Areas - Remaining Phase (Portion)	364	364	0.95	0.5	0.5	0.7	1	The total area for Remaining Phase is 247 hectares and the planned population is 135,200 [13] The area of the portion near the LPG storage installation is estimated as 6645m ² . The population type is assumed residential. Total population = 135200 / 247 / 10000 * 6645 = 364



Table 6-5 - Road Population

Item	Road	Population (person per km)								
		2029					203	1		
		Peak Hour	Working Day	Weekend Day	Night	Peak Hour	Working Day	Weekend Day	Night	
R1	Tin Ping Road	14.2	15.2	14.9	5.6	15.0	16.1	15.8	6.0	
R2	Jockey Club Road	47.0	50.3	49.5	18.7	49.7	53.2	52.3	19.8	
R3	Fung Nam Road	1.4	1.5	1.5	0.5	1.5	1.6	1.6	0.6	



7. Risk Result

7.1. Individual Risk

The individual risk level of the LPG storage installation is shown in Figure 7-1. The individual risk level of 1E-5 (green line) is contained within the boundary of the installation. It is, therefore, complied with the Hong Kong Risk Guideline.



Figure 7-1 - Individual Risk Result

Remarks

Green line: 1E-5; Blue line: 1E-6; Purple line: 1E-7; Brown line: 1E-8; Yellow line: 1E-9

Red area: the site of the proposed development

7.2. Societal Risk

7.2.1. FN Curve

The societal risk level of the LPG storage installation during the construction and operation phase of the proposed development are shown in Figure 7-2 and Figure 7-3 respectively.

From Figure 7-2, the risk level of the LPG storage installation falls into the lower bound of the ALARP region during the construction phase of the proposed development. The risk level of the LPG storage installation with the construction of the proposed development overlaps with that without the proposed development. This indicates that risk level induced by the construction of the proposed development is insignificant.

From Figure 7-3, the risk level of the LPG storage installation falls into the lower bound of the ALARP region during the operation phase of the proposed development. The risk level of the LPG storage installation with the operation of the proposed development overlaps with that without the proposed development. This indicates that risk level induced by the operation of the proposed development is insignificant. Refer to Individual Risk Result in Figure 7-1, a large portion of the proposed development site (as highlighted in red) is located outside 1E-8 or even lower individual risk contour. This explains why the proposed development has insignificant contribution to the overall risk of the LPG Storage Installation.



7.2.2. Potential Loss of Life (PLL)

The potential loss of life for the LPG storage installation is 1.75E-4 and 1.77E-4 for the construction and operation phase of the proposed development respectively. The breakdown of the PLL is given in Table 7-1 and Table 7-2

Table 7-1 – PLL Breakdown for Construction Phase

Scenario	PLL	Percentage (%)
Catastrophic Fail of LPG Vessel_Fireball	4.25E-05	24.4
Leak from Valve_Jetfire	3.42E-05	19.6
Failure of Vaporiser_Jetfire	2.34E-05	13.4
Failure of Vaporiser_Flashfire	1.61E-05	9.3
Catastrophic Fail of LPG Tanker_Fireball	1.26E-05	7.2
Gas Line Failure_Jetfire 40mm	1.20E-05	6.9
Failure of Flexible Hose_Jetfire	9.54E-06	5.5
Gas Line Failure_Flashfire	6.99E-06	4.0
Others	1.77E-5	9.7
Total	1.75E-4	100

Table 7-2 – PLL Breakdown for Operation Phase

Scenario	PLL	Percentage (%)
Catastrophic Fail of LPG Vessel_Fireball	4.24E-05	24.0
Leak from Valve_Jetfire	3.43E-05	19.4
Failure of Vaporiser_Jetfire	2.35E-05	13.3
Failure of Vaporiser_Flashfire	1.64E-05	9.3
Catastrophic Fail of LPG Tanker_Fireball	1.26E-05	7.1
Gas Line Failure_Jetfire	1.20E-05	6.8
Failure of Flexible Hose_Jetfire	9.54E-06	5.4
Gas Line Failure_Flashfire	7.13E-06	4.0
Others	6.15E-5	10.7
Total	1.77E-4	100



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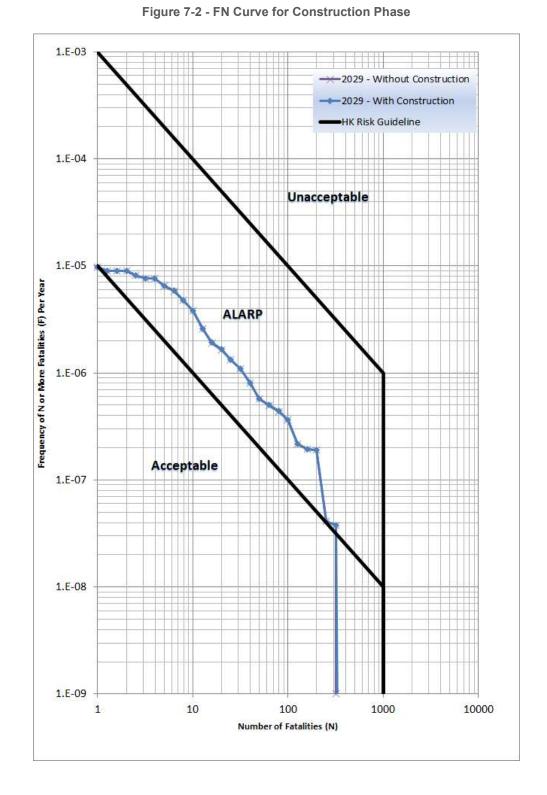
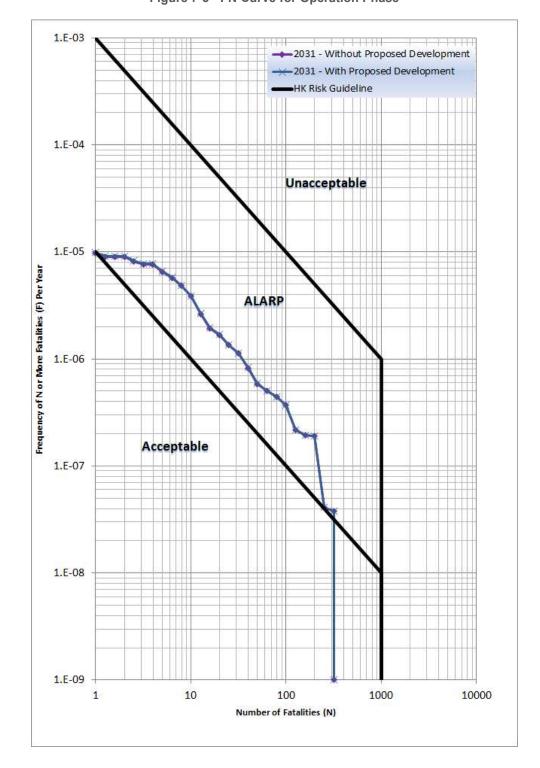




Figure 7-3 - FN Curve for Operation Phase





7.2.3. Risk Mitigation Measure

Since the risk level for both construction and operation phase fall into ALARP region, mitigation measure needs to be identified in order to reduce the risk level to as low as reasonably practicable. The identified mitigation measures will be evaluated based on the practicality, amount of risk reduction and cost effectiveness.

Cost benefit analysis adopting the concept of Implied Cost for Averting a Fatality (ICAF) would be conducted to assess the cost / benefit ratio and to justify the cost effectiveness of the proposed measure.

ICAF provides a means of ranking and selecting the candidate risk mitigation measure according to their benefit in cost terms. The ICAF for a particular risk mitigation measure is calculated as follows:

$$ICAF = \frac{C}{L * \Delta PLL}$$

where.

C is the cost to implement measure L is the lifetime of the measure Δ PLL is the PLL risk reduction

The value of preventing a fatality reflects the monetary value that the society is willing to invest in saving a statistical life and it is equivalent to HK\$33 million. An aversion factor is applied for large multiple fatality accidents. This is included to account for the society's strong aversion to accident event leading to large number of fatalities. An aversion factor of 1 will be applied when the risk level is at the lower bound of the ALARP region while a factor of 20 will be used for risk level near the uppermost region of ALARP. The lifetime of the measure refers how long the identified measure remains effective.

The Maximum Justifiable Expenditure (MJE) for the mitigation measure is determined by using the following equation:

MJE = Decrease in PLL Value * Value of Life * Aversion Factor * Design Life of Mitigation Measure

where,

Value of life is 33M

Aversion factor of 20

Design life of mitigation measure is 2 years for construction phase or 50 years for operation phase

In order to reduce the risk level to As Low As Reasonably Practicable (ALARP), effort has been made to explore potential mitigation measure.

Refer to Table 7-1 and Table 7-2, the major risk contributor is the fireball hazard upon gas release from LPG tank. The fireball risk can be reduced by minimizing the quantity of LPG stored inside the tank. However, by doing so, the LPG road tanker will have to visit the LPG store more frequently for refilling which creates additional risk. In addition, the proposed development is located outside the fireball radius. Therefore, this measure is considered not effective in reducing the risk

It is noted that the LPG store has been in operation since the intake of occupants at Tsui Lai Garden in 1989. The store was designed according to the local regulation and international standard while its daily operation follows operation and maintenance manual. As a result, there was no LPG release incident from the store along the years. This indicates that the LPG store has been carefully operated with equipment properly maintained by the Gas Supply Company. Therefore, it is considered that the risk of equipment failure has already been properly managed.

Gas detector can be used to detect the presence of LPG in the atmosphere and it provides alarm signal before flash fire would happen. By installing the gas detectors in the proposed development site, the construction workers (during construction phase) and the occupants (during operation phase) can evacuate to avoid fatality due to flash fire. For the construction phase, according to the risk model, the PLL risk reduction is 1.93E-7 and the MJE is less than a few hundred dollars while the safety measure would cost more than ten thousand dollars. For the operation phase, the PLL risk reduction is 8.23E-7 and the MJE is less than a few thousand dollars while the safety measure would cost more than a hundred thousand dollars. Therefore, this safety measure is not recommended.



Firewall can be installed at the proposed development site to protect the construction workers (during construction phase) and the occupants (during operation phase) from being attacked by jet fire from the LPG store. For the construction phase, according to the risk model, the PLL risk reduction is 2.45E-7 and the MJE is less than a few hundred dollars while the safety measure would cost more than a million dollars. For the operation phase, the PLL risk reduction is 4.68E-7 and the MJE is less than few thousand dollars while the safety measure would cost more than a million dollars. Therefore, this safety measure is not recommended.

On top of the mitigation measures discussed, the following good practices are recommended for the construction phase and operation phase:

Construction Phase

- A proper communication channel should be established between the gas supply company of the LPG store and the site representative of the construction works. In case of emergency, the gas supply company should inform the site representative immediately; and
- Emergency evacuation procedures should be formulated and fire-drill should be exercised regularly to ensure all construction workers are familiar with the procedures and the escape route in case of emergency.

Operation Phase

- A proper communication channel should be established between the gas supply company of the LPG store and the representative of the proposed development. In case of emergency, the gas supply company should inform the representative immediately; and
- Emergency procedures should be formulated and fire-drill should be exercised regularly to ensure all occupants are familiar with the procedures in case of emergency.



8. Conclusion

A quantitative risk assessment has been conducted to estimate the risk level of the LPG storage installation. The individual risk level of 1E-5 is contained inside the boundary of the installation. The societal risk level falls into the lower bound of the ALARP region for both construction and operation phase of the proposed development. Although the identified mitigation measures are found not to be cost effective, good practices are recommended to enhance the safety awareness of the person inside proposed development site. The risk level of the LPG storage installation is therefore complied with the Hong Kong Risk Guideline.



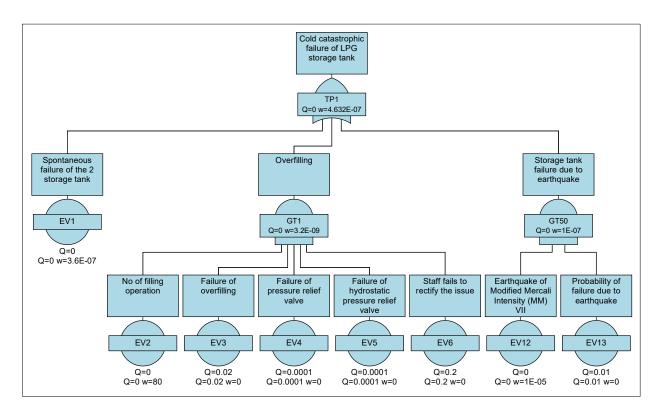
9. References

- 1. Reeves, A.B., Minah F.CC., Chow V.H.K. (1996), "Quantitative Risk Assessment Methodology for LPG Installations", Conference on Risk & Safety Management in the Gas Industry, EMSD & HKIE, Hong Kong.
- 2. Citybus Limited (2001), EIA for Proposed Headquarters and Bus Maintenance Depot in Chai Wan.
- 3. Health and Safety Executive, Failure Rate and Event Data for Use within Land Use Planning Risk Assessment.
- 4. Blything, KW. & Reeves, AB., An Initial Prediction of the BLEVE Frequency of a 100 tonne Butane Storage Vessel, SRD Report R488, August 1988.
- 5. Mitchell, E.M, Gross R.E, Harris S.P (2012), Evaluating Risk and Safety Integrity Levels for Pressure Relief Valves through Probabilistic Modeling.
- 6. Architectural Services Department (2002), EIA for Proposed Joint User Complex and Wholesale Fish Market at Area 44 Tuen Mun, QRA for LPG Compound.
- 7. Civil Engineering and Development Department (2008), EIA of Agreement No. CE35/2006 (CE) Kai Tak Development Engineering Study cum Design and Construction of Advance Works Investigation, Design and Construction, QRA for LPG Filling Staion.
- 8. Agreement No. CE43/2005 (EP), Harbour Area Treatment Scheme, Stage 2A EIA Study Investigation, QRA for Hong Kong & China Gas Depot in Aberdeen.
- 9. Cox A.W., Lees F.P. and Ang M.L. (2000), Classification of Hazardous Location.
- 10. International Association of Oil & Gas Producers (2010), OGP Risk Assessment Data Directory Process Release Frequencies.
- 11. Census and Statistics Department HKSAR (2019), Population and Household Statistics Analysed by District Council District.
- 12. Axon Consultancy Ltd (2022), Traffic Impact Assessment for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories.
- 13. Development Bureau (2019), Kwu Tung North and Fanling North New Development Areas, Funding Applications for Main Works, Detailed Design and Special Ex-gratia Cash Allowance.
- 14. Planning Department (2021), Projections of Population Distribution 2021 2029.
- 15. Health & Safety Executive UK (1995). The Calculation of Aircraft Crash Risk in UK.
- 16. TNO (2005), Guideline for Quantitative Risk Assessment CPR 18E.
- 17. Transport Department, Annual Traffic Census.
- 18. HKSAR (2011), Press Releases, LCQ4: Hong Kong International Airport Master Plan 2030.
- 19. Ricacorp Properties Limited, https://www.ricacorp.com,.Schooland, https://www.schooland.hk/ss.
- 20. Fung Kai Liu Man Shek Tong Secondary School, https://info.fklmstss.edu.hk/en/.
- 21. Fung Kai Kindergarten, https://fkkgfungkai.edu.hk/.
- 22. Social Welfare Department Elderly Information Website, https://www.elderlyinfo.swd.gov.hk/en/content/fung-kai-care-and-attention-home-elderly-home-section.
- 23. Social Welfare Department Elderly Information Website, https://www.elderlyinfo.swd.gov.hk/en/content/fung-kai-care-and-attention-home-elderly-c-section.
- 24. Hong Kong Institute of Construction (2020), Brand New Look at Sheung Shui Campus.
- 25. HKSAR, Schedule 1 of CAP 459A Residential Care Homes (Elderly Persons) Regulation.
- 26. Fung Kai No. 1 Primary School (2020), Annual Report for 2019 to 2020.
- 27. Labour and Welfare Bureau & Social Welfare Department (2022), Legislative Council Brief Residential Care Homes Legislation (Miscellaneous Amendments) Bill 2022, File Ref.: LWB CR 1/5093/17 (22).

Appendices

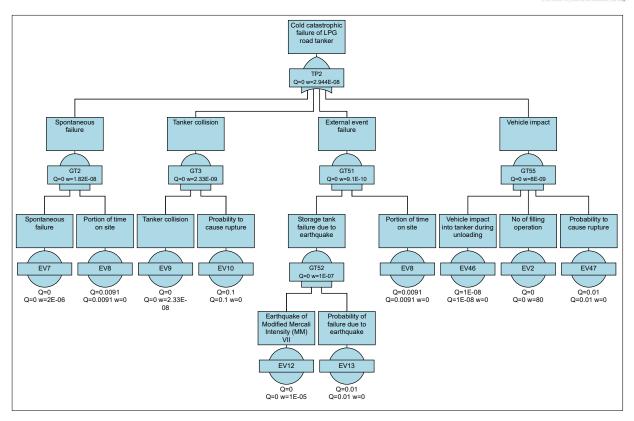


Appendix A. Fault Tree Analysis

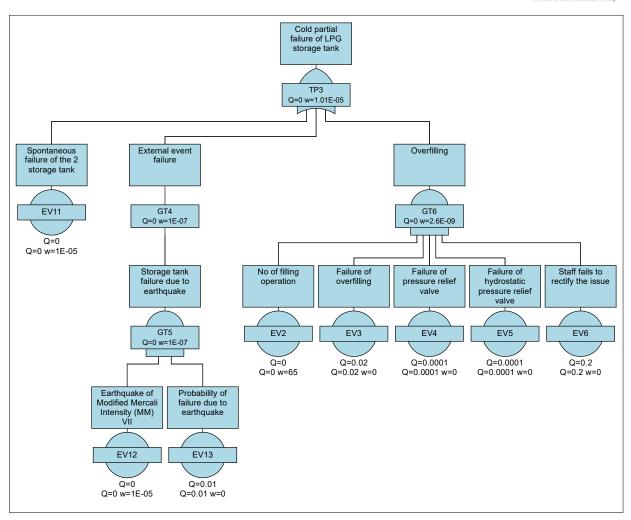


Remarks:

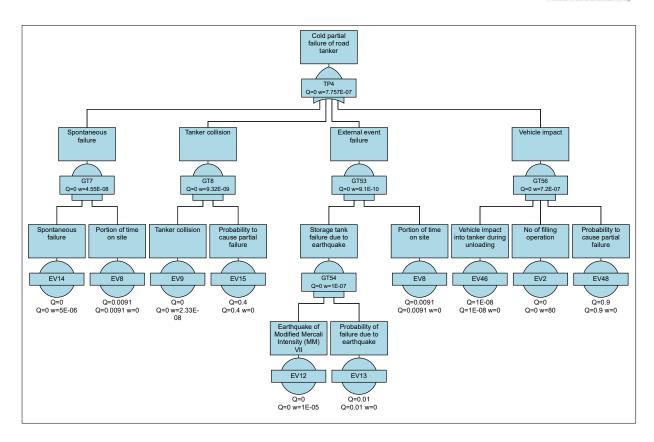




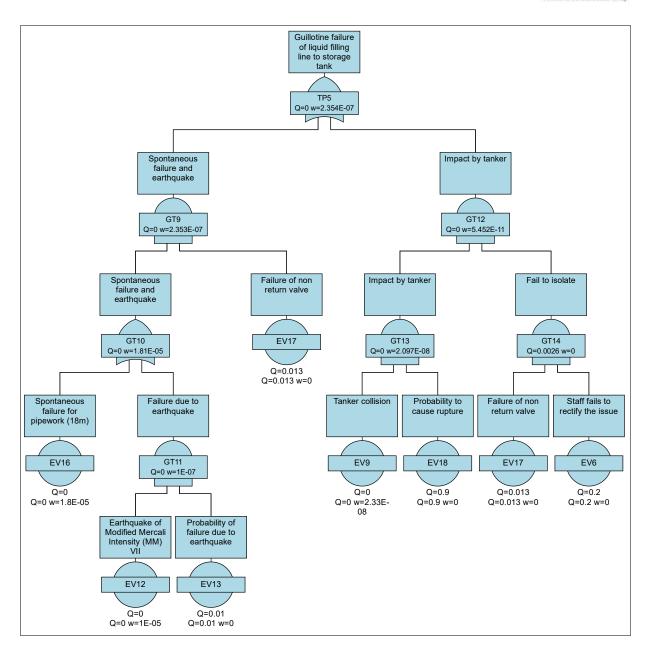




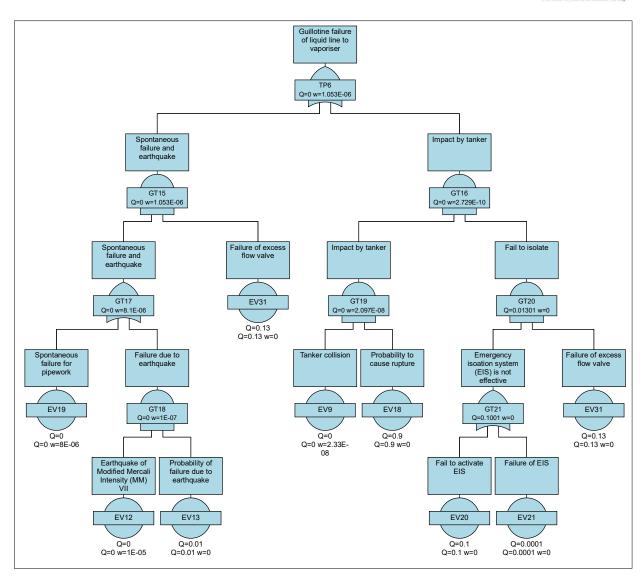




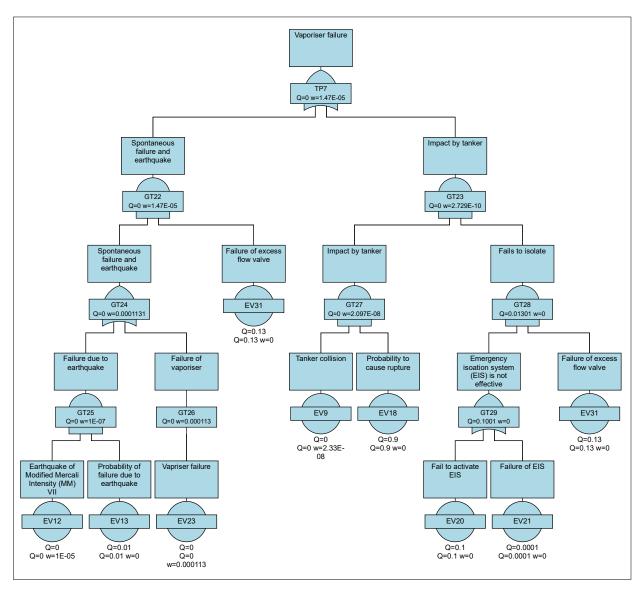










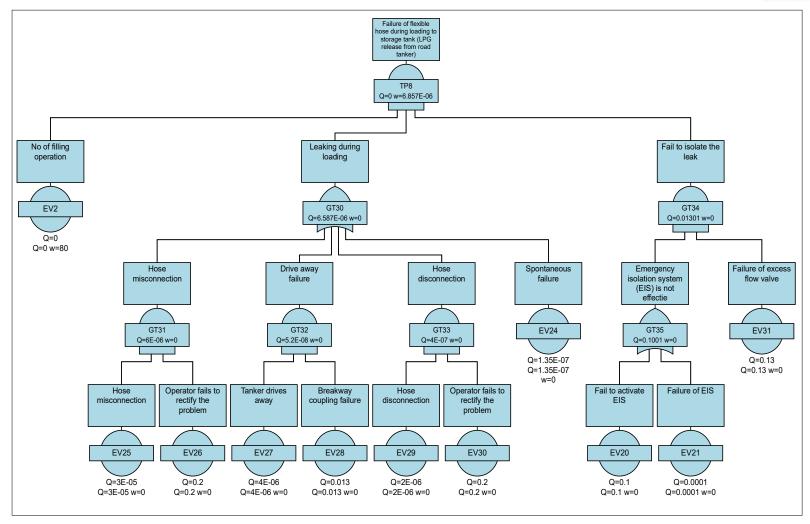


Q stands for probability while w stands for frequency Estimation of total length of coil inside each vaporiser:

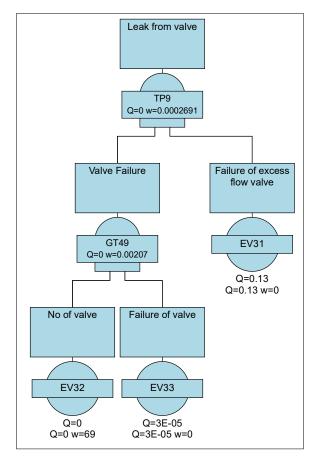
Item	Vaporiser No. 1 to 3	Vaporiser No. 4	Remarks
Diameter of coil (mm)	40	40	Based on coil diameter of outlet pipework connecting the vaporiser
Height of vaporiser (m)	1.5	2	Site observation
No of loop of coil	37.5	50	Assume the coil is looped closely from the bottom to the top of the vaporiser, no of loop of coil = height of vaporiser / diameter of coil
Diameter of vaporiser (mm)	150	375	Site observation
Circumference of vaporiser (m)	0.5	1.2	2 * π * radius of vaporiser
Total length of coil (m)	18	60	Circumference of vaporiser * No of loop of coil

Vaporiser failure rate = 1E-6 * (18 * 3 + 60) = 1.13E-4



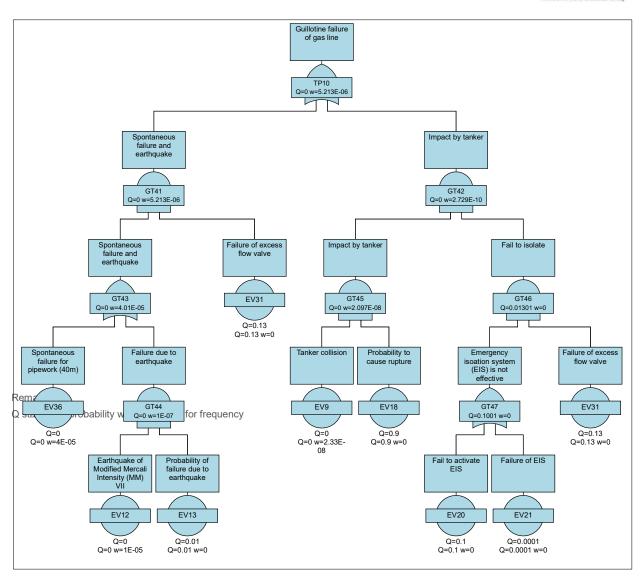






Q stands for probability while w stands for frequency







Appendix B. Event Tree Analysis

Cold Catastro	phic Failure of LF	G Tank										
	Immediate	Ignition		Delayed	Ignition		VCI	:?	Event O	utcome	Outcome Fr	equency
	Yes 9.00E-01								Fire	ball	4.17E-	-07
4.63E-07	1.00E-01											
			Yes	1.00E+00		Yes	0.00E+00		V	Œ	0.00E+	+00
			No	0.00E+00		No	1.00E+00					
									Flash	Fire	4.63E-	-08
									Unignited	l Release	0.00E+	-0 0
											4.63E-	-07

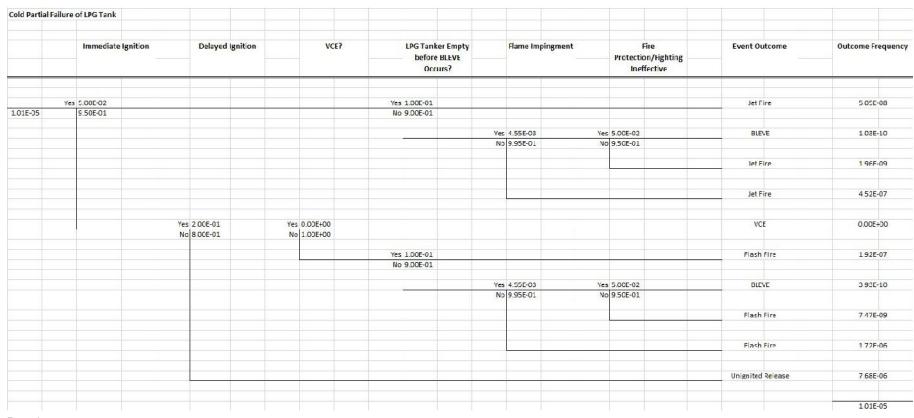


Cold Catastro	орпіс ға	ilure of LPG R	toad Tanker										
		Immediate	gnition		Delayed	Ignition		VC	?	Event O	utcome	Outcome F	requency
	44.500												
2.94E-08	0.000	9.00E-01 1.00E-01								Fire	ball	2.65E	-08
					1.00E+00			0.00E+00		V	Œ	0.00E	+00
				No	0.00E+00		No	1.00E+00					
										Flash	Fire	2.94E	-09
										Unignited	d Release	0.00E	+00
												2.94E	-08

Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5

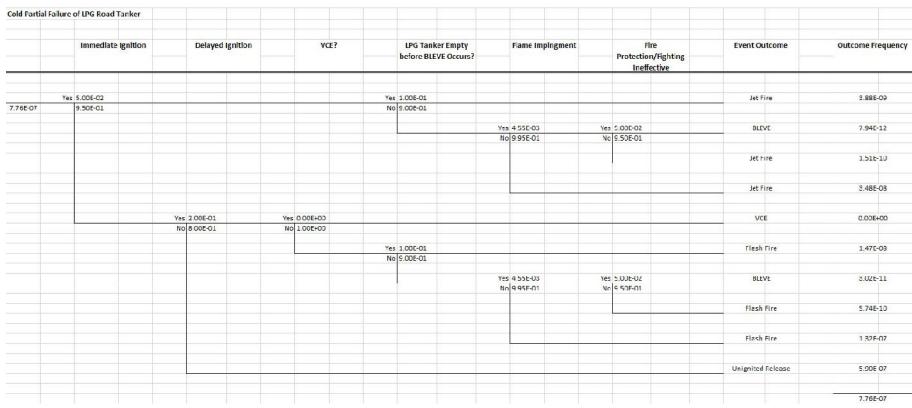




Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5

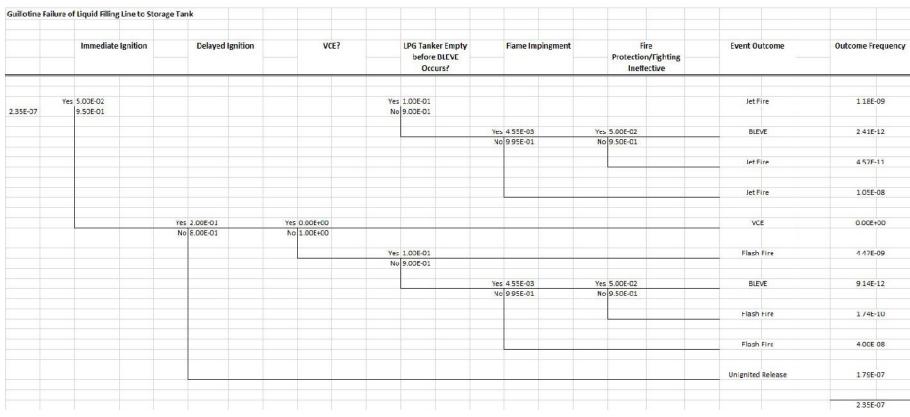




Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5

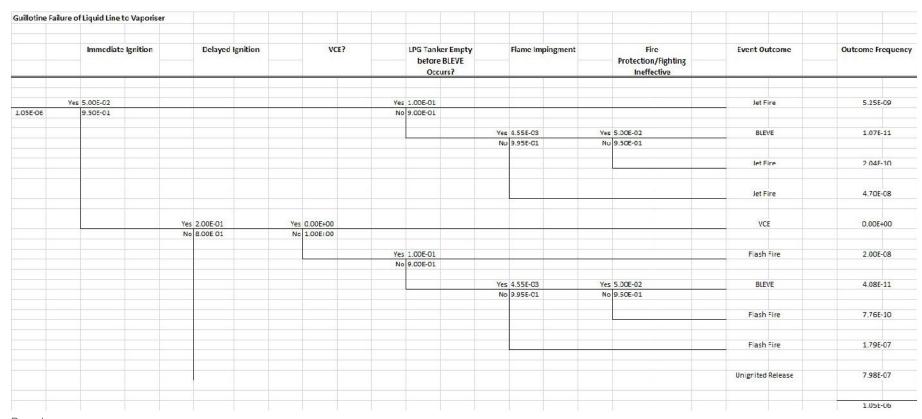




Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5

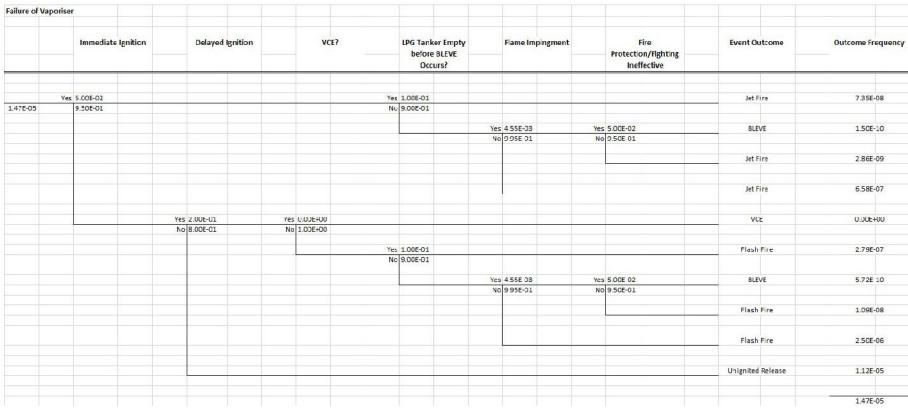




Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5

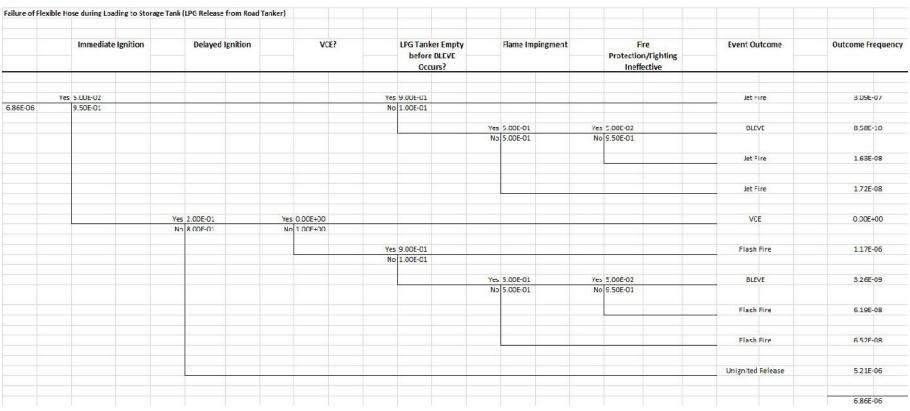




Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5





Upon failure of flexible hose, the LPG content inside the road tanker will be reducing over time as LPG will be releasing out through the hose. The chartek coating will provide 30min protection, by the time the protection is lost, the amount of LPG remaining inside the road tanker will be little, if not empty. Therefore, it is likely that LPG road tanker will be empty before BLEVE occurs.

The chance of jet fire generated from the LPG facility hitting to the road tanker to cause flame impingement is assumed as 0.5

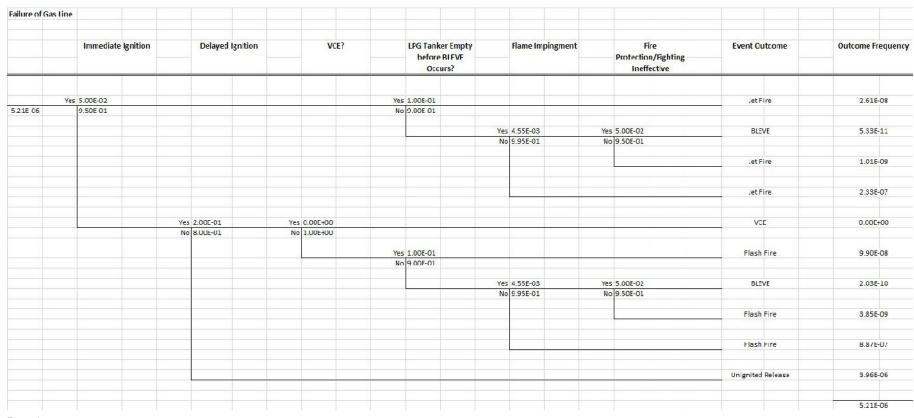


Leak from Valve	e										
	Immediate	Ignition	Delayed	Ignition	VCE?		LPG Tanker Empty before BLEVE Occurs?	Hame Impingme	nt Hire Protection/Fighting Ineffective	Event Outcome	Outcome Frequen
2.70E-04	Yes 5.00E-02 9.50E-01						1.00E-01 9.00E-01			Jet Fire	1.35E-06
/UE-U/I	9.501-01					WO	9.002-01				
								Yes 4.55t-03	Yes 5.00t-02	BIEVE	2.76E-U9
								No 9.95E-01	No 9.50E-01		
									78	!et Fire	5.25E-08
										.et Fire	1.21E-05
			Yes 2.00E 01		Yes 0.00E100					VCE	0.00E100
			No 8.00E-01		No 1.00E+00						
						V	4 005 04			Flori Co.	5.405.06
							1.00E-01 9.00F-01			Flash Fire	5.13E-06
							71671777				
								Yes 4.55E-08	Yes 5.00E-02	BLEVE	1.05E-08
								No 9.95E-01	No 9.50E-01		
										Flash Fire	2.00E-07
										Flash Fire	4.60E-U5
										Unignited Release	2.05E-04
											2.70E-04

Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5





Flame impingement occurs only when the road tanker is at the site and its probability is 0.0091 (i.e. (60/60)*80/(24*365))

The chance of jet fire generated from the LPG facility hitting to the road tanker is assumed as 0.5



Appendix C. Consequence Analysis

Scenario	Consequence Distance (m)
Cold catastrophic failure of storage tank_fireball	44
Cold catastrophic failure of storage tank_flashfire	168
Cold catastrophic failure of road tanker_fireball	51
Cold catastrophic failure of road tanker_flashfire	216
Cold partial failure of storage tank_flashfire	58
Cold partial failure of storage tank_jetfire	55
Cold partial failure of road tanker_flashfire	58
Cold partial failure of road tanker_jetfire	55
Guillotine failure of liquid filling line to storage tank_flashfire	58
Guillotine failure of liquid filling line to storage tank_jetfire	55
Guillotine failure of liquid line to vaporiser_flashfire	96
Guillotine failure of liquid line to vaporiser_jetfire	84
Failure of vaporiser_flashfire	108
Failure of vaporiser_jetfire	95
Failure of flexible hose to liquid filling line_flashfire	58
Failure of flexible hose to liquid filling line_jetfire	55
Failure of valve_flashfire	29
Failure of valve_jetfire	35
Guillotine failure of gas line_flashfire	108
Guillotine failure of gas line_jetfire	95
BLEVE of road tanker	49



Appendix D. Population Data



Table D.1 - Population Data for Year 2029

Item	Item Name	Population	Portion		Occupa	ncy Factor			Popula	tion 2028		Remarks
			Indoor	Peak Hour	Working Day	Weekend Day	Night	Peak Hour	Working Day	Weekend Day	Night	
1	Tsui Lai Garden	5835	0.95	0.5	0.5	0.7	1	2917	2917	4084	5835	No of unit: 2012 [19] Average household size: 2.9 [11] Total population = 2012 * 2.9 = 5835
2	CIC Sheung Shui Training Centre	2590	0.95	0.1	1	0	0.5	259	2590	0	1295	The total floor area is estimated as 23300m². The centre contains not only classrooms, but also equips with workshops to match different training discipline such as bricklaying; plastering and tiling; plumbing and pipe-fitting; joinery and welding, etc. Since those workshops contain equipment or open space to allow students to practise the training, the centre should not be highly populated. An average population density of one person per every 9m² is therefore considered appropriately inside the centre.
3	Fung Kai Liu Man Shek Tong Secondary School	944	0.95	0.5	1	0	0	472	944	0	0	No of student and staff are 881 and 63 respectively ^[20] Total population = 881 + 63 = 944
4	Sheung Shui Fire Station	20	0.95	1	1	1	1	20	20	20	20	Site survey



5	Fung Kai Kindergarten	415	0.95	0.5	1	0	0	208	415	0	0	No of student: 359 ^[20] No of staff: 56 ^[21] Total population = 359 + 56 = 415
6	Church of Christ in China Sheung Shui Church Kindergarten	237	0.95	0.5	1	0	0	119	237	0	0	No of student and staff are 218 and 19 respectively ^[20] Total population = 218 + 19 = 237
7	Ting Ping Road Garden	10	0	1	0.5	1	0.1	10	5	10	1	Site survey
8	Fung Nam Road Garden	3	0	1	0.5	1	0.1	3	2	3	0	Site survey
9	Car Park	1	0	1	1	1	1	1	1	1	1	Site survey
10	Fung Kai No. 1 Primary School	1192	0.95	0.5	1	0	0	596	1192	0	0	No of student is 1118 [26] No of staff is 74 [26]
												Total population = 1118 + 74 = 1192
11	Ting Ping Shan Village	580	0.95	0.5	0.5	0.7	1	290	290	406	580	A total of 200 units were counted from GeoInfo map. Average household size: 2.9 [11] Total population = 200 * 2.9 = 580



12	Proposed Residential Care Home for Elderly – Construction Phase	100	0	1	1	0	0	100	100	0	0	Based on the size of the proposed development, a total of 100 construction workers is assumed.
13	Fung Kai Care and Attention Home for the Elderly	700	0.95	1	1	1	1	700	700	700	700	No of resident: 596 ^[23, 24] No of staff: 104 ^[23,24] Total population = 596 + 104 = 700
14	Kwu Tung North and Fanling North New Development Areas - Remaining Phase (Portion)	364	0.95	0.5	0.5	0.7	1	182	182	255	364	The total area for Remaining Phase is 247 hectares and the planned population is 135,200 [13] The area of the portion near the LPG storage installation is estimated as 6645m². The population type is assumed residential. Total population = 135200 / 247 / 10000 * 6645 = 364



Table D.2 - Population Data for Year 2031

Item	Name	Population	Portion		Occupa	ncy Factor			Popula	tion 2030		Remarks
			Indoor	Peak Hour	Working Day	Weekend Day	Night	Peak Hour	Working Day	Weekend Day	Night	
1	Tsui Lai Garden	5835	0.95	0.5	0.5	0.7	1	2917	2917	4084	5835	No of unit: 2012 [19] Average household size: 2.9 [11] Total population = 2012 * 2.9 = 5835
2	CIC Sheung Shui Training Centre	2590	0.95	0.1	1	0	0.5	259	2590	0	1295	The total floor area is estimated as 23300m². The centre contains not only classrooms, but also equips with workshops to match different training discipline such as bricklaying; plastering and tiling; plumbing and pipe-fitting; joinery and welding, etc. Since those workshops contain equipment or open space to allow students to practise the training, the centre should not be highly populated. An average population density of one person per every 9m² is therefore considered appropriately inside the centre.
3	Fung Kai Liu Man Shek Tong Secondary School	944	0.95	0.5	1	0	0	472	944	0	0	No of student and staff are 881 and 63 respectively [20] Total population = 881 + 63 = 944
4	Sheung Shui Fire Station	20	0.95	1	1	1	1	20	20	20	20	Site survey



5	Fung Kai Kindergarten	415	0.95	0.5	1	0	0	208	415	0	0	No of student: 359 ^[20] No of staff: 56 ^[21] = 359 + 56 = 415
6	Church of Christ in China Sheung Shui Church Kindergarten	237	0.95	0.5	1	0	0	119	237	0	0	No of student and staff are 218 and 19 respectively ^[20] Total population = 218 + 19 = 237
7	Ting Ping Road Garden	10	0	1	0.5	1	0.1	10	5	10	1	Site survey
8	Fung Nam Road Garden	3	0	1	0.5	1	0.1	3	2	3	0	Site survey
9	Car Park	1	0	1	1	1	1	1	1	1	1	Site survey
10	Fung Kai No. 1 Primary School	1192	0.95	0.5	1	0	0	596	1192	0	0	No of student is 1118 ^[26] No of staff is 74 ^[26] Total population = 1118 + 74 = 1192
11	Ting Ping Shan Village	580	0.95	0.5	0.5	0.7	1	290	290	406	580	A total of 200 units were counted from GeoInfo map. Average household size: 2.9 [11] Total population = 200 * 2.9 = 580
12	Proposed Residential Care Home for	348	0	1	1	1	1	348	348	348	348	No of resident: 324 (from project proponent



	Elderly – Operation Phase											No of staff: 24 ^[26, 27] Total population = 324 + 24 = 348
13	Fung Kai Care and Attention Home for the Elderly	700	0.95	1	1	1	1	700	700	700	700	No of resident: 596 ^[23, 24] No of staff: 104 ^[23,24] Total population = 596 + 104 = 700
14	Kwu Tung North and Fanling North New Development Areas - Remaining Phase (Portion)	364	0.95	0.5	0.5	0.7	1	182	182	255	364	The total area for Remaining Phase is 247 hectares and the planned population is 135,200 [13]. The area of the portion near the LPG storage installation is estimated as 6645m². The population type is assumed residential. Total population = 135200 / 247 / 10000 * 6645 = 364



Appendix E. Traffic Data

Tin Ping Road

Core Station No: 6624

Table E1: AADT for Tin Ping Road from 2015 to 2020

Year	AADT (vehicle per day) [1]
2015	3130
2016	3240
2017	3040
2018	3090
2019	3230
2020	3540
Average	3212

Remark: [1] The data are obtained from Annual Traffic Census published by the Transport Department

Table E2: AADT for Construction and Operation Phase

Year	Description	Estimated AADT (veh/hr)	Remarks
2029	Construction Phase	4118	A yearly growth rate since 2020 is 2.8% [12]
2031	Operation Phase	4352	A yearly growth rate since 2020 is 2.8% [12]

Table E3: Estimated Traffic Flow

Item		Peak	Weekday Day	Weekend Day	Night
Traffic flow contr	ibution (%)	17.3	55.3	72.6	27.4
No of hours		3	9	12	12
Average hourly traffic flow (veh/hr)	Construction phase	237	253	249	94
	Operation phase	250	268	263	99
Population (person/km)	Construction phase	14.2	15.2	14.9	5.6
	Operation phase	15.0	16.1	15.8	6.0



Jockey Club Road

Core Station No: 5822

Table E4: AADT for Tin Ping Road from 2015 to 2020

Year	AADT (vehicle per day) [1]
2015	15160
2016	14100
2017	14560
2018	15030
2019	15620
2020	14870
Average	14890

Remark: [1] The data are obtained from Annual Traffic Census published by the Transport Department

Table E5: AADT for Construction and Operation Phase

Year	Description	Estimated AADT (veh/hr)	Remarks
2029	Construction Phase	19091	A yearly growth rate since 2020 is 2.8% [12]
2031	Operation Phase	20175	A yearly growth rate since 2020 is 2.8% [12]

Table E6: Estimated Traffic Flow

Item		Peak	Weekday Day	Weekend Day	Night
Traffic flow contril	bution (%)	17.3	55.3	72.6	27.4
No of hours		3	9	12	12
Average hourly	Construction phase	1098	1174	1155	436
traffic flow (veh/hr)	Operation phase	1160	1240	1220	461
Population (person/km)	Construction phase	47.0	50.3	49.5	18.7
	Operation phase	49.7	53.2	52.3	19.8



Fung Nam Road

Table E7: Estimated Traffic Flow

Item	Year	Peak Hour	Weekday Day	Weekend Day	Night	Remarks
Average hourly traffic flow (veh/hr)	2021	19	20	20	7	Data obtained from site survey
	2029	24	25	25	9	A yearly growth rate since 2021 is 2.8% [12]
	2031	25	26	26	9	A yearly growth rate since 2021 is 2.8% [12]
Population (person/km)	2029	1.4	1.5	1.5	0.5	-
	2031	1.5	1.6	1.6	0.6	-



Appendix F. Aircraft Crash Frequency

The model considers factors such as target area of the proposed hazard site and its longitudinal and perpendicular distances from the runway threshold for landing and take-off movement respectively. The crash frequency per unit ground area (per km²) is calculated as:

$$g(x, y) = NRF(x, y)$$

Where.

N is the number of runway movements per year

R is the probability of an accident per movement (landing or take-off)

F(x,y) is the spatial distribution of crashes

The spatial distribution of crashes can be estimated as by:

Landings

$$F_L(x,y) = \frac{(x+3.275)}{3.24} e^{\frac{-(x+3.275)}{1.8} \left[\frac{56.25}{\sqrt{2\pi}} e^{-0.5(125y)^2} + 0.625 e^{\frac{-|y|}{0.4}} + 0.005 e^{\frac{-|y|}{5}} \right]}$$

For x > -3.275 km

Take-off

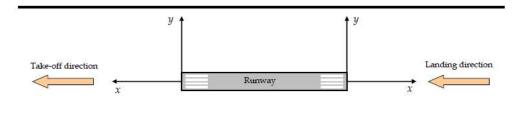
$$F_T(x,y) = \frac{(x+0.6)}{1.44} e^{\frac{-(x+0.65)}{1.2} \left[\frac{46.25}{\sqrt{2\pi}} e^{-0.5(125y)^2} + 0.9635 e^{-4.1|y|} + 0.08 e^{-|y|} \right]}$$

For x > -0.6 km

Where,

x is the longitudinal distance between the runway threshold and the LPG storage installation (km) y is the perpendicular distance between the runway threshold and the LPG storage installation (km)

Figure E1: Aircraft Crash Coordinate System





The probability of an accident for landing is 2.7E-8 per flight and 4E-8 per flight for landing and take-off respectively [16]. The number of flights at Chek Lap Kok in 2030 is 62,000 flights per year [18].

The number of plane movement has been divided by 4 to take into account that only a quarter of landing or take-off use a specific runway. Considering the value of x and y are 23 km and 11 km respectively, applying the equation for spatial distribution of crashes for landings (F_L) and take-off (F_T) are 2.06E-9 and 6.04E-14 respectively. With the area of the LPG storage installation is 0.00019 km², the crash frequency per unit ground area is calculated as follows:

```
g_L(x,y) = NRF_L(x,y) = 62000 / 4 * 2.7E-8 * 2.06E-9 * 0.00019 = 1.63E-15 /year

g_T(x,y) = NRF_T(x,y) = 62000 / 4 * 4.0E-8 * 6.04E-14 * 0.00019 = 7.12E-20 /year
```

Since there are two landings and two take-off runway, the total aircraft crash frequency is equal to 3.26E-15 (i.e. (1.63E-15 + 7.12E-20) * 2).

Since the aircraft crash frequency is much smaller than 10E-9, the failure caused by aircraft crash is not further considered in the assessment.



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Ref.: ADCL_PLG_10238_L006

Item (ii)

Response-to-comment Table dated 23.8.2022



毅勤發展顧問有限公司

Tel 電話: (852) 3180 7811 Fax 傳真: (852) 3180 7611 Email 電郵: info@aikon.hk Web 網址: www.aikon.hk

Date : 23rd August, 2022 Our Ref. : ADCL/PLG-10238/L002

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

By Email and Fax (No. 2877 0245)

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction in "Village Type Development" zone and Area shown as 'Road' Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

(Planning Application No. A/FSS/288)

We refer to the previous and latest comments from Urban Design & Landscape Section of Planning Department, Electrical and Mechanical Services Department, Highways Department, Geotechnical Engineering Office of Civil Engineering and Development Department, District Lands Office/North of Lands Department and Drainage Services Department and would like to enclose herewith our Responses-to-Comments Table with supporting Appendices to address the abovementioned departmental comments for their consideration.

Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Zoe LAU or Mr. Thomas LUK at 3180 7811.

Yours faithfully,

Aikon Development Consultancy Limited

Encl.

c.c. DPO/FS&YLE, PlanD (Attn.: Ms Lily LAU) - By Email (Ihlau@pland.gov.hk)

Department	Date	Comments	Responses to Departmental Comments
Urban	29.7.2022	(d) Compared to the previously approved	(d) The application site falls largely within an area
Design &		Application No. A/FSS/279, the RCHE	zoned "Village Type Development" ("V") with a
Landscape		block and residential block have	minor portion within an area shown as 'Road'
Section of		increased from 14.4m to 25.95m (+about	on the draft Fanling/Sheung Shui Outline
Planning		80.2%) and from 12.15m to 12.95m	Zoning Plan No. S/FSS/25 (the Current OZP).
Department		(+about 6.6%) respectively. As claimed by	The minor portion falling within an area shown
(UD&L)		the applicant in para. 4.1.4 of the	as 'Road' will be maintained as a vehicular run-
		Planning Statement, the proposed	in/out with no building structures. For the
		increase in minimum flat size from	proposed development, all building structures
		23.5m ² for the residential block is to	will be erected within "V" zone on the Current
		comply with the latest minimum unit size	OZP.
		of at least 26m ² to 27.2m ² promulgated	
		by the Government. In addition, the	According to the Notes of the Current OZP for
		proposed larger floor space of about	"V" zone, Building Height (BH) restriction with
		10.7m ² per RCHE resident is to comply	a maximum building height of 3 storeys (8.23m)
		with the minimum area of floor space per	is applicable to 'Flat' use where no such
		resident of 9.5m ² proposed under the	restrictions stipulated for 'Social Welfare
		RCHE Legislation (Miscellaneous	Facility' to which the proposed RCHE shall be
		Amendments) Bill 2022. Apart from the	regarded as community use instead of
		need for increase in unit/flat size, the	residential use. As such, from urban design and
		applicant is suggested to explore more	visual perspective, the proposed RCHE
		planning merits in justifying the proposed	throughout the submission has well
		increase in BH.	demonstrated its compatibility (please see
			Appendix A) with the surroundings and once
			the current application is approved, the
			Applicant will comply with all relevant and
			prevailing statutory and licensing requirements
			for RCHE.
			Justifying the increase in BH of the proposed
			RCHE, it serves to essentially cater for building
			services at the roof of the building taking into
			comments by the Social Warfare Department
			(SWD) under the previously approved
			application (No. A/FSS/279) dated 22.7.2021.
			Sufficient buffer with approx. 800mm clear
			space (3.5-0.15 (thickness of slab)-2.5-0.05
			(thickness of ceiling)) is currently reserved for
			accommodating various 2.5m minimum ceiling
			height requirement and 2.3m height
			requirement for the underside of any beam for
			each room with a view to complying with the
			2.5m minimum ceiling height requirement and
			2.3m height requirement for the underside of
			any beam for each room according to Para 4.4.3
			of Code of Practice for Residential Care Homes
			(Elderly Persons 2020) January 2020 (Revised
			Edition). In order to be more practical, the
			abovementioned practice requires an increase
			in floor to floor height and consequently, an
			increase in building height from the previously

approved scheme.

Moreover, it is noted from the *LC Paper No. CB(2)542/2022(01) - Height Limit on Residential Care Homes for the Elderly* that SWD is now exploring to place more facilities or even the whole RCHE at a height more than 24 metres above the ground floor, on the premise that fire safety will not be compromised. In view of this, the proposed increase in BH of the RCHE throughout the submission is deemed to be in line with the Government direction. Specific requirements on fire safety design could be addressed by way of compliance of relevant approval condition(s) if necessary.

Meanwhile, by comparing with the previously approved scheme, there will only be a minor increase in 0.8m (+6.6%) with unchanged number of storeys for the proposed residential block, which should be deemed very negligible and shall induce no significant visual impact on the surroundings.

Furthermore, the increase in BH would correspondingly increase the total Plot Ratio and thus the provision of unit/flat. Comparing with the previously approved scheme, the current development scheme in providing additional 67 nos. of beds (+46.9%) and 10 nos. of flats (+35.7%) to the public would further unleash development potential of the underutilised land resources in the Territory and address the shortfall of housing and elderly home care services of the community. It would also contribute more to the latest Government's policy direction as reflected in the latest Policy Address 2021, "Hong Kong 2030+ Territorial Development Strategy" and the Elderly Services Programme Plan.

In light of the above, the current development scheme to certain extent shall deserve planning merits not only providing more spatial living and increasing the quality of living for future residential occupants, it also contributes to the aging community by providing more bed spaces and average living space for RCHE when comparing with the previously approved scheme.

- (e) In addition, it is noted that the floor to floor height for the typical floor of RCHE development is increased from 3.15m to 3.5m, which is on a relatively high side. The applicant is requested to justify whether such floor to floor height is necessary or to explore whether there is scope to lower it with a view to reducing the proposed BH for the RCHE block.
- (f) Having examined the submitted photomontages in Illustrations 4-I and 4-II, the applicant is advised to spell out the selected viewpoint locations; add photomontages showing the OZP-compliant scenario (i.e. previously approved scheme (Application No. A/FSS/279)) to compare against the Proposed Scheme; and propose appropriate mitigation measures to alleviate the potential visual impact.

(e) Ditto.

(f) Local viewpoints have been determined with reference made to the setting of the project and views of local significance according to Town Planning Board Guideline (TPB PG-No.41). The selected viewpoint locations (i.e. Fung Kai Kindergarten and Tin Ping Road) are illustrated per the photomontages attached in Appendix A.

Photomontages showing the OZP-compliant scenario to compare against the Proposed Scheme have been included in **Appendix A**.

Having considered that the formation level of the application site is lower than that of Tin Ping Road by about 2.1m (Appendix I of the submitted Planning Statement refers), the existing topography of the application site would help reduce the potential visual impact of the proposed development naturally.

Moreover, appropriate mitigation measures have been proposed under the Tree Preservation and Landscape Proposal in Appendix II of the submitted Planning Statement in order to alleviate the potential visual impact. It is proposed that an uncovered horizontal planting area with refined paving and selection of plant combination will be added to the rooftop of the proposed RCHE providing visual gradation of the development and visual amenity to the surrounding premises when viewing from above. Also, soft landscape measures including provision of heavy standard trees, shrubs, groundcover and climbing plants are proposed along the application site boundary to screen off the proposed building and reduce visual impacts to nearby residents/ visitors.

		(g) For the two photomontages, it is noted that the applicant has adopted the same photos as those in the previously approved scheme (Application No. A/FSS/279). The applicant is requested to check whether 1) the photos reflect the latest condition of the Site; and 2) the location of the proposed development in Illustration 4-II is accurate as it appears to be different with that in the previously approved scheme.	(g) Noted. The revised photomontages as per Appendix A have been revised and replaced those attached to the submitted Planning Statement. Please find the revised photomontages based on latest condition of the Site at Appendix A.
UD&L	15.8.2022	(i) For Para. 5.2.3 of Appendix II, "mini. 348 occupants (i.e. 234 nos. from RCHE and 114 nos. from residential block)" is indicated which is not tallied with Table 1 of the PS (i.e. "210(maximum) for RCHE and 114 nos. for residential blocks"). Inconsistent information should be rectified.	(i) Noted. Para. 5.2.3 of Appendix II of the submitted Tree Preservation and Landscape Proposal has been revised and replaced accordingly (Appendix B attached).
		(ii) As indicated on the Landscape Master Plans (MLPs), some proposed trees are located in narrow planters/ too close to the buildings (e.g. near RCHE building on G/F). It is advised to review the landscape layout to allocate sufficient growing spaces for sustainable tree growth.	(ii) Noted. The landscape layout will be further reviewed to provide more growing spaces for trees in detailed design stage and if required, a detailed Tree Preservation and Landscape Proposal will be submitted and implemented by way of compliance of relevant approval conditions once the current application is approved.
		(iii) The applicant is advised that approval of the application does not imply approval of tree works such as pruning, transplanting and felling under lease. The applicant is reminded to seek approval for any proposed tree works from relevant departments prior to commencement of the work.	(iii) Noted.

Department	Date	Comments	Responses to Departmental Comments
Electrical	29.7.2022	Please be advised that we have no particular	Noted.
and		comment on the application from electricity	
Mechanical		supply safety aspect. However, in the	
Services		interests of public safety and ensuring the	
Department		continuity of electricity supply, the parties	
(EMSD)		concerned with planning, designing,	
		organizing and supervising any activity near	
		the underground cable or overhead line	
		under the mentioned application 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	
		concerned 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.	
		We have no particular comment on the	
		document as far as electricity supply safety	
		is concerned.	

Department	Date	Comments	Responses to Departmental Comments
Highways	2.8.2022	1. As hard landscape of the existing	1. Given that the ingress/egress alignment
Department		planter and existing drainage system	proposed in the current application follows
(HyD)		maintained by HyD will be affected by	exactly the same as the proposed and
		the proposed RCHE site (e.g. U-channel	approved scheme under the previous
		along the planter), the applicant is	application. Further detailed planter layout
		required to provide revised planter	and U-channel scheme will be submitted to
		layout and drainage diversion scheme	relevant Government department(s) for
		for review and agreement;	consideration upon approval of the current planning application. The specific requirements on planter and U-Channel design could be addressed by way of compliance of relevant approval condition(s) if necessary.
			As for the drainage diversion, the stormwater collected by the U-channel would be drained to catchpit SCH1001784 and convey to Manhole SMH1004117 underneath Tin Ping Road. After completion of the proposed development, stormwater running in the U-channel is proposed to be diverted to SMH1004117 to avoid flooding over the pedestrian footpath. Details of the foregoing diversion will be submitted to relevant Government department(s) for consideration once the application is approved.
		2. More details of the run-in/out should be provided. Moreover, cut-off channels should be provided at the proposed run-in/out and boundary of lot without fence wall to intercept the surface runoff from the lot as appropriate;	2. Ditto.
		The applicant is also required to demonstrate that the proposed run-	3. Ditto.
		in/out (Catchment Area A3) will not cause flooding/ponding in the area.	The Catchment A3 currently is a part of the pedestrian footpath, which is 100% paved. After completion of the proposed development, it would be constructed as the run-in/out, of which the pavement condition remains unchanged comparing to existing condition. Therefore, adverse drainage impact arising from Catchment A3 is not anticipated. After completion of the proposed
			development, stormwater running in the existing U-channel is proposed to be diverted to SMH1004117, i.e. the same storm water manhole connecting the existing U-channel.

Department	Date	Comments	Responses to Departmental Comments
•	2.8.2022	2. There is an existing Feature No. 3SW-A/F83 located within/adjoining the boundary of the application site, which could affect or be affected by the proposed run-in/ out under the captioned development. Also, it is noted that filling of land (about 2.1m in depth) will be required for the application site as mentioned in item 9 of the application form in Appendix I of above-referenced memo. As such, please remind the applicant to provide necessary submission(s) of site formation works to Buildings Department as required by the provision of Building Ordinance if found applicable.	2. Noted. Necessary submission(s) of site formation works will be provided to Buildings Department as required by the provision of Building Ordinance if required and considered essential subject to the planning permission given to the current application.

Department	Date	Comments	Responses to Departmental Comments
District Lands	5.8.2022	5. Land exchange at premium is required	5. LandsD's Practice Note No. 4/2003 entitled
Office/North,		to implement the subject planning	"Incentive Scheme to Encourage Provision of
Lands		proposal that comprises RCHE and	Residential Care Home for the Elderly
Department		flats. If the Applicant wishes to	Premises in New Private Developments"
(DLO/N,		proceed the land exchange in	would be applicable to the proposed social
LandsD)		accordance with the policy laid down	welfare facility (residential care home for the
244527		in LandsD Practice Notice No.4/2003	elderly (RCHE)) under the current application.
		on "Incentive Scheme to Encourage	The Applicant is well prepared to approach
		Provision of Residential Care home for	SWD and seek policy support on the proposed
		the Elderly Premises in New Private	RCHE at the soonest upon planning approval
		Developments" and seek premium	granted for the current planning application.
		exemption for the RCHE portion,	granted for the current planning application.
		comment and policy support from	
		SWD are required at the earliest stage.	
		Land Exchange for the uses other than	
		RCHE is to be considered and	
		processed at premium.	
		6. A new 8.9m-wide access road within	6. Noted.
		Government land connecting the Lots	
		to Tin Ping road Was proposed and the	
		said Government land concerned was	
		included in the Application Site. The	
		access road will also pass through slop	
		feature No. 3SW-A/F83 (with HyD	
		being the responsible party as well as	
		the maintenance agent).	
		11. If the subject planning application is	11. Noted
		approved by TPB, the lot owner has to	
		apply to Lands Department for a land	
		exchange to implement the approved	
		planning scheme. The land exchange	
		application will be considered by the	
		Lands Department acting in the	
		capacity as landlord at its sole	
		discretion and there is no guarantee	
		that such application will be approved.	
		If such application is approved, it will	
		subject to such terms and conditions	
		as considered appropriate including	
		but not limited to the payment of	
		premium and administrative fee.	
		There is no guarantee that any	
		government land involved or adjoining	
		to the Lots will be granted and	
		included in the land exchange.	

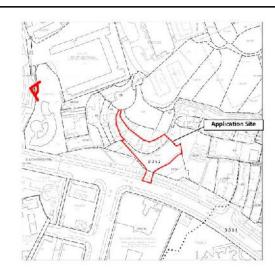
Department	Date	Comments	Responses to Departmental Comments
Drainage	9.8.2022	The applicant shall provide the site survey	Noted. The Topographical Survey Plan and site
Services		record to prove the surface characteristic of	photos are attached for your reference (Appendix
Department		catchment A1 and A2 (before	C).
(DSD)		development) in table 3-1.	
			For catchment A1, most site area are paved and covered by tree crown, with a piece of cultivation land located at northeast corner of the site and abandoned ponds at northwest corner. As such, the hard pavement rate is assumed to be 80%.
			For catchment A2, it is occupied by existing staircase footpath sitting on a manmade slope. The hard pavement rate is hence assumed to be 90%.

Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L002
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
in D.D. 52 and adjoining Government Land. Tin Ping Road. Sheung Shui, New Territories	

Appendix | A

Revised Photomontages







Previously approved scheme (Application No. A/FSS/279)



Proposed Scheme

Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Source: ve Anchitect 樑安建築師有限公司 L & N Architects Ltc.
Rooms 1203-1204, 12/F Belgian Bank Building
721 726 Nothan Rood, Kowloon
1+852 3422 3082, (1+852 3428 2269

Project:

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, N.T.

Title:

Photomontage from Viewpoint (1) - Fung Kai Kindergartèn

Date:

Scale:

4-I

Illustration:

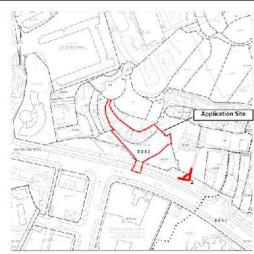
Not-to-scale

Aug 2022



Ref.: ADCL/PLG-10238-R001/I004a







Previously approved scheme (Application No. A/FSS/279)



Proposed Scheme

Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui, N.T.

Source:

Executive Architect We 交更 多 師 有 限 公 司 L & N Architects Ltd.

Rooms 1203-1204, 12/F Beiglan Bank Building 721-725 Nathan Road, Kowboon t-1652 3422 30052, 1-1652 3422 3269

Project:

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, N.T.

Title:

Photomontage from Viewpoint (2) – Ting Ping Road

Illustration: 4-II

Scale: Not-to-scale

Date: Aug 2022



Ref.: ADCL/PLG-10238-R001/I004a

Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L002
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
he Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
n D.D. 52 and adjoining Government Land. Tin Ping Road. Sheung Shui, New Territories	

Appendix | B

Replacement Page for the Tree Preservation and Landscape Proposal

Planting Design

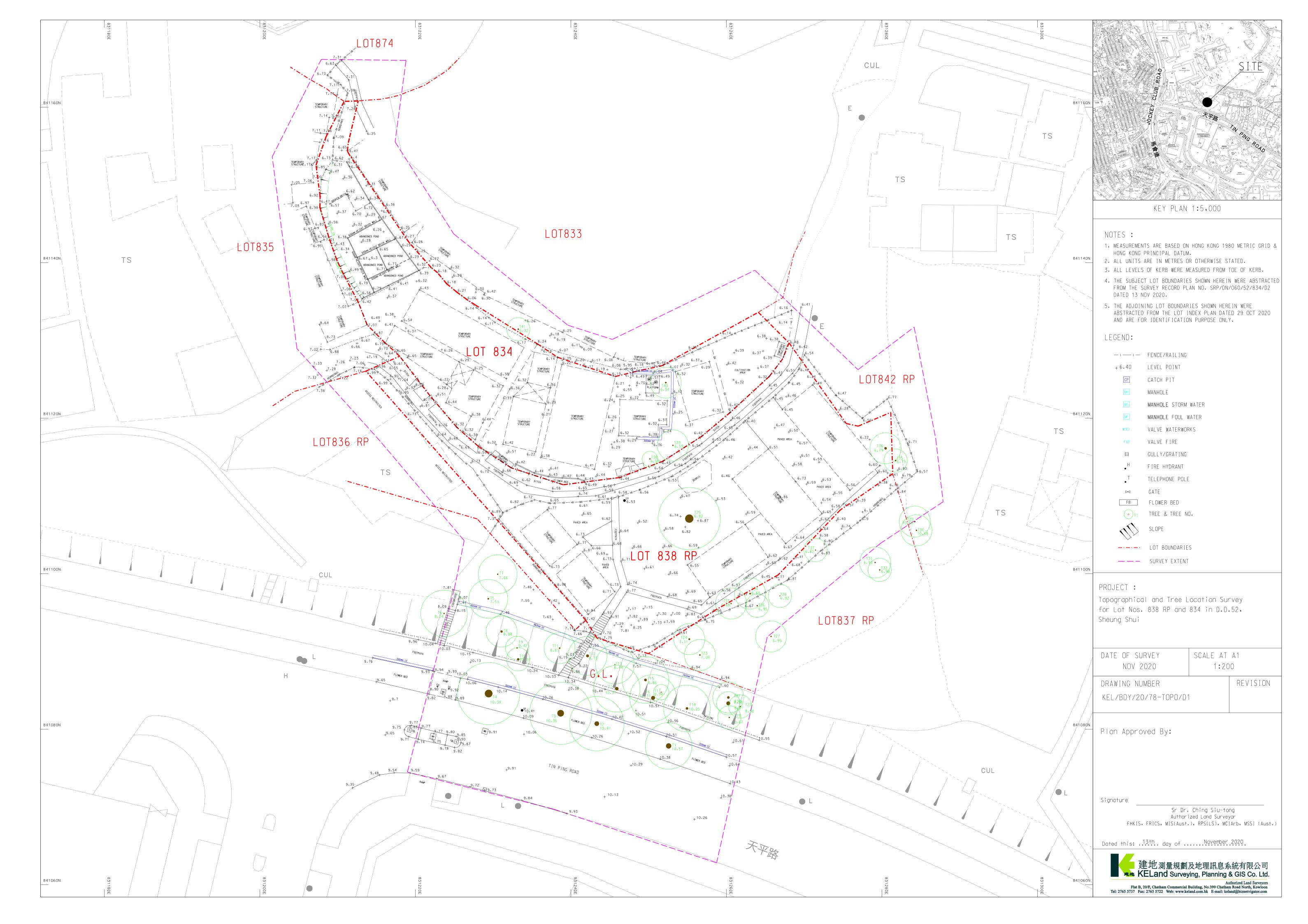
- 5.1.5 A majority of proposed plantings will be planted along the internal access, common planting beds, and planting strips along the periphery of the Site. This will create a tranquil and harmonic environment for enjoyment of future residents. The use of tree planting in heavy standard size and in good quality would be encouraged to provide a more instant effect.
- 5.1.6 Where practicable and feasible, heavy standard trees, medium shrubs and foliage plants are proposed. These soft landscape measures will enable to soften the hard lines of the Proposed Development. The use of planting heavy standard sized vegetation would offer a more instant greening effect. Planting Plans shall refer to **Appendix C**.
- 5.1.7 In order to enhance the local biodiversity, local species or broad-leaf species will be selected for tree planting.
 - Compensation for Vegetation Disturbed due to the Development
- 5.1.8 The Proposed Development will require vegetation clearance for construction of the podium and residential tower. Existing trees will inevitably be disturbed. The proposal aims to compensate the loss of vegetation, in particular, through planting of new trees. Further details of the compensatory planting proposal are in **Section 6.0** and **Appendix C**.
- 5.1.9 **35** new trees with average **100mm** DBH are proposed to be planted to compensate the loss of **16** existing trees. All proposed trees will be maintained by the future management office of the Proposed Development.

5.2 Recreational Facilities

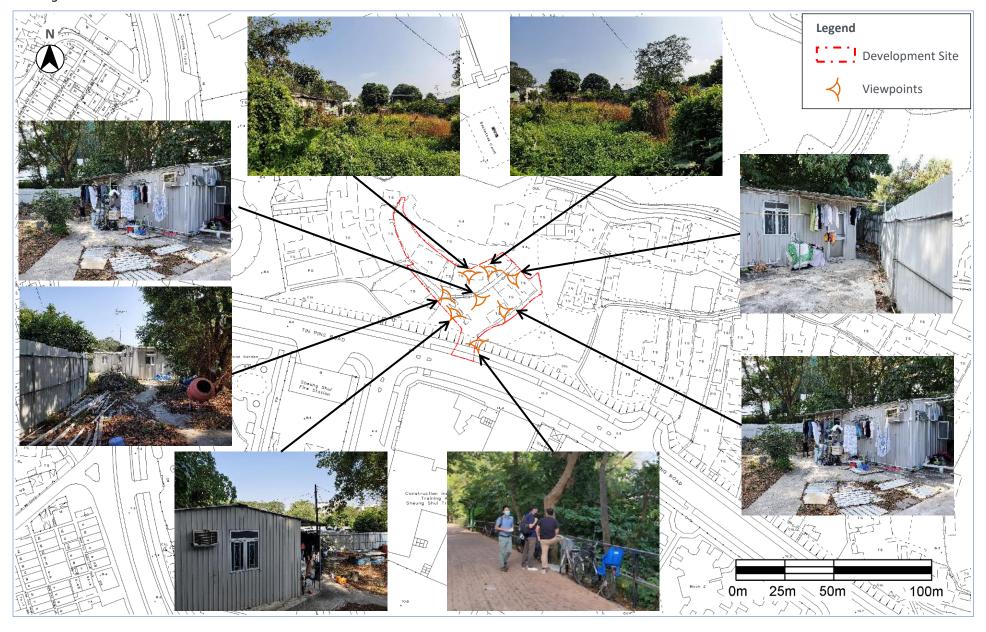
- 5.2.1 As the open space will be located adjacent to the building blocks and, in essence, the overall built form, it will be generally formal in design. Sitting gardens are provided G/F and R/F of RCHE for enjoyment of the occupants and visitors.
- 5.2.2 For the entire landscape area, ornamental trees, flowering shrubs and foliage plants with different textures will also be proposed. Planting proposed not only to create enclosure and sense of privacy to the residents but also provide visual enjoyment to the neighbours.
- 5.2.3 It is expected that there will be mini. **324** occupants (i.e. **210** nos. from RCHE and **114** nos. from residential block) at the proposed development while the area of the communal open spaces is approx. **371.4** m². Hence, the provision of the communal open space can meet the requirement under HKPSG, i.e. 1 m² per person. Please refer to the Communal Open Space Provision, dwg. No. **OS01** in **Appendix D**.

Planning Application No. A/FSS/288 Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories	Ref.: ADCL/PLG-10238/L002
, , , , ,	

Supplementary Topographical Survey Plan and Site Photos



Existing Site Condition



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care	Ref.: ADCL_PLG_10238_L006
Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at	
Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung	
Shui, New Territories	

Item (iii)

Response-to-comment Table dated 19.10.2022



毅勤發展顧問有限公司

Tel 電話: (852) 3180 7811 Fax 傳真: (852) 3180 7611 Email 電郵: info@aikon.hk Web 網址: www.aikon.hk

Date : 19th October, 2022 Our Ref. : ADCL/PLG-10238/L004

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

By Email and Fax (No. 2877 0245)

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction in "Village Type Development" zone and Area shown as 'Road' Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

(Planning Application No. A/FSS/288)

We refer to the previous and latest comments from Transport Department, Urban Design & Landscape Section of Planning Department and Social Welfare Department and would like to enclose herewith our Responses-to-Comments Table with supporting Appendices to address the abovementioned departmental comments for their consideration.

Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Zoe LAU or Mr. Thomas LUK at 3180 7811.

Yours faithfully,

Aikon Development Consultancy Limited

Encl.

c.c. DPO/FS&YLE, PlanD (Attn.: Ms Lily LAU) - By Email (Ihlau@pland.gov.hk)

Department	Date	Con	nments	Responses to	Departmental Comments			
Transport	30.8.2022	(i)	Table 2.2: GPS value of 5	•	mber of private car parking space	s would	increase	
Department			should be used for this site;	from 6 in the previously submitted scheme to 9 by adopting GP			oting GPS	
(TD)				value 5 for the residential use of the proposed developmer			nent. The	
				proposed parking for RCHE and other residential parking type				
					king space, motorcycle parking			
				-	g/unloading bay remains unchang		_	
				been updated				
					nd Proposed Parking Provision for Residential Use			
				Туре	Parking Requirements Under HKPSG	Required	Proposed	
					Standard Parking Requirement = GPS x R1 x R2 x R3	Provision	Provision	
				Private Car Parking Space	Flat Number = 17 GFS: 1 parking space $n + 3 + 7 \text{ fats} = 3 - 5$ R1 (for average flat size $s + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + $	9	9	
					R2 (for outside a 500m-radius of rail station) = 1 R3 (for plot ratio <2.0 and ≤ 5.00) = 1			
				Visitor Parking Space (Accessible)	-	8	1	
				Motorcycle Parking Space	1 for every 100 – 150 flats	1	1	
				Goods Vehicle Loading/unloading Bay	1 for every 800 flats	1	1	
				Remark: GPS value of	of 5 is adopted for the determination of private car parking			
				Due to the site	constraints, a Mechanized Vehicl	e Parkin	g System	
				may be impler	mented for the additional parking	g provisi	on. It is a	
				parking system	n with two levels (double-decked)	and on	e parking	
				space on each	level. The revised scheme would	offer a	high-end	
				provision of pa	arking spaces as required in the Hk	PSG. Th	e revised	
				car parking lay	yout plan and corresponding swe	pt path	analyses	
				are enclosed in	n Appendix A .			
					s of the car parking spaces, lo	_	_	
				· ·	will be submitted to releva			
					for consideration once the			
					ecific requirements on the design			
					ehicle Parking System could be a			
					or compliance	of relevant approval condition(s)	ii neces	ssary.
		(ii)	The footpath adjoining the	Please be advi	sed that the width of the concer	ned foot	tpath has	
		(,	vehicular access should be no		d from 1.5 metres to 2 metres. T			
			less than 2.0m wide;		updated footpath design is enclos		•	
		(iii)	Figure 2.3: The distance of driver from the kerb should be specified for the sightline measurement. If the TPDM requirements had been complied with?	been updated C), sufficient proposed run-	sibility analysis for the propose. As indicated in Figure 2.3 (Plea visibility (i.e., 60m) could be a in/out which complies with the capter 3 of the Transport Plani	se see A chieved criteria s	Appendix I for the set out in	

(iv) Table 4.3: Comments from the Planning Department should be obtained on the latest planning data; and

In response to the Planning Department's comments on Table 4.3 of the TIA, the future traffic flows generated by the Fanling North New Development Area (FLN NDA) have been checked using the approved s.16 application No. A/FLN/30 and agreed OZP amendments to FLN OZP No. S/FLN2 Traffic Impact Assessment Report. Specifically, the design flow of Jockey Club Road (Index - FL11) has been extracted and compared to our TIA results as shown below:

		S/208 Results)	A/FLN/30 (1) (Approved TIA Results)		
Link Flow of Jockey Club Road between Po Shek Wu Road and Po Wan Road	2034 Flow (PCU/HOUR)		2036 Flow (PCU/HOUR)		
	AM	PM	AM	PM	
NB	1690	1277	1070	1010	
SB	1556	1695	1450	1435	
Total	3246	2972	2520	2445	

Source: (1) Extracted from Table 2.2 - Road Link Performance in the approved TIA of planning application no. A/FLN/30

It is observed that the design flow of Jockey Club Road (Index -FL11) from the approved A/FLN/30 in 2036 is significantly lower than the reference flow of the same road section projected in our TIA report in 2034. In view of the differences, it is suggested that our traffic analysis in the submitted TIA has been conducted on a more conservative basis and the concerned road links and junctions of the study area should have sufficient capacities to accommodate the expected traffic growth to year 2034, including the future traffic flows generated by the FLN NDA.

(v) For the proposed vehicular access on Tin Ping Road, it is noted that some trees would be required to be felled or transplanted. The applicant is required to ensure that the proposal would be accepted by relevant parties (e.g. LCSD). Noted. Given that the proposed vehicular access on Tin Ping Road in the current application follows exactly the same as the proposed and approved scheme under the previous application (No. A/FSS/279), the Applicant will submit further detailed planter layout to relevant Government department(s) including LCSD for consideration upon approval of the current planning application.

Department	Date	Comments	Responses to Departmental Comments
Urban Design	21.9.2022	(b) Compared to the previously approved	(b) The proposed RCHE is strictly in compliance with all
& Landscape		Application No. A/FSS/279, the RCHE	relevant and prevailing statutory and licensing
Section of		block and residential block have	requirements for RCHE. Please refer to the
Planning		increased from 14.4m to 25.95m (+about	responses to Social Welfare Department below for
Department		80.2%) and from 12.15m to 12.95m	detailed justifications.
(UD&L)		(+about 6.6%) respectively. Judging from	
		the proposal and photomontages	In terms of the residential block, in comparison
		submitted, the proposed development	with the previously approved scheme, there will
		would bring forth visual changes to the	only be a minor increase in 0.8m (+6.6%) with an
		surrounding low-rise and low-density	unchanged number of storeys for the proposed
		neighbourhood and would create slight	residential block.
		obstruction to the skyview when viewed	
		from the viewpoint near Fung Kai	The proposed floor-to-floor height under the
		Kindergarten. Some mitigation measures are proposed to alleviate the	current proposal is 3.5m for G/F and 3.15m for typical floors (1/F-3/F), in which only the floor-to-
		potential visual impact including	floor height of G/F is reaching the high end of the
		provision of rooftop garden and tree	3.5m typical and acceptable standard as stipulated
		planting along the site boundary to	in Buildings Department Practice Note No. PNAP
		provide visual amenity and screen off the	APP-5, Lands Department Lands Administration
		proposed development.	Office Practice Note No. 4/2014 and Joint Practice
		p special state of	Note No 5. The floor-to-floor height of the
			remaining floors are 3.15m and are well below the
			aforesaid 3.5m standard.
			Moreover, the increase in floor-to-floor height for
			the proposed residential block is only +0.35m
			(+11%) for G/F and +0.15m (+5%) for typical floors
			(1/F-3/F). The minor increase in building height
			should be deemed very negligible and shall induce
			no significant visual impact on the surroundings.

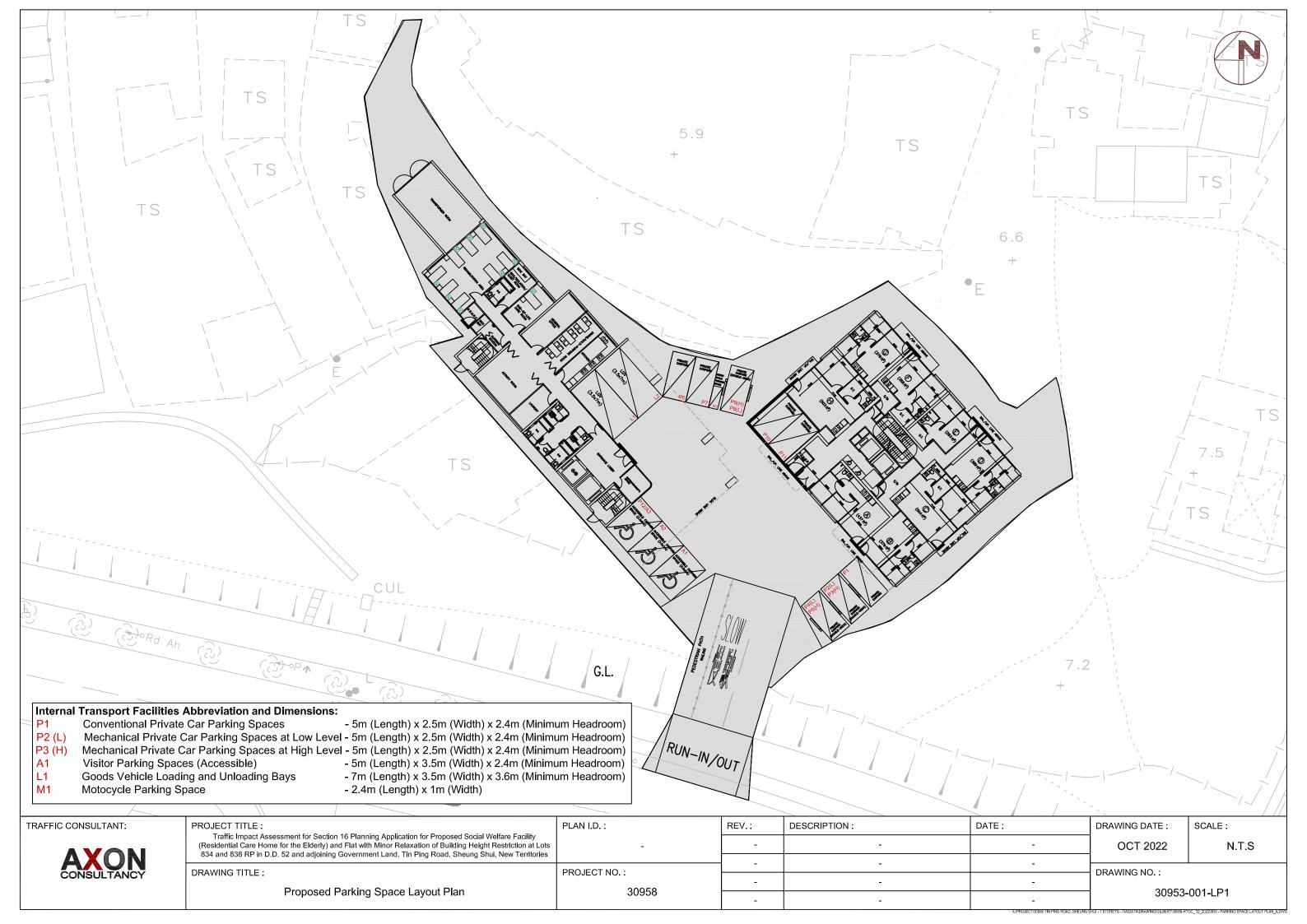
Department	Date	Comments	Responses to Departmental Comments
Social Welfare Department (SWD)	21.9.2022	Comments from services perspective (1) The height of 7-storey RCHE is more than 24m ("not more than 25.95m" as mentioned in the key development parameter). As stated in the latest version of the Code of Practice for Residential Care Homes (Elderly Persons) (CoP), no part of an RCHE shall be situated at a height more than 24 metres above the ground floor, measuring vertically from the ground of the building to the floor of the premises in which the RCHE is to be situated. If an RCHE is located in a building with different levels, the height of the RCHE is to be measured from the level of the lower street / road (Para 5.3 of the CoP refers). In this connection, the applicant please review the height of the proposed RCHE to ensure its compliance with statutory and licensing requirements. We also defer to the views, if any of the Licensing Office of Residential Care Homes for the Elderly (LORCHE).	(1) It is noted from the latest version of the Code of Practice for Residential Care Homes (Elderly Persons) (CoP) that an RCHE must not be situated at a height more than 24m above the street level, measuring vertically from the street level to the floor of the premises in which the RCHE is or is to be situated. As demonstrated in the Tree Preservation and Landscape Proposal in Appendix II of the submitted Planning Statement, the current level of the Site is at approximately +6.50mPD which is lower than the level of Tin Ping Road at +10.34mPD (i.e. the mean street level). The site formation level is proposed to level up to +8.24mPD (i.e. the same site formation level as the previously approved scheme under the previous application No. A/FSS/279) to avoid flooding and connected by the proposed right-ofway with steep gradient. Having considered that the proposed site formation level (+8.24mPD) of the application site is lower than that of Tin Ping Road (+10.34mPD) by about 2.1m, the proposed RCHE in not more than 25.95m should be regarded as a height in not more than 23.85m above the street level. In view of this, the proposed RCHE is deemed to be in line with the CoP and in compliance with all relevant and prevailing statutory and licensing requirements for RCHE.
		(2) Each floor height of the proposed RCHE could not be found on the schematic section. The applicant should take note that sufficient buffer is required for each floor for placing for example building services facilities or false ceiling with a view to complying with the 2.5 metres minimum ceiling height requirement and 2.3 metres height requirement for the underside of any beam for each room according to Para. 4.4.3 of the CoP.	(2) The schematic section has been revised accordingly and indicated each floor height. Please refer to the revised architectural drawings in Appendix D . The proposed floor height allowed sufficient buffer with approximate 800mm clear space for each floor for placing for example building services facilities above the false ceiling in accordance with Para 4.4.3 of Code of Practice for Residential Care Homes (Elderly Persons 2020) January 2020 (Revised Edition).
		(3) There is a rehabilitation area on the G/F in which the layout of this area is provided with bed places. Please remove the bed places in the layout as appropriate.	(3) The layout of G/F has been revised accordingly with no bed places in the rehabilitation area. Please refer to the revised architectural drawings in Appendix D .

(4) A kitchen area is provided inside each Single Quarter on 1/F - 7/F. While our understanding is that the "Single Quarter" is 1-p dormitory room of the RCHE (may the applicant please advise if otherwise), according to para. 5.6.4 of the CoP, no cooking in naked flame shall be permitted inside the RCHE other than in the kitchen. If a kitchen to be installed inside a dormitory, the applicant should ensure that all the statutory and licensing requirements could be complied with.
Comments from Licensing Perspective (1) The applicant is reminded that for an RCHE licence to be issued, the intended RCHE has to comply with the licensing requirements as stipulated in the Residential Care Homes (Elderly Persons) Ordinance, Cap.459, its subsidiary legislation and the latest version of Code of Practice for Residential Care Homes (Elderly Persons). And all the requirements refer to those prevailing at the time when the application for licence is processed by this Office.

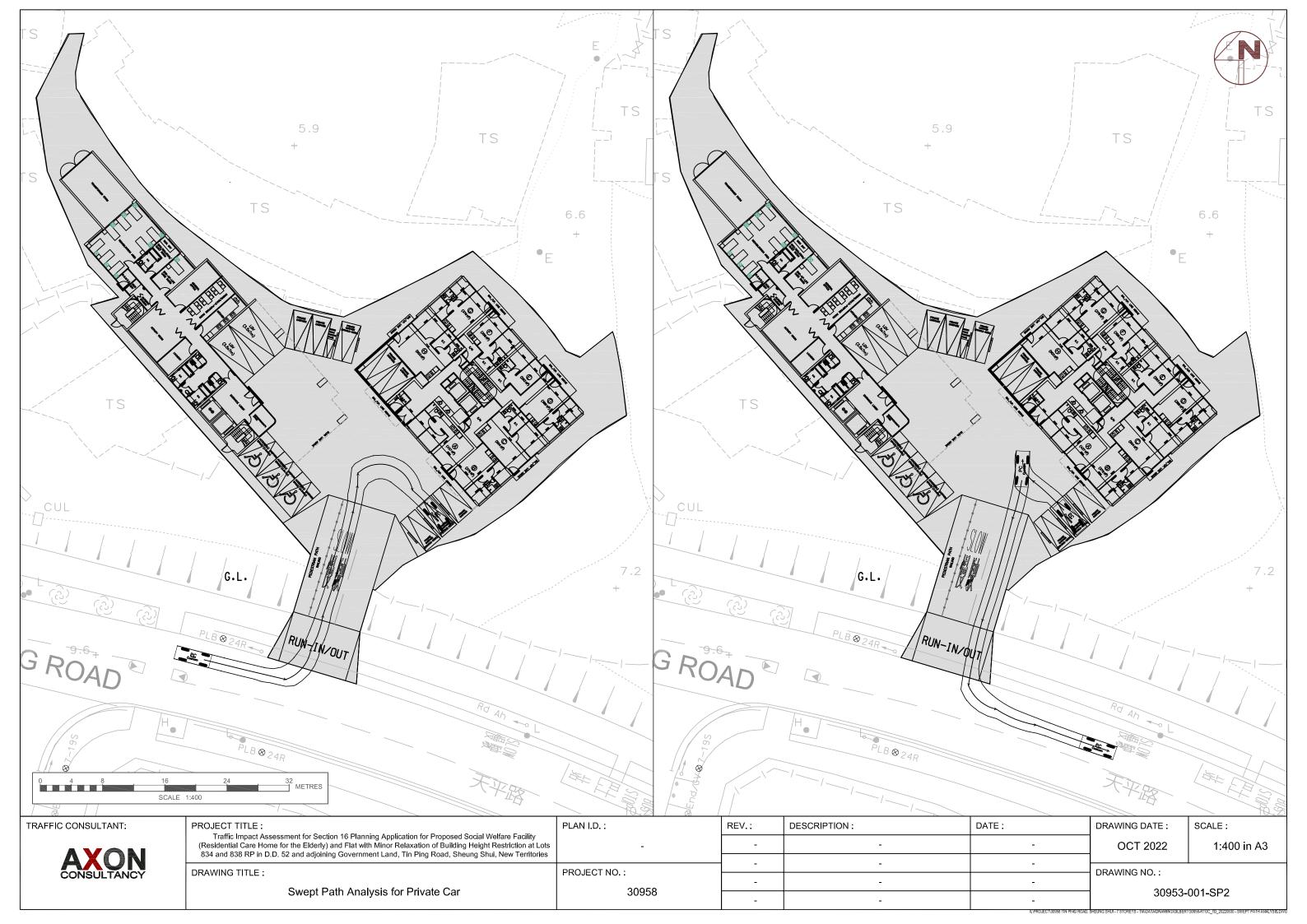
Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L004
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
in D.D. 52 and adjoining Government Land. Tin Ping Road. Sheung Shui, New Territories	

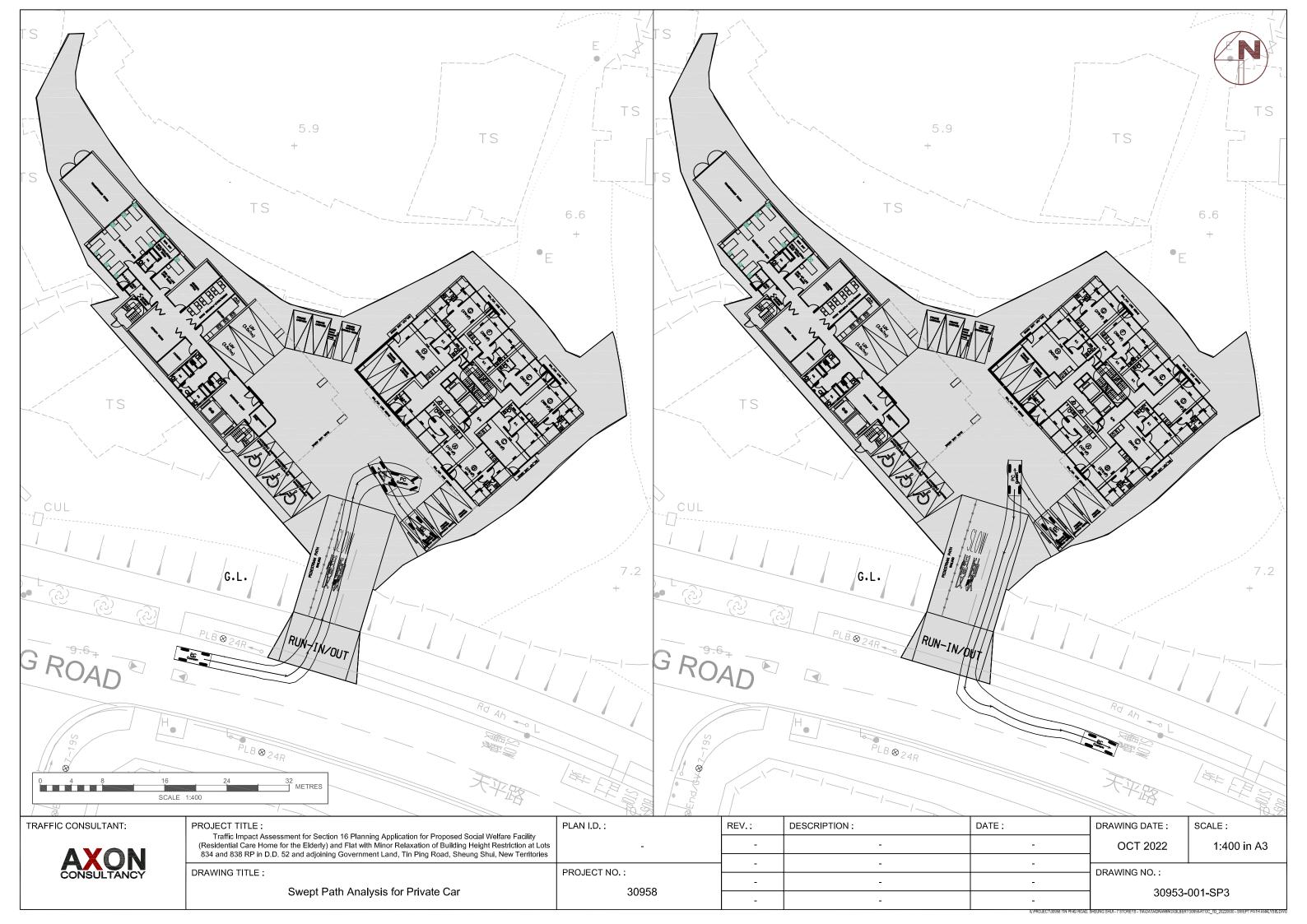
Appendix | A

Revised Car Parking Layout Plan & Swept Path Analyses











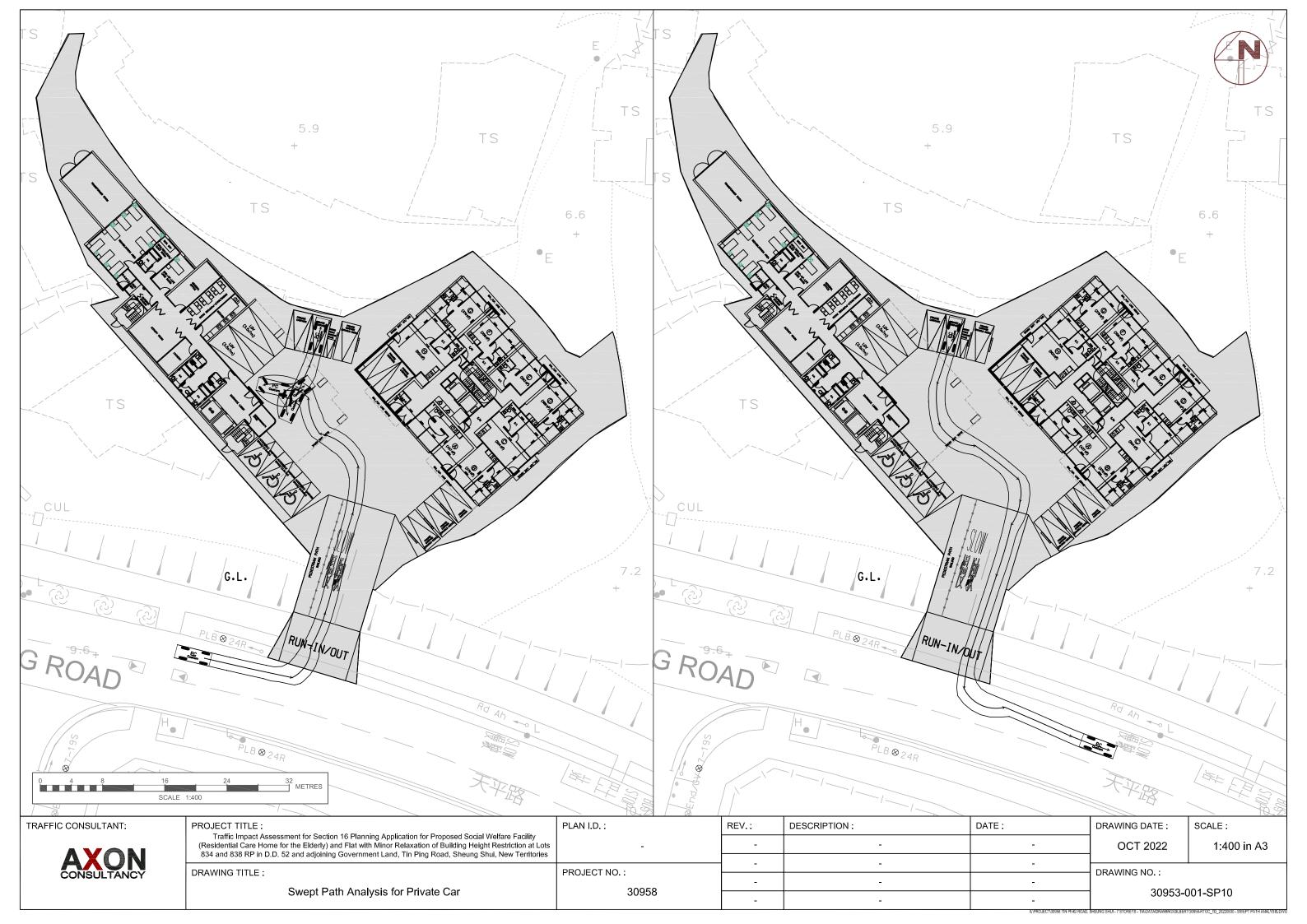








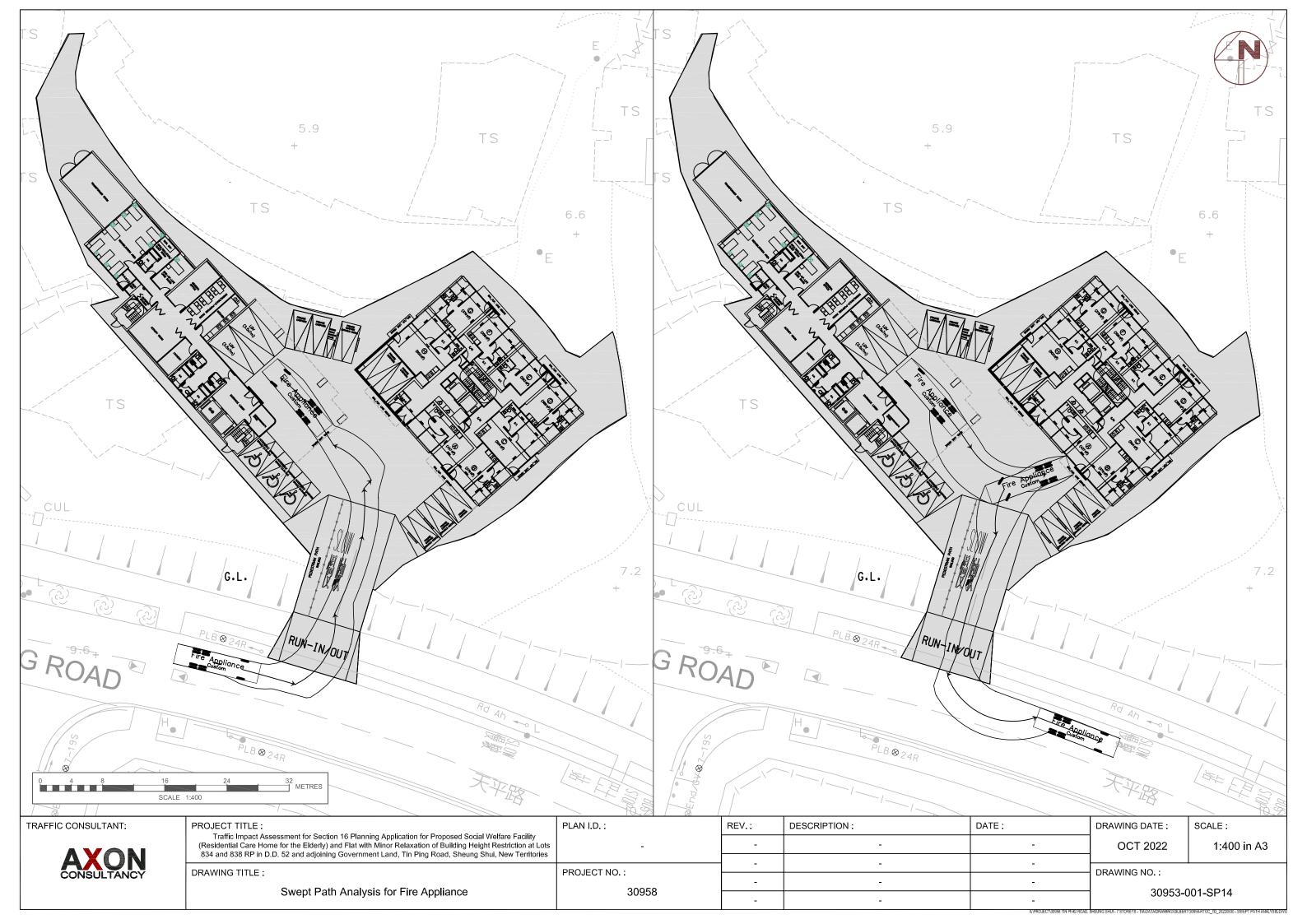










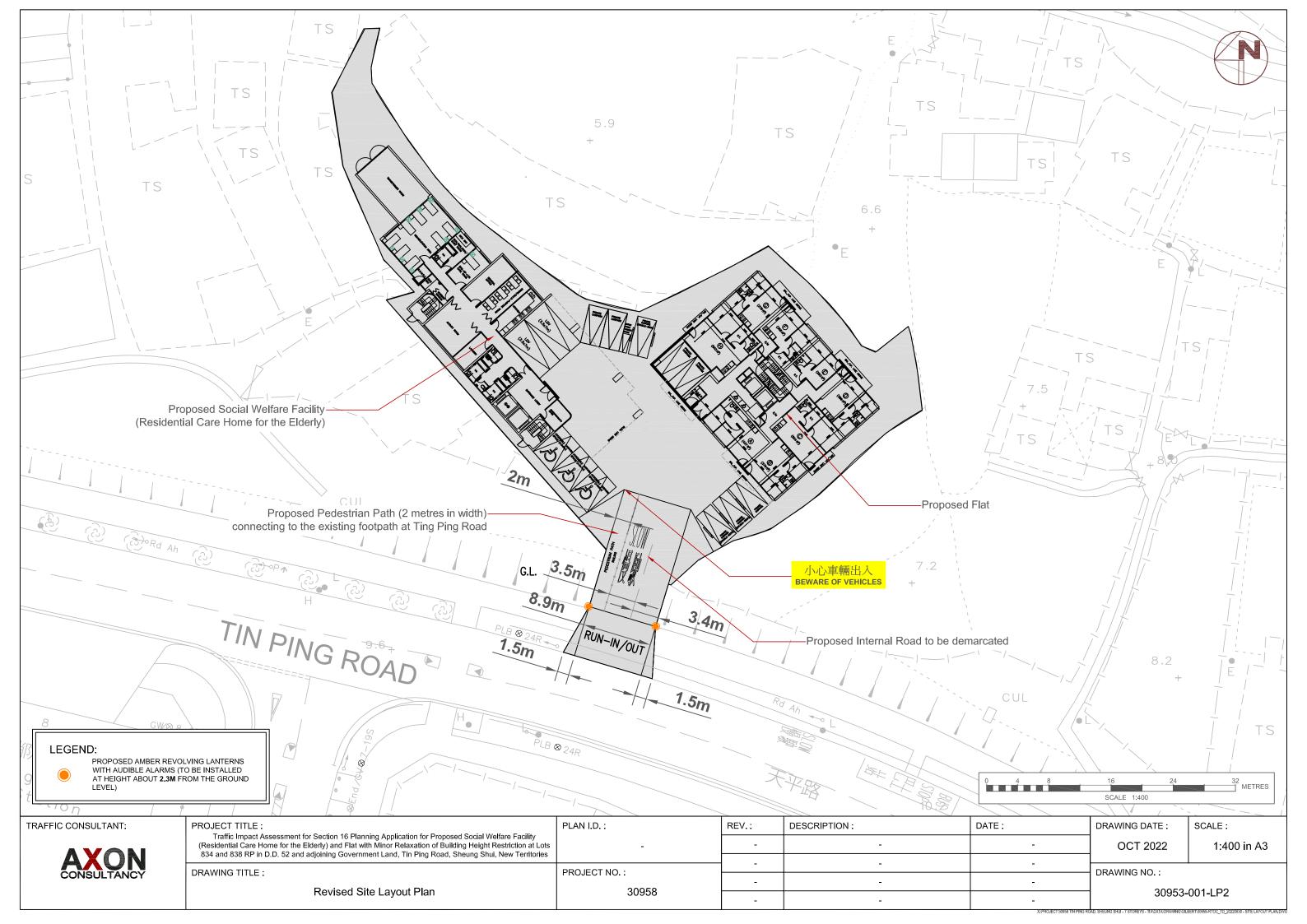


Planning Application No. A/FSS/288	Ref.
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the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
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Ref.: ADCL/PLG-10238/L004

Appendix | B

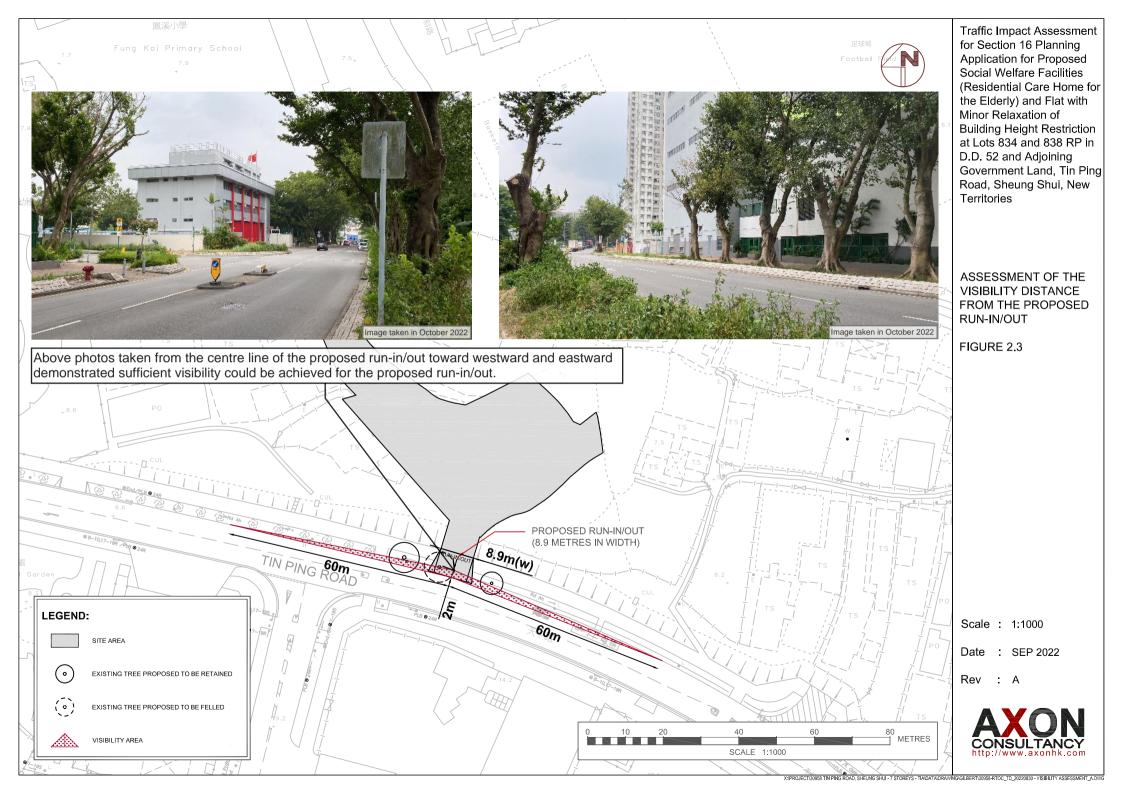
Revised Layout Plan of Proposed Development



Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L004
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories	

Appendix | C

Visibility Analysis for the Proposed Run-in/out

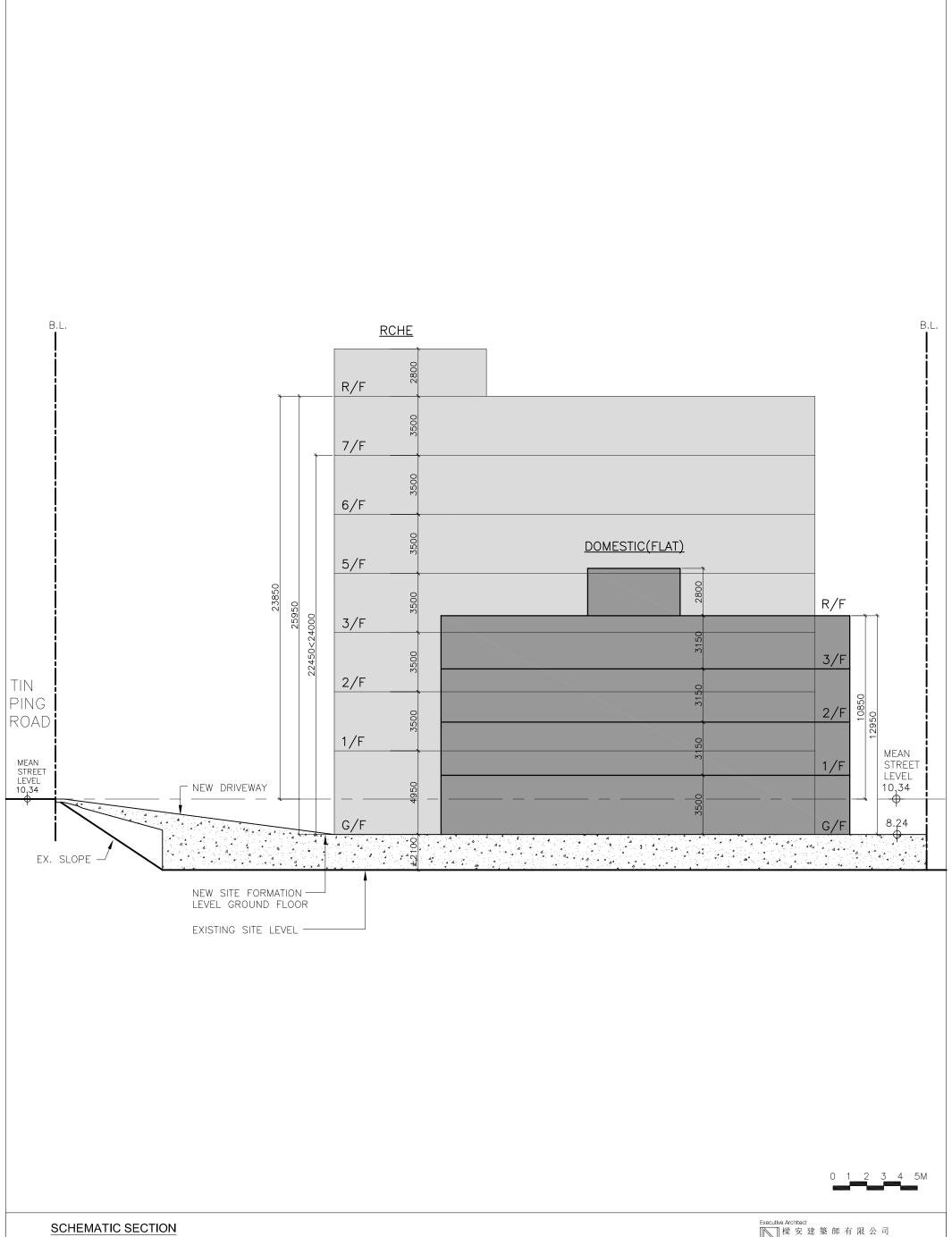


Planning Application No. A/FSS/288	
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
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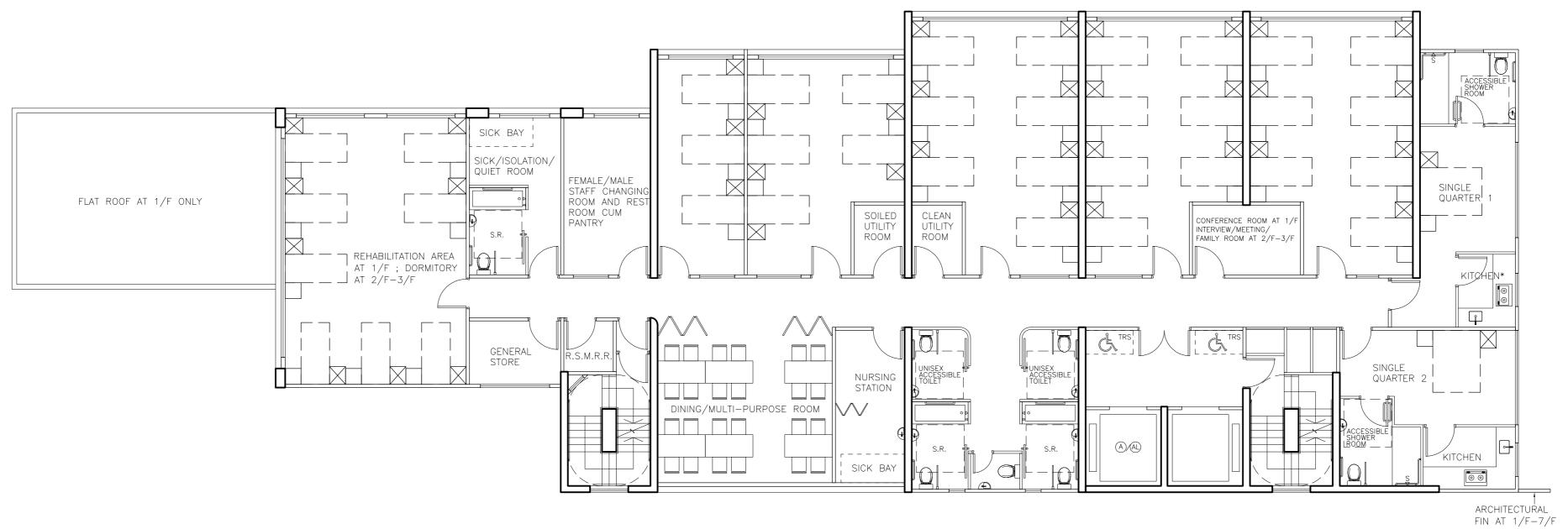
Appendix | D

Ref.: ADCL/PLG-10238/L004

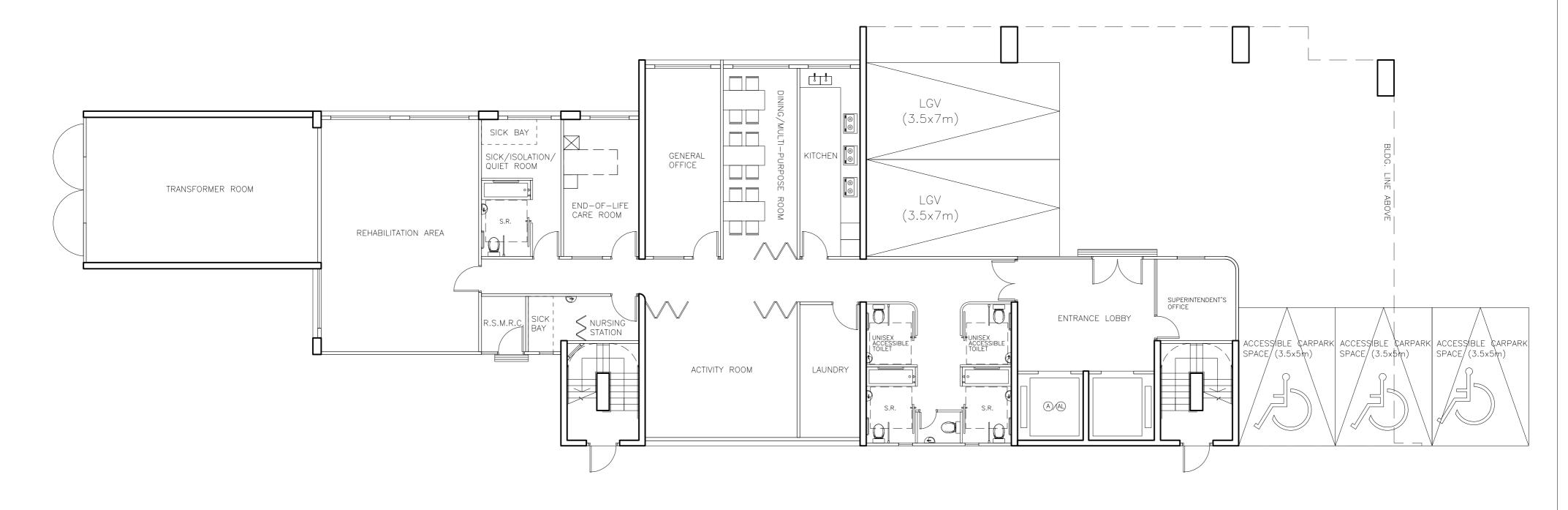
Revised Architectural Drawings







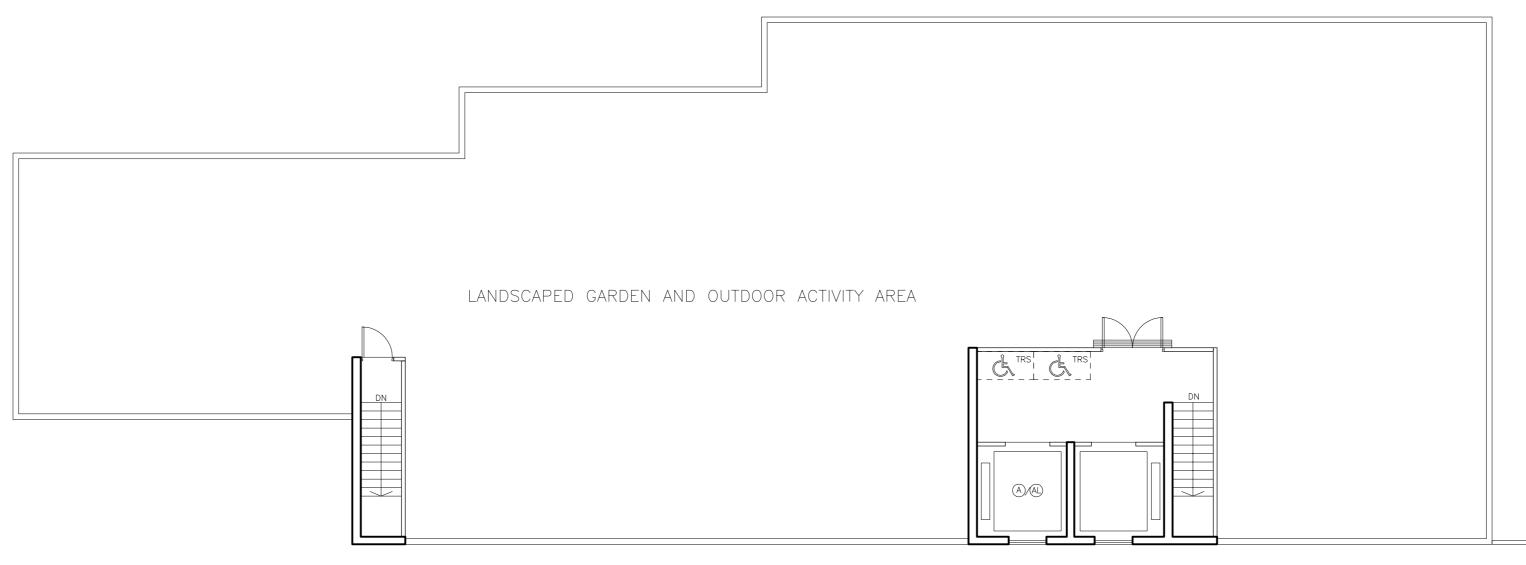
(2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED



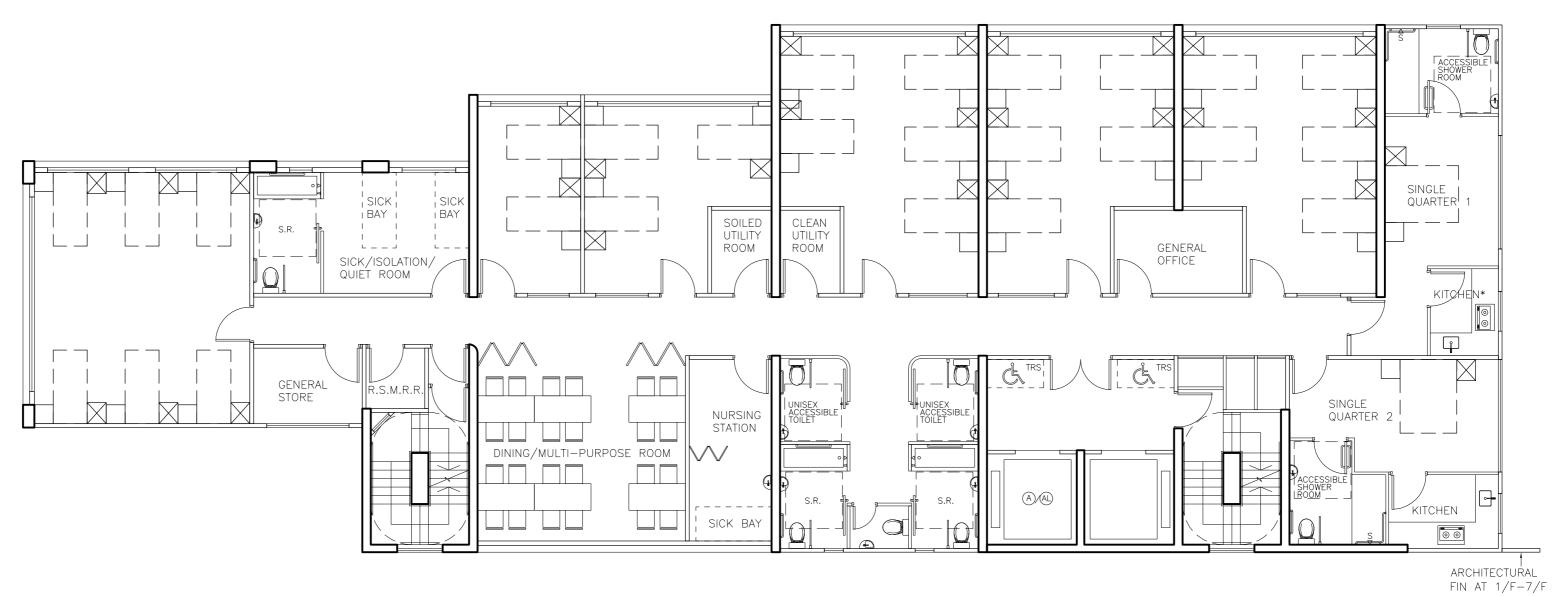
G/F PLAN SITE COVERAGE: 561.226s.m. / GFA: 396.411s.m. (TOTAL NO. OF BED SPACE PER FLOOR=0) (2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION)



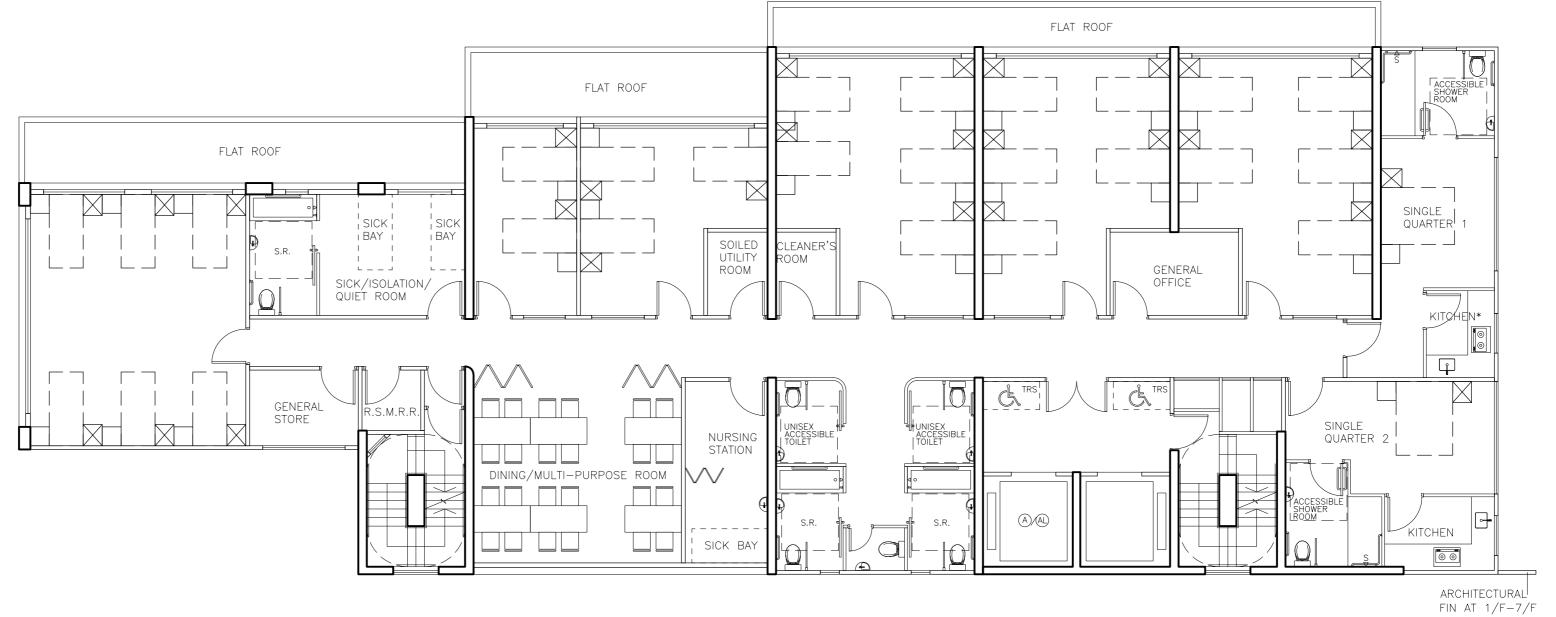
Executive Architect



R/F PLAN



6/F-7/F SITE COVERAGE: 458.996s.m. / GFA: 453.314s.m. (TOTALLY 2 FLOORS);(TOTAL NO. OF BED SPACE:6/F: 28; 7/F: 28); (2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED



5/F SITE COVERAGE: 458.996s.m. / GFA: 453.314s.m. (TOTAL NO. OF BED SPACE: 5/F: 28); (2.5m MIN. CEILING HEIGHT AND 2.3m FROM UNDERSIDE OF ANY BEAM FOR RCHE PORTION) *NO COOKING IN NAKED FLAME PERMITTED



Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care
Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at
Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung
Shui, New Territories

Ref.: ADCL_PLG_10238_L006

Item (iv)

Response-to-comment Table dated 11.11.2022



毅勤發展顧問有限公司

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Date : 11st November 2022 Our Ref. : ADCL/PLG-10238/L005a

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

By Email and Fax (No. 2877 0245)

Dear Sir/Madam,

Re: Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction in "Village Type Development" zone and Area shown as 'Road' Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

(Planning Application No. A/FSS/288)

Further to our submission of Further Information to Town Planning Board dated 11.11.2022 (Our Ref.: ADCL/PLG-10238/L005) (hereinafter referred to as "the Previous Submission") with a view to address the latest comments from Urban Design & Landscape Section of Planning Department and Social Welfare Department, please find enclose herewith our Revised Responses-to-Comments Table with supporting Appendices which strives to supersede the Previous Submission.

Thank you for your kind attention and should you have any queries, please do not hesitate to contact our Miss Zoe LAU or Mr. Thomas LUK at 3180 7811.

Yours faithfully,

Aikon Development Consultancy Limited

Encl.

c.c. DPO/FS&YLE, PlanD (Attn.: Ms Lily LAU) - By Email (Ihlau@pland.gov.hk)

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Department	Date	Comments	Responses to Departmental Comments
Urban Design	2.11.2022	As mentioned in our previous reply, the	The development scheme has revised by reducing the
& Landscape		proposed development would bring forth	building height of the RCHE and the residential block.
Section of		visual changes to the surrounding low-rise	Please kindly refer to the replacement pages of the
Planning		and low-density neighbourhood, the	Planning Statement in Appendix A and the revised
Department		applicant may wish to further explore more	Schematic Section in Appendix B .
(UD&L)		mitigation measures or design merits to	
		enhance the visual quality of the proposed	Under the amended development scheme, the
		development, in particular for the RCHE	building height of the RCHE has reduced from 25.95m
		block.	to 24m above the ground floor, measuring vertically
			from the ground of the building to the floor of the
			premises in which the RCHE is to be situated. While
			the building height of the residential block has
			reduced from 12.95m to 12.15m, the building height
			and the floor-to-floor height of the residential block
			follow exactly the same as the previously approved
			scheme under the previously approved application
			(No. A/FSS/279).
			In view of this, the proposed development shall
			induce no significant visual impact on the
			surroundings.

Department	Date	Comments	Responses to Departmental Comments
Social Welfare	10.11.2022	As stipulated in the latest version of the	The development scheme has revised by reducing the
Department		Code of Practice for Residential Care	building height of the RCHE and the residential block.
(SWD)		Homes (Elderly Persons), no part of an	Please kindly refer to the replacement pages of the
		RCHE shall be situated at a height more	Planning Statement in Appendix A and the revised
		than 24 metres above the ground floor,	Schematic Section in Appendix B .
		measuring vertically from the ground of	
		the building to the floor of the premises in	Under the amended development scheme, the
		which the RCHE is to be situated. Under	building height of the RCHE has reduced from 25.95m
		such circumstances, we, from licensing	to 24m above the ground floor, measuring vertically
		perspective, are of the view that the height	from the ground of the building to the floor of the
		of the concerned RCHE should be	premises in which the RCHE is to be situated.
		measured from the site formation level	
		(where the ground floor is levelled), and it	In view of this, the proposed RCHE is deemed to be in
		would be above 24m which violates the	line with the CoP and in compliance with all relevant
		24m height restriction.	and prevailing statutory and licensing requirements
			for RCHE.
		The applicant should review and ensure all	
		the licensing and statutory requirements	
		have been fully complied.	

Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L005a
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
in D.D. 52 and adjoining Government Land. Tin Ping Road. Sheung Shui, New Territories	

Appendix | A

Replacement Pages of the Planning Statement

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

EXECUTIVE SUMMARY

This Planning Statement is submitted to the Town Planning Board (hereinafter referred to as "the Board") in support of a planning application (hereinafter referred to as "the current application") to amend a previous approved scheme under planning application No. A/FSS/279 (hereinafter referred to as "the previous application") approved by the Rural and New Town Planning Committee (RNTPC) on 29.10.2021 for proposed social welfare facility (residential care home for the elderly (RCHE)) and flat with minor relaxation of building height (BH) restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories (hereinafter referred to as "the application site"). The application site covers the same site as that of the previous application with a total site area of about 2,093m² (including Government land of about 123m²). This Planning Statement serves to provide background information and planning justifications in support of the current application to facilitate consideration by the Board.

The current application for amending the previous approved scheme under the previous application aims to respond to the latest policy direction of the Government to optimize the development potential of the under-utilized land resources in the New Territories and increase housing supply and provision of elderly home care services. Moreover, the current application intends to respond to the imminent public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Residential Care Homes Legislation (Miscellaneous Amendments) Bill 2022 (hereinafter referred to as "the Bill") to enhance quality of RCHEs.

The current application involves proposed development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m for the 4-storey residential block. Compared with the approved scheme under the previous application, the proposed amendments mainly involve alteration of the layout and change in the major development parameters including increase in BH, plot ratio (PR), gross floor area (GFA) and site coverage (SC) of the approved scheme, which results in an increase in the number of flats with larger flat sizes and an increase in the number of RCHE bedspaces with a larger floor space per RCHE resident.

The application site mainly falls within "Village Type Development" (hereinafter referred to as "V") zone (about 96.9%) with the remaining minor portion falling within the area shown as 'Road' (about 3.1%) on the draft Fanling/Sheung Shui Outline Zoning Plan No. S/FSS/25 (hereinafter referred to as "the Current OZP") which was gazetted on 17.12.2021. As detailed in the Planning Statement, the proposed development is well justified on the grounds that:-

(a) The proposed development is situated within an area of urban fringe landscape character with its immediate surroundings mainly comprising low-rise residential

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Ref.: ADCL/PLG-10238/R001a

行政摘要

(如內文與其英文版本有差異,則以英文版本為準)

此規劃報告書旨在支持一宗遞交予城市規劃委員會(以下簡稱「城規會」)的規劃申請(以下簡稱「是次申請」)。是次申請擬議修訂鄉郊及新市鎮規劃小組委員會於 2021 年 10 月 29 日在有條件下批給許可之規劃申請編號 A/FSS/279(以下簡稱「先前申請」)作擬議社會福利設施(安老院舍)及分層住宅、並略為放寬建築物高度限制(以下簡稱「擬議發展」)之已核准的發展計劃。是次申請所涉及地點位於新界上水天平路丈量約份第 52 約地段第 834 號及 838 號餘段及毗連政府土地(以下簡稱「申請地點」)。申請地點與先前申請地點一致、面積約為 2,093 平方米(包括約 123 平方米的政府土地)。此規劃報告書將提供是次申請的背景資料及規劃理據予城規會考慮。

擬議發展將有效充分利用短缺的土地資源以適時回應政府對解決房屋供應及長者護理服務設施需求的最新政策方向。擬議修訂亦遵從政府最新有關最低單位面積的要求,以及《2022 年院舍法例(雜項修訂)條例草案》(以下簡稱「條例草案」)的相關守則,以回應社會大眾對增加居所空間及提升安老院舍質素的迫切需求。

擬議修訂包括於申請地點內興建一座樓高7層、容納最多210張床位的安老院舍,及一座樓高4層、合共38個分層住宅的住宅樓宇。是次申請同時擬議略為放寬上述分層住宅的樓宇高度限制由最多3層(8.23米)至4層(12.15米)。相對於先前申請,擬議修訂在發展佈局及發展參數(包括建築物高度、地積比率、總樓面面積及上蓋面積)上作出修改,以提供更多且面積更大的分層住宅,及更多且院舍長者的人均面積更大的安老院舍床位。

申請地點的大部分範圍於 2021 年 12 月 17 日刊憲公佈的粉嶺 / 上水分區計劃大綱核准圖 (編號: S/FSS/25) (以下簡稱「大綱核准圖」)內被劃為「鄉村式發展」地帶(約 96.9%),其餘少部分範圍為於大綱核准圖內顯示為「道路」的地方(約 3.1%)。此規劃報告書提供規劃理據詳列如下:

- (一) 申請地點位於市區邊緣,周遭主要為低密度的住宅樓宇及中低密度的政府、機構及社區設施。擬 議中低高度、低密度之安老院舍及分層住宅在現有土地用途、性質和發展規模方面與周遭環境相 互兼容;
- (二) 擬議修訂符合政府有關增加房屋供應及安老院舍照顧服務的政策方向·亦遵從最低單位面積的要求以及條例草案的相關守則·以回應社會大眾對增加居所空間及提升安老院舍質素的迫切需求;
- (三) 申請地點不在任何認可鄉村的「認可鄉村範圍」或「鄉村擴展區」內。有見及此,申請地點並不 會有任何小型屋宇發展。擬議的發展將有效利用短缺且寶貴的土地資源以適時回應社會對房屋供 應及安老院舍的需求;
- (四) 各項專業研究報告證明是次申請並不會對交通、環境、排水、排污、風險及園景方面造成不良影響;及

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Aikon Development Consultancy Ltd. 毅勤發展顧問有限公司

1. INTRODUCTION

1.1 Purpose

- 1.1.1 Pursuant to section 16 of the Town Planning Ordinance (Cap. 131) (hereinafter referred to as "the Ordinance"), this Planning Statement is submitted to the Board to amend a previous approved scheme under the previous planning application No. A/FSS/279 approved by the RNTPC on 29.10.2021 for proposed social welfare facility (RCHE) and flat with minor relaxation of BH restriction at Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories (hereinafter referred to as "the application site"). The application site covers the same site as that of the previous application with a total site area of approximately 2,093m² (including Government land of about 123m²). The location of the application site is shown in Figure 1. Figure 2 indicates the relevant private lots and the Government land in which the application site involves.
- 1.1.2 The current application seeks planning permission to amend major development parameters and layout of the previous approved scheme under the previous application. The current application is for development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block. Comparison between the previous approved scheme and the proposed development under the current application is discussed in Section 4.1 below.
- 1.1.3 The application site currently falls mainly within an area zoned "V" (about 96.9%) with the remaining minor portion within the area shown as 'Road' (about 3.1%) on the Current OZP (Figure 3 refers). According to the Notes of the Current OZP, 'Social Welfare Facility' and 'Flat' are both Column 2 uses within the "V" zone and planning permission from the Board is required. Both 'Social Welfare Facility' and 'Flat' uses within the area shown as 'Road' require planning permission from the Board. Minor relaxation of the building height restriction may be considered by the Board on application under section 16 of the Ordinance. According to the Notes of the Current OZP, the building height restriction is applicable to 'Flat' use only, but not applicable to 'Social Welfare Facility' use.
- 1.1.4 Champ Dynasty Limited (hereinafter referred to as "the Applicant") is the sole current land owner of all private lots within the application site. Aikon Development Consultancy Limited has been commissioned to prepare and submit the current application on behalf of the Applicant.

1.2 Objectives

1.2.1 The overriding goal of the current application is to enable the Applicant to be given an opportunity to achieve multiple policy goals set out by the Government in addressing the housing needs and the demand of the ageing population in the

4. THE DEVELOPMENT PROPOSAL

4.1 Proposed Development and Major Development Parameters

- 4.1.1 The current application is to amend a previous approved scheme under the previous application No. A/FSS/279 approved by the RNTPC on 29.10.2021 to facilitate development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block.
- 4.1.2 Compared with the approved scheme under the previous application, the proposed amendments under the current application mainly involve an increase in BH and site coverage (SC) of the proposed RCHE and residential block, and a corresponding increase in plot ratio (PR) and gross floor area (GFA) of the approved scheme. Under the current application, the floor-to-floor height for typical floors of the proposed residential block and RCHE and ground floor (G/F) of the proposed residential block have been increased to improve the living quality of future residents. There is a proposed increase in the number of storeys of RCHE to maximise the provision of RCHE bedspaces for the community. The proposed increase in SC under the current application aims to further optimise the use of scarce land resources within the application site.
- 4.1.3 Compared with the previous approved scheme, the current application involves an increase in the number of flats from 28 flats to 38 flats with larger flat sizes ranging from 27.2m² to 51.9m², and an increase in the number of RCHE bedspaces from 143 beds to a maximum of 210 beds with a larger floor space of about 10.7m² per RCHE resident. There will be a minor change in the layout of the proposed RCHE and residential block, and an increase in the communal open space from 245m² to 371.4m² under the current application. The application site area remains unchanged. The layout plan, floor plans, elevation and section plan are shown in **Appendix I**. Comparison of the proposed layout plan and section plan, and the major development parameters between the previous approved scheme and the proposed development under the current application is at **Figures 4 and 5** and summarised in **Table 1** below respectively. The photomontages of the proposed development are at **Illustrations 4-I and 4-II**.
- 4.1.4 The current application serves to comply with the latest requirements set by the Government and respond to the imminent public call for larger living space and enhanced elderly home care services. Compared with the previous approved scheme with a minimum flat size of 23.5m², the proposed development under the current application with a minimum flat size of about 27.2m² will comply with the latest minimum unit size requirement of at least 26m² promulgated by the Government as from 2022. In addition, compared with the average floor space of 8.69m² per RCHE resident under the previous approved scheme, the proposed development under the current application involving a larger floor space of about 10.7m² per RCHE resident

will comply with the latest legislative amendments proposed under the Bill in meeting the highest standard requirement for minimum area of floor space per RCHE resident (9.5m²).

4.1.5 Compared with the previous application, the proposed development will involve the same site formation level as +8.24mPD and same portion of Government land (about 123m²) for provision of an 8.9m-wide access road connecting the application site to Tin Ping Road (Appendix I refers). Same as the previous approved scheme, the proposed RCHE under the current application will be privately-operated. The proposed maximum number of RCHE beds to be provided (i.e. 210 beds) may be subject to further revision upon liaison with the Social Welfare Department (SWD) and relevant Government departments at the detailed design stage upon approval of the current application for complying with all relevant and prevailing statutory and licensing requirements for RCHE.

Table 1: Comparison of Major Development Parameters of the Previous Approved Scheme and the

Proposed Development under the Current Application

	Previous Approved Scheme	Proposed Development (Under Current	Difference
	(No. A/FSS/279) (a)	Application) (b)	(b) – (a)
Total Site Area (About)	2,093m ²	2,093m ²	No Change
Total PR / GFA (About)	1.36 / 2,839m ²	2.38 / 4,972m ²	+1.02 / +2,133m ² (+75%)
Non-domestic (RCHE)	0.82 / 1,706m ²	1.57 / 3,281m ²	+0.75 / +1,575m ² (+92%)
Domestic (Residential Block)	0.54 / 1,133m ²	0.81 / 1,691m ²	+0.27 / +558m ² (+49%)
BH	A stone I	7 -1 /	O -t (750/) /
Non-domestic (RCHE)	4 storeys / About 14.40m	7 storeys / About <mark>24</mark> m	+3 storeys (+75%) / + <mark>9.6</mark> m (+ <mark>66.7</mark> %)
Domestic (Residential	4 storeys/	4 storeys /	No Change /
Block)	About 12.15m	About <mark>12.15</mark> m	No Change
SC	Not more than 36.3%	Not more than 48.0%	+11.7% (+32.2%)
Flat Size [a]	23.5m ² to 41.7m ²	27.2m² to 51.9m²	+3.7m ² (+15.7%) to +10.2m ² (+24.5%)
Number of Units Non-domestic (RCHE) Domestic (Residential Block)	143 beds 28 flats	210 beds (Maximum) 38 flats	+67 beds (+46.9%) +10 flats (+35.7%)
Area of Floor Space Per RCHE Resident (b) (About)	8.69m²	10.7m²	+2.01m² (+23.1%)
Estimated Population Non-domestic (RCHE) Domestic (Residential Block	143 84	210 (Maximum) 114	+67 (+46.9%) +30 (+35.7%)

Table 1: Comparison of Major Development Parameters of the Previous Approved Scheme and the

Proposed Development under the Current Application (Cont'd)

Proposed Development u			
	Previous Approved	Proposed Development	D:#
	Scheme	(Under Current	Difference
	(No. A/FSS/279)	Application)	(b) – (a)
	(a)	(b)	
Floor-to-Floor Height			
(About)			
Non-domestic (RCHE)			
- G/F	4.95m	4.95m	No Change
- Typical Floors	3.15m	<mark>3.175</mark> m	+ <mark>0.025</mark> m (+ <mark>0.8</mark> %)
7 ,	(1/F – 3/F)	(1/F – <mark>7</mark> /F)	(22)
- Roof Floor (R/F)	2.8m	2.8m	No Change
1100111001(111)	2.0111	2.0111	No onlingo
Domestic (Residential			
Block)			
- G/F	3.15m	<mark>3.15</mark> m	No Change
- Typical Floors	3m	3m	No Change
- Typical Floors	(1/F – 3/F)	(1/F – 3/F)	No Change
	,	` ,	
- R/F	2.8m	2.8m	No Change
Communal Open Space	0.450	274 42	400 42 (54 00/)
(About)	245m ²	371.4m ²	+126.4m ² (+51.6%)
Common Greenery	00/00 040/	4 - 4 - 4	-55.6m ² (-8.76%) /
Coverage (About)	635m² / 30.34%	579.4m ² / 27.69%	-2.65% (-8.73%)
Parking Spaces			
Non-domestic (RCHE)			
- Private car	3 (including 1 accessible	4 (including 1 accessible	+1 (no change in accessible
- Filvate Cal	car parking space)	car parking space)	car parking space)
	cai paiking space)	cai paiking space)	
 Light Goods Vehicle 	1	1	No Change
(LGV) Loading /			
Unloading (L/UL) Bay			
Domestic (Residential			
Block)			
- Private car	5 (including 2 accessible	7 (including 2 accessible	+2 (no change in accessible
	car parking spaces)	car parking spaces)	car parking space)
- Motorcycle	1 1	1	No Change
- LGV L/UL Bay	1	1	No Change
Tentative Completion			·
Year	Year 2030	Year 2031	N.A.

A minimum flat size of about 27.2m² proposed under the current application will comply with the latest minimum unit size requirement of at least 26m² promulgated by the Government as from 2022.

4.2 Tree Preservation and Landscape Proposal

4.2.1 Tree survey (Appendix II refers) has been conducted for the current application. It is concluded that existing trees are mainly presented along the southern boundary of the application site. Most of the existing trees identified exhibited poor condition

An average floor space of about 10.7m² per RCHE resident proposed under the current application will comply with the latest legislative amendments under the Bill in meeting the highest standard requirement with a minimum area of 9.5m² of floor space per RCHE resident.

5. PLANNING JUSTIFICATIONS

5.1 Being Compatible with the Surrounding Land Uses

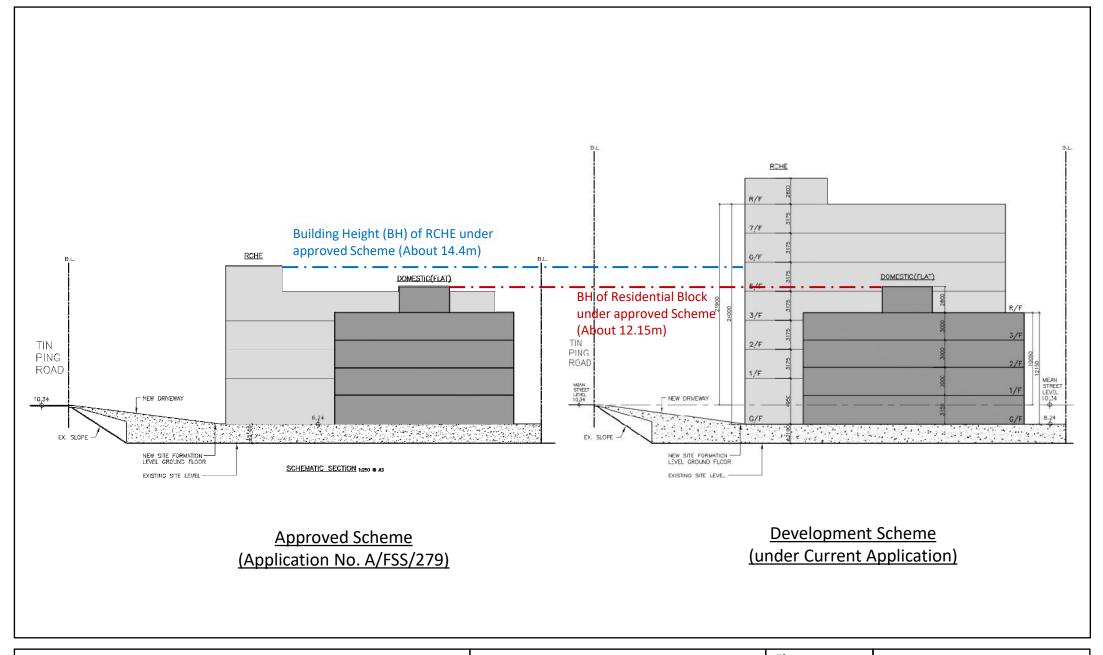
- 5.1.1 The application site is situated at the urban fringe area with the surroundings predominately occupied by low-rise domestic structures and low to medium-rise G/IC clusters. There are high-rise residential buildings to the southeast across Tin Ping Road. The planned Fanling North New Development Area is situated to the further north of the application site. Taking into account the character and scale of the surroundings, the proposed low to medium-rise (7-storey RCHE and 4-storey residential block) and low-density (total PR of 2.38) development under the current application would be compatible with the adjacent existing residential and G/IC uses. In addition, having considered that the formation level of the application site is lower than that of Tin Ping Road by about 2.1m (Appendix I refers), the existing topography of the application site would help reduce the potential visual impact of the proposed development. As shown in Illustrations 4-I and 4-II, the proposed development would unlikely induce adverse visual impact on the surroundings.
- 5.1.2 The current proposal involving minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m (+1 storey (+33.3%) / +3.92m (47.6%)) for the 4-storey residential block will further increase BH of the residential block of the previous approved scheme by 0.8m (6.6%) while keeping the number of storeys unchanged for improving the living quality of future residents of the residential block. The proposed amendments of slight increase in BH of the residential block of the previous approved scheme should be considered minor in scale and nature, and would induce no significant visual impact on the surroundings. In addition, having regard that the G/IC uses in the vicinity of the application site have a building height ranging from 1 to 9 storeys, the proposed 7-storey RCHE would be compatible with the surrounding context. The proposed development under the current application would therefore be compatible with the neighbourhood and would unlikely result in any adverse visual impact on the surroundings.

5.2 Optimizing Land Resources in Meeting Community Needs

- 5.2.1 While the majority of the application site currently falls within the "V" zone, the application site is not covered by VE of any recognised village or VEA. It is therefore not anticipated that there will be any Small House development at the application site. There is no Small House application approved in the application site or within the subject "V" zone.
- 5.2.2 The proposed development would therefore help unleash the development potential of the under-utilised land resources in the New Territories to address the shortfall of housing and elderly home care services of the community. Moreover, the proposed development could bring major improvements to the existing rural environment at the application site, which is now predominately occupied by temporary domestic structures and abandoned land.

6. CONCLUSION

- 6.1.1 This Planning Statement is submitted to the Board in support of the current application to amend a previous approved scheme under planning application No. A/FSS/279 approved by the RNTPC on 29.10.2021 for proposed social welfare facility (RCHE) and flat with minor relaxation of BH restriction at the application site. The application site covers the same site as that of the previous application with a total site area of about 2,093m² (including Government land of about 123m²). This Planning Statement serves to provide background information and planning justifications in support of the current application to facilitate consideration by the Board.
- 6.1.2 The current application for amending the previous approved scheme under the previous application aims to respond to the latest Government's policy direction to optimize the development potential of the under-utilized land resources in the New Territories and increase housing supply and provision of elderly home care services. Moreover, the current application intends to respond to the imminent public call for enhancing home space and quality of RCHEs through complying with the latest requirement of minimum unit size promulgated by the Government and the latest legislative amendments proposed under the Bill.
- 6.1.3 The current application involves proposed development of a 7-storey RCHE comprising a maximum of 210 RCHE beds and a 4-storey residential block comprising 38 flats at the application site with minor relaxation of building height restriction from a maximum of 3 storeys / 8.23m to 4 storeys / 12.15m for the 4-storey residential block. Compared with the approved scheme under the previous application, the proposed amendments mainly involve alteration of the layout and change in the major development parameters including increase in BH, PR, GFA and SC of the approved scheme, which result in an increase in the number of flats with larger flat sizes and an increase in the number of RCHE bedspaces with a larger floor space per RCHE resident.
- 6.1.4 The application site mainly falls within "V" zone (about 96.9%) with a minor portion falling within area shown as 'Road' (about 3.1%) on the Current OZP which was gazetted on 17.12.2021. As detailed in the Planning Statement, the proposed development is well justified on the grounds that-:
 - (a) The proposed development is situated within an area of urban fringe landscape character with its immediate surroundings mainly comprising low-rise residential structures and low to medium-rise G/IC facilities. The proposed development under the current application would remain as a low to medium-rise development, which is considered compatible with the surrounding environment in terms of land use, character and scale;
 - (b) The proposed development, which is to amend an approved scheme, is fully in line with the Government's latest policy direction to further increase housing supply and provision of elderly home care services. The proposed development



Project:

Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP in D.D.52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories

Title:

Figure Comparing Schematic Section of the Approved Scheme Under Application No. A/FSS/279 with That of the Development Scheme Under the Current Application (Indicative Only)

Ref: ADCL/PLG-10238-R001a/F005

Figure:

Scale: Not to Scale

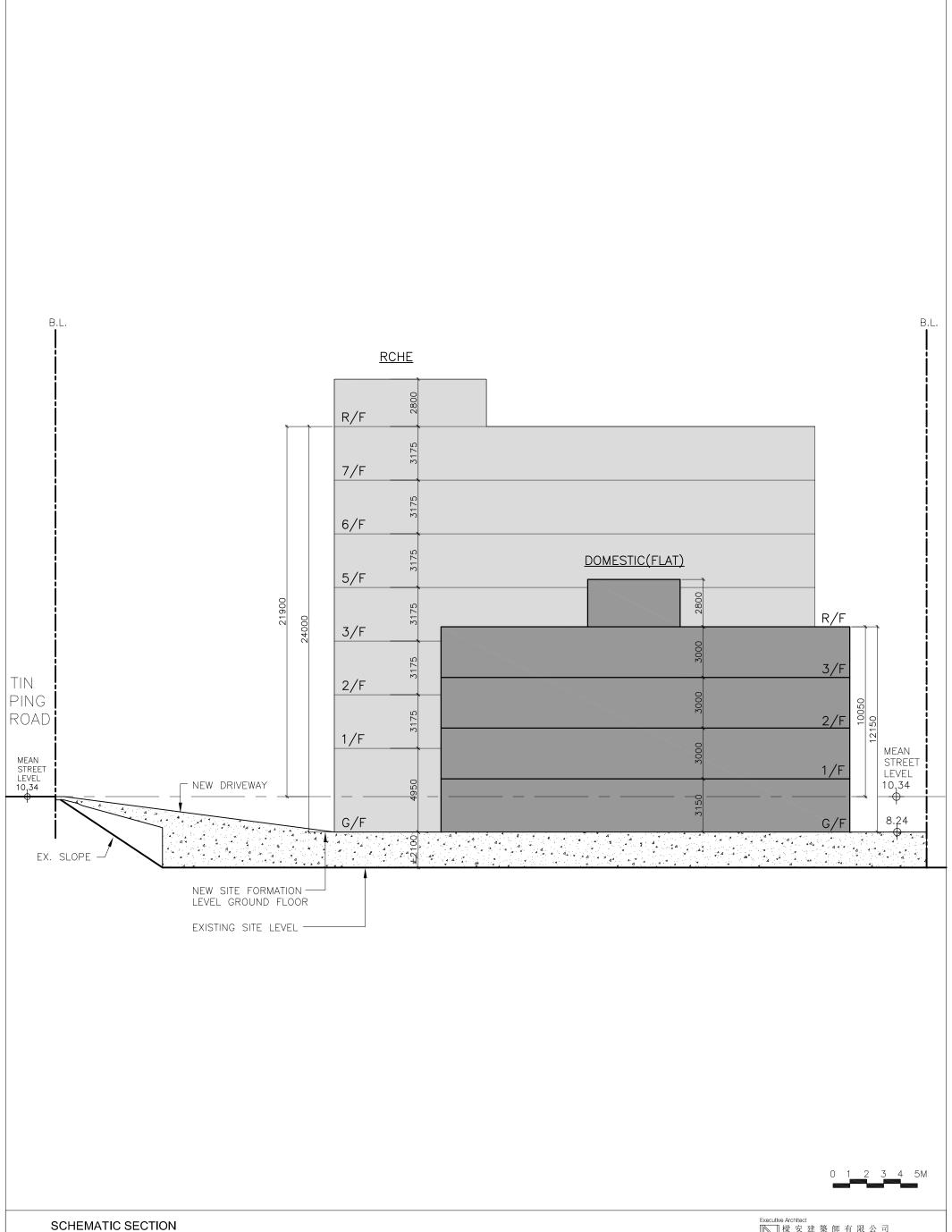
Date: Nov 2022



Planning Application No. A/FSS/288	Ref.: ADCL/PLG-10238/L005a
Section 16 Planning Application for Proposed Social Welfare Facility (Residential Care Home for	
he Elderly) and Flat with Minor Relaxation of Building Height Restriction at Lots 834 and 838 RP	
n D.D. 52 and adjoining Government Land. Tin Ping Road. Sheung Shui, New Territories	

Appendix | B

Revised Schematic Section



Previous S.16 Application

Approved Application

Application No.	Proposed Developments	Date of Consideration	Approval Conditions
A/FSS/279	Proposed Social Welfare Facility	29.10.2021	A1-A6
	(Residential Care Home for the Elderly) and		
	Flat and Minor Relaxation of Building		
	Height Restriction		

Approval Conditions

- A1 The design and provision of vehicular access
- A2 The design and provision of parking spaces and loading/unloading facilities
- A3 The submission of a noise impact assessment and the implementation of mitigation measures identified therein
- A4 The submission of a revised sewerage impact assessment
- A5 The implementation of local sewerage upgrading/ sewerage connection works identified in the revised sewerage impact assessment
- A6 The provision of fire service installations and water supplies for fire-fighting

Similar s.16 Applications within the "V" zones on the Approved Fanling/Sheung Shui Outline Zoning Plan No. S/FSS/26

Approved Applications

Application No.	Proposed Developments	Date of Consideration
A/FSS/270	Proposed House and Social Welfare Facility (Residential Care Home for the Elderly) and Minor Relaxation of Building Height Restriction	6.9.2019
A/FSS/276	Proposed House and Social Welfare Facility (Residential Care Home for the Elderly) and Minor Relaxation of Building Height Restriction	6.11.2020

Rejected Application

Application No.	Uses/Developments	Date of Consideration	Rejection Reasons
A/FSS/164	House	13/01/2006	R1 - R4

Reject Reasons

- R1 The proposed development was not in line with the planning intention of the "Village Type Development" zone which was to designate both existing recognized villages and areas of land considered suitable for village expansion and intended for development of Small Houses by indigenous villagers
- R2 The approval of the application would jeopardise the implementation of the Fanling/Sheung Shui Areas 17 and 22 Layout Plan
- R3 There was insufficient information in the submission to demonstrate that the proposed development would not cause adverse traffic impact on the existing footpath and cycle track
- R4 The approval of the application would set an undesirable precedent for other similar applications. The cumulative effect would result in a loss of land for Small House development in the area

參考編號

Reference Number:

220722-103457-79895

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

22/07/2022 10:34:57

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. JEFF KONG

意見詳情

Details of the Comment:

同意發展,香港未來人口老化對老人院需求只會有增無減,要地盡其用

參考編號

Reference Number:

220722-103302-68631

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

22/07/2022 10:33:02

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. 黄

意見詳情

Details of the Comment:

我覺得應該支持這個申請。上次都批了一樣的用途,今次只是把社區設施起高點,可令 大眾受惠。

參考編號

Reference Number:

220722-103017-62037

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

22/07/2022 10:30:17

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. 周

意見詳情

Details of the Comment:

塊地唔係鄉村範圍即係根本做唔到丁屋唔攞黎發展可以做咩快D通過

參考編號

Reference Number:

220725-170337-29996

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

25/07/2022 17:03:37

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

小姐 Miss 王

意見詳情

Details of the Comment:

政府應把握機會促進老人設施發展舒緩人口老化問題,應批准申請。

參考編號

Reference Number:

220725-171020-88669

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

25/07/2022 17:10:20

有關的規劃申請編號

A/FSS/288

The application no. to which the comment relates:

「提意見人」姓名/名稱

先生 Mr. 莫

Name of person making this comment:

意見詳情

Details of the Comment:

對比現時的寮屋結構,申請發展的建築設計與園境綠化經妥善設計,應該可以改善美化 周邊環境,支持。

參考編號

Reference Number:

220725-172457-66733

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

25/07/2022 17:24:57

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. FUNG

意見詳情

Details of the Comment:

It is good to see that developers are trying to contribute to enhancing both the quality and quantit y of elderly services. Since the building height and design are generally compatible with the surr ounding environment, I do not think there is a reason to reject this application.

016

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號

Reference Number:

220802-171722-88810

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

02/08/2022 17:17:22

有關的規劃申請編號

The application no. to which the comment relates: $\ensuremath{\mathrm{A/FSS/288}}$

「提意見人」姓名/名稱

小姐 Miss 黄

Name of person making this comment:

意見詳情

Details of the Comment:

支持,解決住屋問題

參考編號

Reference Number:

220802-175532-66013

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

02/08/2022 17:55:32

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

女士 Ms. 馬

Name of person making this comment:

意見詳情

Details of the Comment:

支持

人口老化,老人家需要更多宿位

上水天平山村居民協會

也址:	註册编號: <u>REF。CP/LIC/SO/19/34</u>	81
-----	----------------------------------	----

郵寄地址:

電話:

電郵地址:

2022年11月02日

敬啟者:

《A/FSS/288》

擬議社會福利設施(安老院)及分 層住宅並略為放寬建築物高度限制

本會強烈反對此宗申請,因該申請由原有四層加高至七層,即意味需要加大樁柱支撐上述樓層。然而,附近毗鄰土地寮屋只有數尺距離,並且寮屋群非常密集。

如果此申請獲批,一旦動工,附近寮屋隨時有倒塌危險,本會已多次 提及此隱患,日後附近寮屋如出現倒塌及損毀情況,相關規劃部門是有不 可推卸的責任。

望有關部門小心處理,謝謝。

此致 城市規劃委員會 北區民政事務處

上水天平山村居民協會

主席<u>廖健文</u>謹啟 2022年11月02日

參考編號

Reference Number:

220808-200803-75130

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

08/08/2022 20:08:03

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. 楊嘉榮

意見詳情

Details of the Comment:

關於A/FSS/288,(鳳溪幼稚園旁邊的規劃申請) 對居民造成滋擾 以及改變原有的民風。

本人(反對)上述規劃。

參考編號

Reference Number:

220808-222142-56759

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

08/08/2022 22:21:42

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

小姐 Miss Tang

意見詳情

Details of the Comment:

由于时间仓促,居民未能反映意見,亦有大部份住客亦未能知曉,而牽涉範圍甚廣,如 ·發展為公屋區域將會有更多市民得益

參考編號

Reference Number:

220808-223100-42934

提交限期

Deadline for submission:

09/08/2022

提交日期及時間

Date and time of submission:

08/08/2022 22:31:00

有關的規劃申請編號

The application no. to which the comment relates: A/FSS/288

「提意見人」姓名/名稱

Name of person making this comment:

先生 Mr. Yuen

意見詳情

Details of the Comment:

内容:建議起1幢4層和1幢7層的高厦,請問有打試諗過,帶來天平山村的影響,首先令到 天平山村四面環山,東面有奕翠園,南面有翠麗,西面就有這高厦,北面有東北發展的 高樓大厦,空氣怎樣流通。

還有水浸問題,現時每到夏季已經出現水浸,如果西面起高厦,有沒有評古對天平山村 的影響。

所以我反對這個發展。

Urgent [Return Receipt Requested	☐ Sign ☐ Encrypt	☐ Mark Subject Restricte	ed	publi
	Re: A/FSS/279 DD 52 08/08/2022 02:55	Tin Ping Road			
From: To: File Ref:	tpbpd <tpbpd@pland.gov.hk></tpbpd@pland.gov.hk>				
A /ECC /CCC					

A/FSS/288

Lots 834 and 838 RP and adjoining Government Land in D.D. 52, Tin Ping Road, Sheung Shui

Site area: About 2,093sq.m includes Government Land of 123sq.m

Zoning: "VTD" and "Road"

Applied Development: 1 Tower / 38 (28) Units / PR 2.38 (1.36) / 7/F (4/F) / 210 (143) Bed RCHE / 371sq.m (245) OS / 14 (13) Vehicle Parking

Dear TPB Members,

Another Gimme More application milking government policy instead of coming out with the true intention, to make more money. This almost doubles the size of the original development both re PR and BHR.

The Open Space is dodgy. For the RCHE appears to be the roof top but according to the image this is devoid of services. However there are very few roof tops that do not also accommodate machine room of lifts, water tanks, etc.

For the residential block the roof top belongs to the units underneath. "Communal Greenery' is a joke as nobody would trek up to the roof to look at some shrubs.

Members questions please as this is a lot of people living on a very limited footprint.

Mary Mulvihill

From:

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

Date: Thursday, 29 April 2021 4:11 AM CST **Subject:** A/FSS/279 DD 52 Tin Ping Road

A/FSS/279

Lots 834 and 838 RP and adjoining Government Land in D.D. 52, Tin Ping Road, Sheung Shui

Site area: About 2,093sq.m includes Government Land of 123sq.m

Zoning: "VTD" and "Road"

Applied Development: 1 Tower / 28 Units / PR 1.36 / 4/F / 143 Bed RCHE / 245sq.m OS / 13 Vehicle Parking

Dear TPB Members,

So rezoning application was withdrawn. However the current application would also require rezoning as apart from the public land, the remainder of the site is VTD. RCHE is GIC use.

In addition no plan provided with regard to how the units and RCHE could be accommodated in a 4-storey building. Or that there would be any guarantee that the RCHE would materialize.

Members must reject this plan as it is abuse of intention.

Mary Mulvihill

From:

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

Sent: Thursday, July 2, 2020 2:55:42 AM Subject: Y/FSS/16 DD 52 Tin Ping Road

Y/FSS/16

Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui

Site area: About 1,963sq.m

Zoning: "VTD"

Proposed Amendment: Rezone to "Res (Group B)1" / 1 Tower / 56 Units / PR 3 /

20/F / OS 548sq.m / 8 Vehicle Parking

Dear TPB Members,

The application provides no information with regard to the future Small House demand in the district and if the appropriately zoned sites are capable to meet the outstanding Small House applications.

The site in question could accommodate more than one dozen NET houses, this translates into around 40 units of 700sqft each, homes larger than those proposed in the plan. The gain in the number of residential units is therefore exaggerated.

Whatever, the most essential information is that of VTD demand and supply. Then there is the setting a precedence factor. It is all very well to allow landowners to cash in on their land, but the societal implications have to be considered also.

Mary Mulvihill

Advisory Clauses

- (a) to note the comments of the District Lands Officer/North, Lands Department that:
 - (i) generally, with a view to ensure the compliance with any proposed additional conditions under lease, it is the LandsD's requirement that any proposed additional conditions would only be considered to be incorporated under lease provided that there is a relevant bureau / department requesting for or in support of such additional conditions. Such bureau / department would be responsible for monitoring the grantee's compliance with such additional conditions. In the absence of such bureau / department's request or support, no additional conditions would be proposed and incorporated for the proposed works;
 - (ii) land exchange at premium is required to implement the proposal that comprise RCHE and flats. If the applicant wishes to proceed the land exchange in accordance with the policy laid down in LandsD Practice Notice No. 4/2003 on "Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in the New Private Developments" and seek premium exemption for the RCHE portion, comment and policy support from Social Welfare Department (SWD) are required at the earliest stage. Land exchange for the uses other than RCHE is to be considered and process at premium;
- (b) to note the comments of Chief Town Planner/Urban Design and Landscape, Planning Department that approval of the application does not imply approval of tree preservation / removal scheme under the lease. The applicant should seek comments and approval from the relevant authority on the proposed tree works and compensatory planning proposal, where appropriate;
- (c) to note the comments of Director of Social Welfare (DSW) that the applicant is reminded that for an RCHE licence to be issued, the intended RCHE has to comply with the licensing requirements as stipulated in the Residential Care Homes (Elderly Persons) Ordinance, Cap.459, its subsidiary legislation and the latest version of Code of Practice for Residential Care Homes (Elderly Persons). And all the requirements refer to those prevailing at the time when the application for licence is processed by his Office;
- (d) to note the comments of Chief Engineer/Construction, Water Supplies Department that:
 - (i) if diversion is required, existing water mains inside the proposed lot are needed to be diverted outside the site boundary of the proposed development to lie in Government land. A strip of land of minimum 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request will

have to be borne by the grantee/applicant; and the applicant should submit all the relevant proposal to WSD for consideration and agreement before the works commence;

- (ii) if diversion is not required, the following conditions shall apply:
 - 1. existing water mains are affected as indicated on **Appendix Va** and no development which resiting of water mains will be allowed;
 - 2. details of site formation works shall be submitted to the Director of Water Supplies (DWS) for approval prior to commencement of works;
 - 3. no structure shall be built or materials stored within 1.5m from the centre line(s) of water main(s) shown on **Appendix Va**. Free access shall be made available at all times for the staff of the DWS or their contractor to carry out construction, inspection, operation, maintenance and repair works;
 - 4. no trees or shrubs with penetrating roots may be planted within the Water Works Reserve or in the vicinity of the water main(s) shown on **Appendix Va**. No change of existing site condition may be undertaken within the aforesaid area without the prior agreement of the DWS. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barrier must extend below the invert level of the pipe;
 - 5. no planting or obstruction of any kind except turfing shall be permitted within the space of 1.5m around the cover of any wave or within a distance of 1m from any hydrant outlet;
- (iii) tree planting may be prohibited in the event that the DWS considers that there is any likelihood of damage being caused to water mains;
- (e) to note the comments of Chief Building Surveyor/New Territories West, Buildings Department (CBS/NTW, BD) that
 - (i) before any new building works (including containers/open sheds as temporary buildings) are to be carried out on the Ste, the prior approval and consent from the BA should be obtained, otherwise they are Unauthorized Building Works (UBW). An Authorized Person (AP) should be appointed as the co-ordinator for the proposed building works in accordance with the BO;
 - (ii) if the existing structures are erected on leased land without approval of the Building Authority (BA) (not being a New Territories Exempted House), they are unauthorized under the Buildings Ordinance (BO) and should not be designed for any use under the application;
 - (iii) for UBW erected on leased land, enforcement action may be taken by the

BA to effect their removal in accordance with BDs enforcement policy against UBW as and when necessary. The granting of any planning approval should not be constructed as an acceptance of any existing building works or UBW on the Site under the BO;

- (iv) in connection with (ii) above, the Site shall be provide with means of obtaining access thereto from a street and Emergency Vehicular Access (EVA) in accordance with Regulations 5 and 41D of the Building (Planning) Regulations (B(P)R) respectively;
- (v) if the Site does not abut on a specified street of not less than 4.5m wide, its permitted development intensity shall be determined under Regulation 19(3) of the B(P)R at the building plan submission stage;
- (vi) if the Site abuts on a specific street of not less than 4.5m wide, its permitted development intensity shall be within the permissible plot ratio and site coverage as stipulated in the First Schedule of the B(P)R; and
- (vii) formal submission of any proposed new building works for approval and consent under BO is required. Detailed consideration will be made at the building plan submission stage.

