此文件在 2021年 12月 1日 收到。城市規劃委員會只會在收到所有必要的資料及文件後才正式確認收到申請的日期。

This document is received on - 1 DEC 2021. The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

Form No. S16-I
表格第 S16-I 號

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

根據《城市規劃條例》(第131章)第16條遞交的許可申請

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

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

(ii) Temporary use/development of land and/or building not exceeding 3 years in rural areas; and
位於鄉郊地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展;及

(iii) Renewal of permission for temporary use or development in rural areas
位於鄉郊地區的臨時用途或發展的許可續期

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

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

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

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

& Please attach documentary proof 請夾附證明文件

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

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

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

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

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/NE-TKL/692
	Date Received 收到日期	- 1 DEC 2021

1. 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 樓及新界沙田上禾輋路 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。

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1. Name of Applicant 申請人姓名/名稱

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

Pok Oi Hospital

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)

Townland Consultants Limited

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）	Government Land in D.D. 82, Ping Che Road, Ping Che, Ta Kwu Ling, 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 13,207 sq.m 平方米 ☑About 約 ☑Gross floor area 總樓面面積 14,924 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）	13,207 sq.m 平方米 ☑About 約

(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	Approved Ping Che and Ta Kwu Ling Outline Zoning Plan No. S/NE-TKL/14
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Government, Institution or Community" ("G/IC"), Agriculture ("AGR")
(f)	Current use(s) 現時用途	Vacant School Premise (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

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

The applicant 申請人 –

☐ is the sole "current land owner"#& (please proceed to Part 6 and attach documentary proof of ownership).
是唯一的「現行土地擁有人」#&(請繼續填寫第 6 部分，並夾附業權證明文件)。

☐ is one of the "current land owners"#& (please attach documentary proof of ownership).
是其中一名「現行土地擁有人」#&(請夾附業權證明文件)。

☐ is not a "current land owner"#.
並不是「現行土地擁有人」#。

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

5. Statement on Owner's Consent/Notification
就土地擁有人的同意/通知土地擁有人的陳述

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

(b) The applicant 申請人 –

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

Details of consent of "current land owner(s)"# obtained 取得「現行土地擁有人」#同意的詳情

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

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

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

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

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

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

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

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

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

☐ published notices in local newspapers on _____ (DD/MM/YYYY)&
於_____(日/月/年)在指定報章就申請刊登一次通知&

☐ posted notice in a prominent position on or near application site/premises on _____ (DD/MM/YYYY)&
於_____(日/月/年)在申請地點／申請處所或附近的顯明位置貼出關於該申請的通知&

☐ sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on _____ (DD/MM/YYYY)&
於_____(日/月/年)把通知寄往相關的業主立案法團/業主委員會/互助委員會或管理處，或有關的鄉事委員會&

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

Note: May insert more than one「✔」.
Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application.
註: 可在多於一個方格內加上「✔」號
申請人須就申請涉及的每一地段（倘適用）及處所（倘有）分別提供資料

6. Type(s) of Application 申請類別

☐ Type (i) 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) 第(ii)類 Diversion of stream / excavation of land / filling of land / filling of pond as required under Notes of Statutory 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

☐ 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

☑ Type (v) 第(v)類 Use / development other than (i) to (iii) above 上述的(i)至(iii)項以外的用途／發展

Note 1: May insert more than one 「✓」.
註 1： 可在多於一個方格內加上「✓」號
Note 2: For Development involving columbarium use, please complete the table in the Appendix.
註 2： 如發展涉及靈灰安置所用途，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 平方米		
(b) Proposed use(s)/development 擬議用途/發展	(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)		
(c) Number of storeys involved 涉及層數		Number of units involved 涉及單位數目	
(d) Proposed floor area 擬議樓面面積	Domestic part 住用部分 ..... sq.m 平方米 ☐About 約		
	Non-domestic part 非住用部分..... sq.m 平方米 ☐About 約		
	Total 總計 ..... sq.m 平方米 ☐About 約		

(e) Proposed uses of different floors (if applicable) 不同樓層的擬議用途(如適用) (Please use separate sheets if the space provided is insufficient) (如所提供的空間不足，請另頁說明)	Floor(s) 樓層	Current use(s) 現時用途	Proposed use(s) 擬議用途

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

(a) Operation involved 涉及工程	☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ 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 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、填塘、填土及／或挖土的細節及/或範圍))
(b) Intended use/development 有意進行的用途／發展	

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

(a) Nature and scale
性質及規模

☐ 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 裝置名稱／種類	Number of provision 數量	Dimension of each installation /building/structure (m) (LxWxH) 每個裝置／建築物／構築物的尺寸 (米) (長 x 闊 x 高)

(Please illustrate on plan the layout of the installation 請用圖則顯示裝置的布局)

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

(a) Please specify the proposed minor relaxation of stated development restriction(s) and **also fill in the proposed use/development and development particulars in part (v) below** –
請列明擬議略為放寬的發展限制並填妥於第(v)部分的擬議用途/發展及發展細節 –

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

(v) For Type (v) application 供第(v)類申請

(a) Proposed use(s)/development 擬議用途/發展	Proposed Temporary Residential Institution (Transitional Housing) and Ancillary Facilities for a period of 7 years (Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議詳情)

(b) Development Schedule 發展細節表

Proposed gross floor area (GFA) 擬議總樓面面積	14,924 sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	1.13	☑About 約
Proposed site coverage 擬議上蓋面積	34.63 %	☑About 約
Proposed no. of blocks 擬議座數	2 residential blocks + 2 non-domestic blocks + 1 E/M Block	
Proposed no. of storeys of each block 每座建築物的擬議層數	Residential blocks: 4 ; Non-Domestic Blocks: 1 storeys 層 ☐ include 包括.....storeys of basements 層地庫 ☐ exclude 不包括.....storeys of basements 層地庫	
Proposed building height of each block 每座建築物的擬議高度	Residential Blocks: Not more than +26.675mPD Amenity Blocks: Not more than +19.20mPD mPD 米(主水平基準上) Not more than 15 m 米	☐About 約 ☐About 約

Part 6 (Cont'd) 第 6 部分 (續)

☑ Domestic part 住用部分

GFA 總樓面面積	13,800 sq. m 平方米	☑About 約
number of Units 單位數目	596	
average unit size 單位平均面積	16.54-33.14 sq. m 平方米	☑About 約
estimated number of residents 估計住客數目	916	

☑ Non-domestic part 非住用部分

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

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

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

.....

.....

.....

☑ 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)

Ancillary Facilities including Multipurpose Amenity Block and Elderly Service Centre: 1,124sqm; E/M

.....

.....

☑ Open space 休憩用地

(please specify land area(s) 請註明地面面積)

☑ private open space 私人休憩用地	916 (1sqm per person) sq. m 平方米	☑ Not less than 不少於
☐ public open space 公眾休憩用地	..... sq. m 平方米	☐ Not less than 不少於

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

[Block number] [座數]	[Floor(s)] [層數]	[Proposed use(s)] [擬議用途]
Domestic Block 1 &'2	G/F - 3/F	Domestic Use
Multipurpose Amenity Block	G/F	Ancillary Facilities (Ancillary services, Multi purpose community room, and management office, etc)
Elderly Service Centre	G/F	Ancillary Facilities (Elderly Services Centre)
E/M	G/F	E/M, RCP, TX (Transformer)

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

Private Open Space, L/UL, EVA

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

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

4th Quarter of 2023

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

Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？	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)) ..... ☑ 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	☐
Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車位？	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) 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) _____ _____ _____ _____ _____
	No 否	☑
Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客貨車位？	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 2 Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐

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

If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures.
如需要的話，請另頁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。

Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	Yes 是	☑ Please provide details 請提供詳情 demolition of existing ex-sing ping school
	No 否	☐
Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註：如申請涉及第(ii)類申請，請跳至下一條問題。)	Yes 是	☑ (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍) ☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ 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 挖土面積 36 sq.m 平方米 ☑About 約 Depth of excavation 挖土深度 5 m 米 ☑About 約
	No 否	☐ Excavation for holding tank. rough estimates subject to detailed design
Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響？	On environment 對環境	Yes 會 ☐ No 不會 ☑
	On traffic 對交通	Yes 會 ☐ No 不會 ☑
	On water supply 對供水	Yes 會 ☐ No 不會 ☑
	On drainage 對排水	Yes 會 ☐ No 不會 ☑
	On slopes 對斜坡	Yes 會 ☐ No 不會 ☑
	Affected by slopes 受斜坡影響	Yes 會 ☐ No 不會 ☑
	Landscape Impact 構成景觀影響	Yes 會 ☐ No 不會 ☑
	Tree Felling 砍伐樹木	Yes 會 ☑ No 不會 ☐
	Visual Impact 構成視覺影響	Yes 會 ☐ No 不會 ☑
	Others (Please Specify) 其他 (請列明)	Yes 會 ☐ No 不會 ☑
	_____	
	_____	
	Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible) 請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可) Please refer to supplementary planning statement	

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 supplementary planning statement

11. Declaration 聲明

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

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

Signature 簽署 .....

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

Vincent Lau
Name in Block Letters 姓名（請以正楷填寫）

Associate
Position (if applicable) 職位 （如適用）

Professional Qualification(s) 專業資格

☑ Member 會員 / ☐ Fellow of 資深會員
☑ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /
☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /
☐ HKILA 香港園境師學會/ ☐ HKIUD 香港城市設計學會 /
☐ RPP 註冊專業規劃師
Others 其他 .....

on behalf of 代表 Townland Consultants Limited

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

Date 日期 26/11/2021 (DD/MM/YYYY 日/月/年)

Remark 備註

The materials submitted in an application to the Board and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.
委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下，有關申請資料亦會上載至委員會網頁供公眾免費瀏覽及下載。

Warning 警告

Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance.
任何人在明知或故意的情況下，就這宗申請提出在任何要項上是虛假的陳述或資料，即屬違反《刑事罪行條例》。

Statement on Personal Data 個人資料的聲明

1. The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes:
委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門，以根據《城市規劃條例》及相關的城市規劃委員會規劃指引的規定作以下用途：
   (a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and
   處理這宗申請，包括公布這宗申請供公眾查閱，同時公布申請人的姓名供公眾查閱；以及
   (b) facilitating communication between the applicant and the Secretary of the Board/Government departments.
   方便申請人與委員會秘書及政府部門之間進行聯絡。

2. The personal data provided by the applicant in this application may also be disclosed to other persons for the purposes mentioned in paragraph 1 above.
申請人就這宗申請提供的個人資料，或亦會向其他人士披露，以作上述第 1 段提及的用途。

3. An applicant has a right of access and correction with respect to his/her personal data as provided under the Personal Data (Privacy) Ordinance (Cap. 486). Request for personal data access and correction should be addressed to the Secretary of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
根據《個人資料(私隱)條例》(第 486 章)的規定，申請人有權查閱及更正其個人資料。如欲查閱及更正個人資料，應向委員會秘書提出有關要求，其地址為香港北角渣華道 333 號北角政府合署 15 樓。

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

Ash interment capacity 骨灰安放容量@

Maximum number of sets of ashes that may be interred in the niches
在龕位內最多可安放骨灰的數量 _____
Maximum number of sets of ashes that may be interred other than in niches
在非龕位的範圍內最多可安放骨灰的數量 _____

Total number of niches 龕位總數 _____

Total number of single niches
單人龕位總數 _____

Number of single niches (sold and occupied)
單人龕位數目 (已售並佔用) _____
Number of single niches (sold but unoccupied)
單人龕位數目 (已售但未佔用) _____
Number of single niches (residual for sale)
單人龕位數目 (待售) _____

Total number of double niches
雙人龕位總數 _____

Number of double niches (sold and fully occupied)
雙人龕位數目 (已售並全部佔用) _____
Number of double niches (sold and partially occupied)
雙人龕位數目 (已售並部分佔用) _____
Number of double niches (sold but unoccupied)
雙人龕位數目 (已售但未佔用) _____
Number of double niches (residual for sale)
雙人龕位數目 (待售) _____

Total no. of niches other than single or double niches (please specify type)
除單人及雙人龕位外的其他龕位總數 (請列明類別)
_____

Number. of niches (sold and fully occupied)
龕位數目 (已售並全部佔用) _____
Number of niches (sold and partially occupied)
龕位數目 (已售並部分佔用) _____
Number of niches (sold but unoccupied)
龕位數目 (已售但未佔用) _____
Number of niches (residual for sale)
龕位數目 (待售) _____

Proposed operating hours 擬議營運時間 _____
_____

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

Gist of Application 申請摘要

(Please provide details in both English and Chinese as far as possible. This part will be circulated to relevant consultees, uploaded to the Town Planning Board's Website for browsing and free downloading by the public and 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 Official Use Only) (請勿填寫此欄)
Location/address 位置／地址	Government Land in D.D. 82, Ping Che Road, Ping Che, Ta Kwu Ling, New Territories 新界打鼓嶺坪輋坪輋路丈量約份第82約的政府土地
Site area 地盤面積	13,207 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 13,207 sq. m 平方米 ☑ About 約)
Plan 圖則	Approved Ping Che and Ta Kwu Ling Outline Zoning Plan No. S/NE-TKL/14 坪輋及打鼓嶺分區計劃大綱核准圖編號S/NE-TKL/14
Zoning 地帶	Government, Institution or Community, Agriculture 政府、機構或社區, 農業
Applied use/ development 申請用途/發展	Proposed Temporary Residential Institution (Transitional Housing) and Ancillary Facilities for a period of 7 years 擬議臨時住宿機構(過渡性房屋)及附屬設施(為期7年)

(i)	Gross floor area and/or plot ratio 總樓面面積及／或地積比率		sq.m 平方米	Plot Ratio 地積比率
		Domestic 住用	13,800 ☑ About 約 ☐ Not more than 不多於	1.04 ☑ About 約 ☐ Not more than 不多於
		Non-domestic 非住用	1,124 ☑ About 約 ☐ Not more than 不多於	0.085 ☑ About 約 ☐ Not more than 不多於
(ii)	No. of block 幢數	Domestic 住用	2	
		Non-domestic 非住用	3	
		Composite 綜合用途		

(iii)	Building height/No. of storeys 建築物高度／層數	Domestic 住用	15 m 米 ☑ (Not more than 不多於)
			26.675 mPD 米(主水平基準上) ☑ (Not more than 不多於)
			4 Storeys(s) 層 ☑ (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	4 m 米 ☑ (Not more than 不多於)
			19.20mPD 米(主水平基準上) ☑ (Not more than 不多於)
			1 Storeys(s) 層 ☑ (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)*
		Composite 綜合用途	m 米 ☐ (Not more than 不多於)
			mPD 米(主水平基準上) ☐ (Not more than 不多於)
			Storeys(s) 層 ☐ (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)*
(iv)	Site coverage 上蓋面積	34.63 % ☑ About 約	
(v)	No. of units 單位數目	596	
(vi)	Open space 休憩用地	Private 私人	916 sq.m 平方米 ☑ Not less than 不少於
		Public 公眾	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) _____ _____	
	Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位／停車處總數 Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明) _____ _____	2

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

	Chinese 中文	English 英文
Plans and Drawings 圖則及繪圖		
Master layout plan(s)/Layout plan(s) 總綱發展藍圖／布局設計圖	☐	✔
Block plan(s) 樓宇位置圖	☐	✔
Floor plan(s) 樓宇平面圖	☐	✔
Sectional plan(s) 截視圖	☐	✔
Elevation(s) 立視圖	☐	☐
Photomontage(s) showing the proposed development 顯示擬議發展的合成照片	☐	✔
Master landscape plan(s)/Landscape plan(s) 園境設計總圖／園境設計圖	☐	✔
Others (please specify) 其他（請註明）	☐	☐
_____		
_____		
Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據	☐	✔
Environmental assessment (noise, air and/or water pollutions) 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	☐	✔
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	☐	☐
Tree Survey 樹木調查	☐	✔
Geotechnical impact assessment 土力影響評估	☐	☐
Drainage impact assessment 排水影響評估	☐	✔
Sewerage impact assessment 排污影響評估	☐	✔
Risk Assessment 風險評估	☐	☐
Others (please specify) 其他（請註明）	☐	✔
Water Supplies Impact Assessment 供水影響評估		
_____		

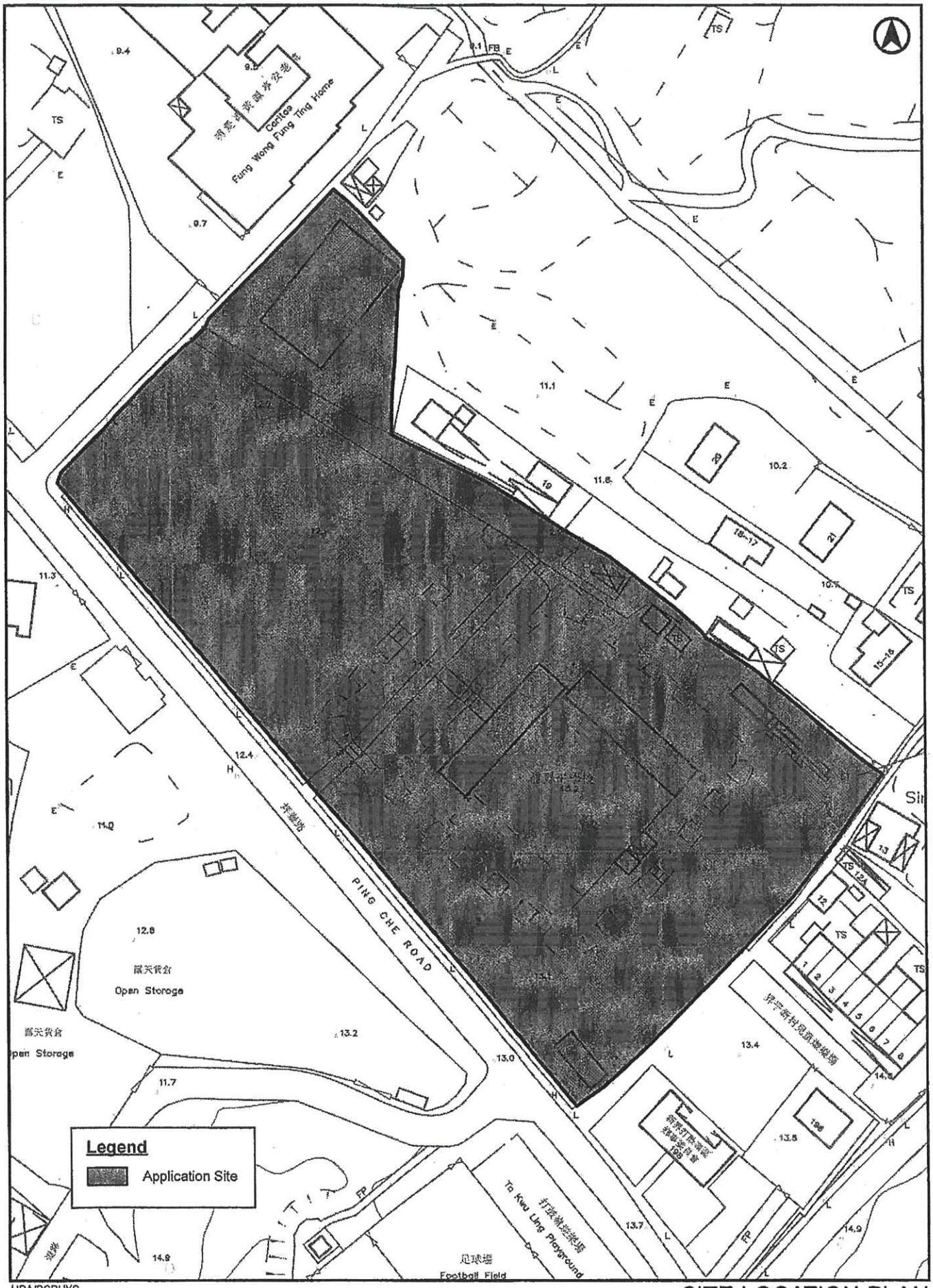
Note: May insert more than one「✔」. 註：可在多於一個方格內加上「✔」號

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

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

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URA/PCRHYR

SITE LOCATION PLAN
SCALE 1 : 1,000

Appendix 1

ARCHITECTURAL DRAWINGS

NOTES:

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS MUST BE VERIFIED AT THE WORK BY THE CONTRACTOR.

ALL PRINTS, SPECIFICATIONS AND THEIR COPYRIGHT ARE THE PROPERTY OF THE ARCHITECTS AND SHALL BE RETURNED AT THE COMPLETION OF THE WORK.

LEGEND

- SITE BOUNDARY
- DOMESTIC FLAT (1P-2P)
- DOMESTIC FLAT (3P-4P)
- DOMESTIC FLAT (DISABLE - AT G/F)
- NON-DOMESTIC USE
- E/M

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES

DRAWING TITLE

MASTER LAYOUT PLAN

DRAWN BY	CHECKED BY
KC	RC
SCALE	DATE
1:600	2021.11.12
JOB No.	DRAWING No.
2024	PCR-A-01

PROPOSED NEW PEDESTRIAN ACCESS

BLOCK 1

BLOCK 2

E&M (1)

E&M (2)

E&M (3)

E&M (4)

E&M (5)

E&M (6)

E&M (7)

E&M (1 STOREY)

RCP (1 STOREY)

TX

TX

ELDERLY SERVICE CENTER (1 STOREY)

EXISTING STRUCTURE

MULTI-PURPOSE AMENITY BLOCK (1 STOREY)

UNDERGROUND HOLDING TANK (Dimensions subject to detailed design)

L/UL

L/UL

PLANTER

1.1m HIGH PLANTER WALL

RAMP UP 1:40

7300

1500

RUN IN / RUN OUT

+11.50

EMERGENCY CRASH GATE (FOR EVA ONLY)

6000

EVA

2.4m HIGH METAL FENCE WALL

5200

6.45m HIGH NOISE BARRIER (+19.0mPD)

8500

1500

PROPOSED LOCAL WIDENING OF JUNCTION

10.88

1.45m HIGH NOISE BARRIER ABOVE FLAT ROOF (+19.0mPD)

5.95m HIGH NOISE BARRIER (+18.5mPD)

0.95m HIGH NOISE BARRIER ABOVE FLAT ROOF (+18.5mPD)

6.95m HIGH NOISE BARRIER (+19.5mPD)

3075

2900

3000

2000

PEDESTRIAN CIRCULATION TO ELDERLY SERVICE CENTRE

PEDESTRIAN ENTRANCE GATE

HATCHED AREA EXTENT OF WIDENED FOOTPATH

HATCHED AREA EXTENT OF WIDENED FOOTPATH

PROPOSED NEW PEDESTRIAN ACCESS

PROPOSED 4000mm WIDE SIGNALIZED PEDESTRIAN CROSSING

BUS STOP

PING CHE ROAD

RAMP 1:13

Sing Ping Village

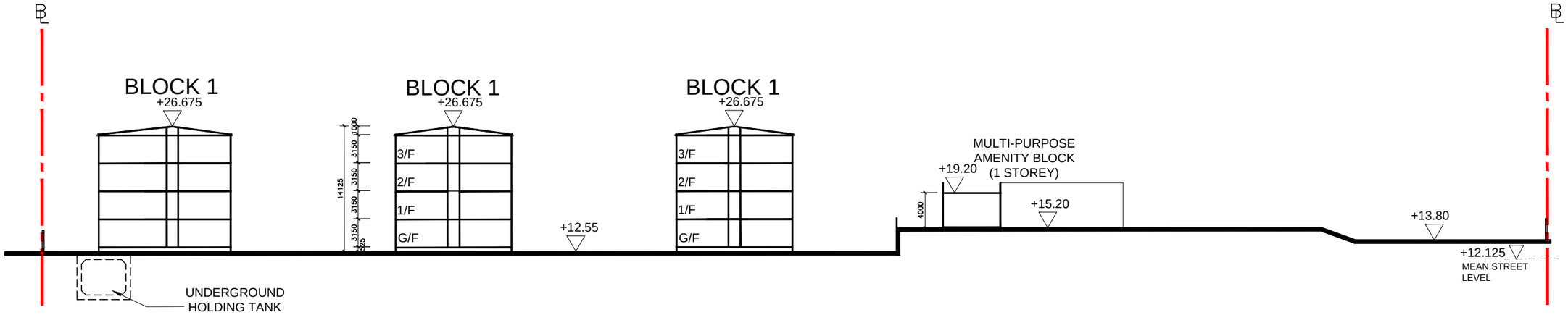
Ta Kwu Ling Playground

Ta Kwu Ling Sports Ground

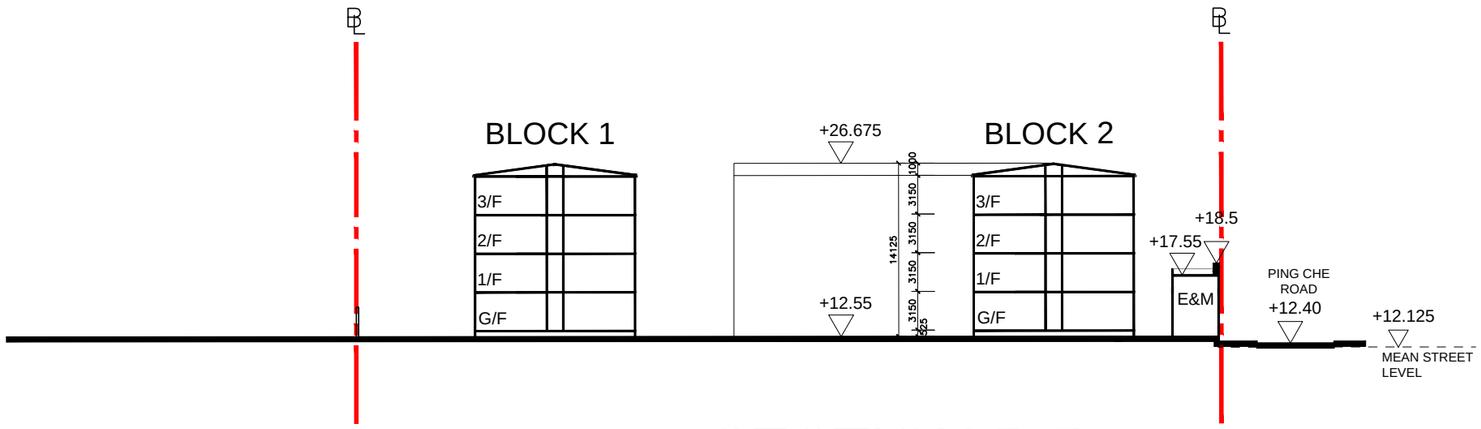
Ta Kwu Ling Football Field

TA KWU LING RURAL COMMITTEE

+11.00
+11.33
+11.75
+12.35
+12.40
+12.55
+12.72
+13.00
+13.37
+13.39
+13.40
+13.65
+13.80
+15.05
+15.20
+17.55
+17.80
+19.20



SECTION A-A



SECTION B-B

NOTES:

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REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU |
ARCHITECTURE | LIMITED

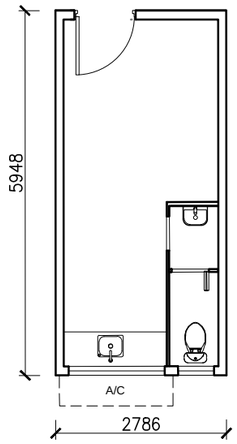
PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES

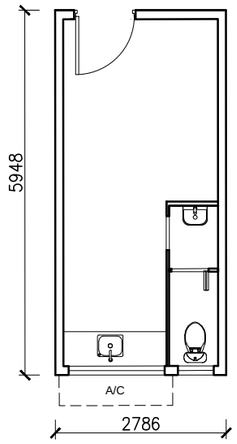
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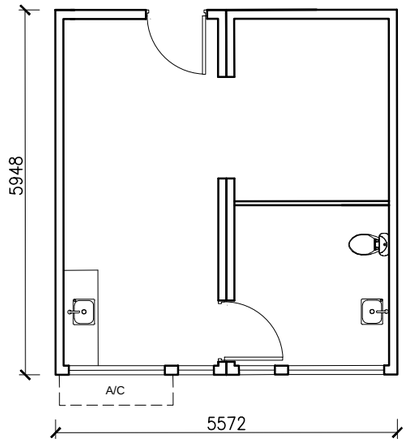
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JOB No.	DRAWING No.
2024	PCR-A-02



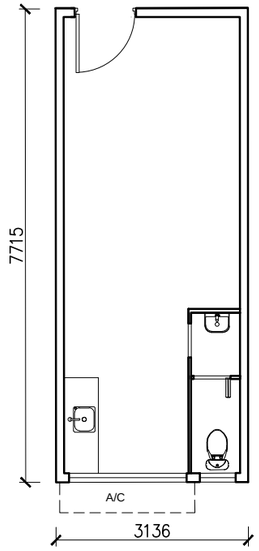
1P UNIT
(16.57 m²)



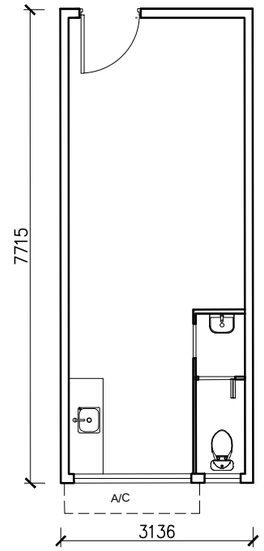
2P UNIT
(16.57 m²)



ACCESSIBLE UNIT
(33.14 m²)



3P UNIT
(24.24 m²)



4P UNIT
(24.24 m²)

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PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT
GOVERNMENT LAND IN DD82,
PING CHE, TA KWU LING,
NEW TERRITORIES

DRAWING TITLE

TYPICAL UNIT LAYOUT PLAN

DRAWN BY	CHECKED BY
KC	RC
SCALE	DATE
1:100	2021.11.12
JOB No.	DRAWING No.
2024	PCR-A-03

Appendix 2

CONCEPTUAL LANDSCAPE PROPOSAL AND TREE PRESERVATION AND REMOVAL PROPOSAL

Section 16 Planning Application
The Town Planning Ordinance (CAP. 131)

Proposed Transitional Housing Development at Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories

Conceptual Landscape Proposal

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1. Project Background and Information
2. Site Appraisal
3. Assessment of the Potential Impact to Existing Trees on Site
4. Design Concept and Objectives (Soft Landscape and Hard Landscape)

Annexes

Annex 1 Landscape Layout Plan
Annex 2 Tree Preservation and Removal Proposal

Project Title	Proposed Transitional Housing Development at Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories
Report Title	Conceptual Landscape Proposal (Rev.2)

1. Project Background and Information

(i) This Conceptual Landscape Proposal & Tree Preservation and Removal Proposal is prepared in support of a Section 16 ("S16") Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site").

(ii) Transport and Housing Bureau ("THB") has been facilitating the implementation of transitional housing projects by community groups ("CG") to relieve the pressure of families living in poor and sub-standard conditions, and those waiting for public rental housing for a long time. Therefore, the modular integrated construction method ("MIC") for the application site is adopted.

(iii) The Application Site Area is approximately 13,207m^2. The Proposed Transitional Housing Development comprises of two 4-storey residential blocks, a single-storey amenity block and a single-storey Elderly Service Centre, providing a total of approximately 596 units, housing approximately 916 persons.

(iv) It is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

(v) The proposed scope includes the following:

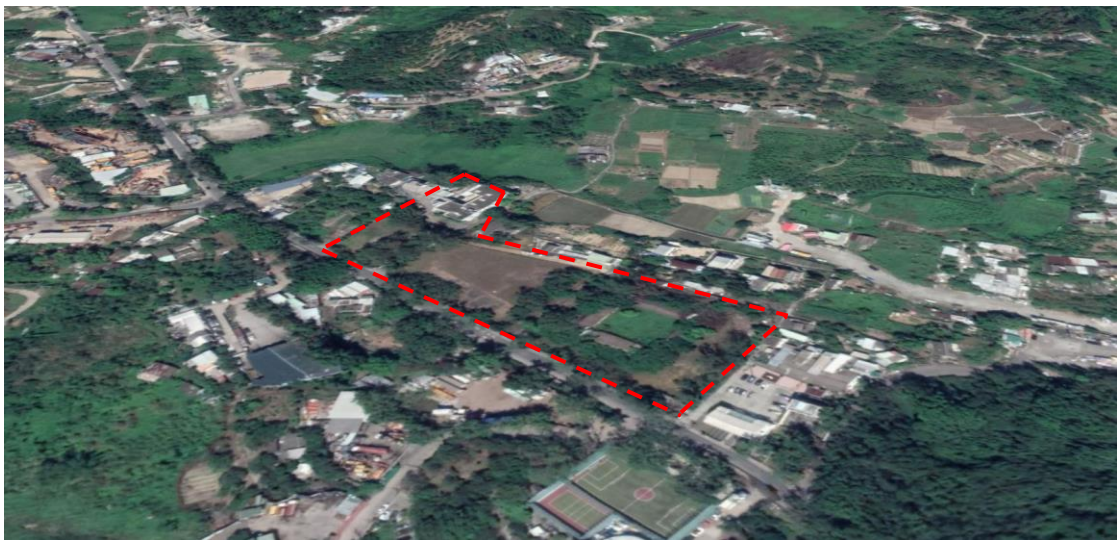
<u>The Application Site</u>

(a) Landscape seating areas
(b) Family play area
(c) Exercises areas
(d) Jogging Trail
(e) Community garden & gathering space outside amenity block

2. Site Appraisal

The application site located at Ping Che Road in Ta Kwu Ling, which adjacent the Ta Kwu Ling District Rural Committee and Sing Ping Village. The existing site is the former Sing Ping Public School, it is now being a vacant school premises site according to the Planning Department. The Landscape Character type of the existing site is categorised as Miscellaneous Rural Fringe Landscape (Urban Fringe Landscape). These are the landscape found on the periphery of the major urban areas. They are a residual landscape type comprising roads, highways structures, slope works, vegetated hillsides (often stabilized), scattered residential development, open space, GIC, construction work, cemeteries, prisons, barracks, etc. These are low-density landscapes which are characterized by their low density, relatively significant amounts of vegetation, and relatively incoherent structure.

The application site area is made up from the lower spot level of 11mPD on the north-western to the higher spot level of 14mPD on the south-eastern side of the site. Meanwhile, the abandoned school building is on about 15mPD with the raised platform, and dense vegetation currently. The Application Site is fenced up and fully vegetated, which is non-accessible for public. Tree survey was conducted, and those tree species recorded are mostly common species in Hong Kong, and some were considered as undesirable tree species i.e. *Leucaena leucocephala*.



Site Boundary

3. Assessment of the Potential Impact to Existing Trees on Site

3.1 Existing Conditions

(i) A total of 218 nos. of trees within site were surveyed and assessed on 06 July and 16 July 2020.

(ii) There are no potentially registrable trees and no trees included in the Register of Old and Valuable Trees in accordance with DEVB TCW No. 5/2020.

(iii) A total of **218** nos. of existing trees belonging to **27** species were recorded in the survey. These trees are all common species as follows:

	Botanical Name	Chinese Name	Quantity (nos.)
1	*Acacia confusa*	台灣相思	13
2	*Alangium chinense*	八角楓	2
3	*Albizia leBroken brancheck*	大葉合歡	2
4	*Aleurites moluccana*	石栗	1
5	*Artocarpus heterophyllus (syn. Artocarpus macrocarpon)*	菠蘿蜜	3
6	*Bauhinia spp.*	羊蹄甲屬	11
7	*Bombax ceiba*	木棉	1
8	*Bridelia tomentosa*	土蜜樹 (逼迫仔)	3
9	*Carica papaya*	番木瓜	1
10	*Casuarina equisetifolia*	木麻黃	9
11	*Celtis sinensis*	朴樹	9
12	*Cinnamomum camphora*	樟	1
13	*Clausena lansium*	黃皮	2
14	*Dead tree*	死樹	3
15	*Delonix regia*	鳳凰木	4
16	*Dimocarpus longan*	龍眼	16
17	*Eucalyptus robusta*	大葉桉	27
18	*Ficus hispida*	對葉榕 (牛乳樹)	17
19	*Ficus microcarpa*	榕樹 (細葉榕)	10
20	*Leucaena leucocephala*	銀合歡	3
21	*Litchi chinensis*	荔枝	7
22	*Litsea glutinosa*	潺槁樹	2

23	*Macaranga tanarius var. tomentosa*	血桐	53
24	*Mangifera indica*	芒果	13
25	*Melia azedarach*	楝(苦楝)	3
26	*Morus alba*	桑	1
27	*Psidium guajava*	番石榴	1
Total No. of Trees Surveyed:			**218**

(iv) The Tree Assessment Schedule, Photographs of Existing trees and Tree Removal Plan are included in Annex 2.

3.2 Proposed Treatment to Existing Trees

(i) Of the 218 nos. of surveyed trees within the Site, the proposed treatments to them are as follows:

Proposed Treatment	**Quantity (nos.)**
To be retained	98
To be transplanted	0
To be felled	120
Total No. of Existing Trees Surveyed	**218**

Among the 122 nos. of felled trees, 2 nos. of trees (T128 and T176) are located on the existing slope between the proposed MIC structures and the existing abandoned school building, site formation shall be carried out during the construction stage, hence, these two concerned trees cannot be retained in-situ although the DBH is relatively large comparing other felled trees.

3.3 Compensatory Tree Planting Proposal

Proposed compensatory planting ratio is 1:1 in terms of number in accordance with LAO PN 2/2020 for the loss of greenery due to the development. **50** nos. of standard to heavy standard trees within the application site and all shall be planted at grade.

Proposed compensatory tree planting schedule:

Abbreviation	Botanical name	Chinese name	Height (mm)	Spread (mm)	DBH (mm)	Spacing (mm)	Origin	Quantity
ILE. ROT.	*Ilex rotunda*	鐵冬青	2000	1000	90	2000	Native	11
GAR. SUB.	*Garcinia subelliptica*	福木	2000	1000	90	2000	Exotic	18
PSI. GUA.	*Psidium guajava L.*	番石榴	2500	2000	90	3000	Exotic	6
ERI. JAP.	*Eriobotrya japonica*	枇杷	2500	2000	90	3000	Exotic	3
LIQ. FOR.	*Liquidambar formosana*	楓香	2500	2000	90	3000	Native	12
							TOTAL NUMBER: 50 nos.	
							TOTAL DBH: 4,500 mm	

3.4 Tree Preservation and Removal Proposal with details of The Tree Assessment Schedule, tree treatment, photographs of existing trees and tree compensation proposal are included in Annex 2.

4. Design Concept and Objectives (Soft Landscape and Hard Landscape)

4.1 Landscape Master Plans

Please refer to Annex 1 for Landscape Layout Plan

4.2 Landscape Concept of the Development

The proposed transitional housing with around 596 proposed residential units for the intended population of about 916 persons. There is a public space at the southern portion of the site with the 1-storey amenity block and 1-storey elderly service centre for the neighbourhood.

For the domestic site area, users in all ages are expected. To facilitate a diversity of intergenerational activities at the doorstep, well-landscaped open space with a balance mix of hard and soft landscape are proposed. Adequate active and passive recreational facilities are also provided that enable a variety of recreational pursuits

for all age groups. For example, jogging trail, mini ball court, badminton court, floor paint games, multi-functional space, etc.

Outdoor open space links to each block and area continuously, pavement is with adequate width to accommodate the internal pedestrian route and allow reserves for utilities installations. Proposed EVA inside the site shall also in the similar paving pattern with other pedestrian walkway for consistency. Visually attractive and interesting paving materials are suggested for the pavement surface.

The large open space next to the proposed multi-purpose amenity blocks and elderly service centre provides a comfortable courtyard includes healthy walking trail, fitness area, outdoor long table, community farm so as to enhance the visual interest, as well as the ecological value.

4.3 Soft Landscape Design

(i) At-Grade Planting:
- In each courtyard space between the buildings, there are newly planted trees with flowers and/or fruits and seasonal changes to enrich the colour palette of the area and improve the micro-climate of the overall residential environment.
- Several landscape berms provide sitting areas for users under shades.
- At the internal garden area adjacent to the blocks, structural tree species that offer visual and ecological interest would be selected to provide a vibrant and playful natural environmental for adults and children to explore in their leisure time.
- Shrub plantings along the boundary to enhance the privacy for resident and maximising the greenery coverage provision.

(ii) Non At-Grade Planting:
- Movable planters cum bench at the run in/out provide shading and sitting area for residents and visitors.

4.4 Hard Landscape Design

(i) All hard landscape areas and associated features will be in full compliance with relevant safety standards and guidelines. The choices of materials for different kinds of finishes will be compatible with the architectural style of

the transitional housing scheme.

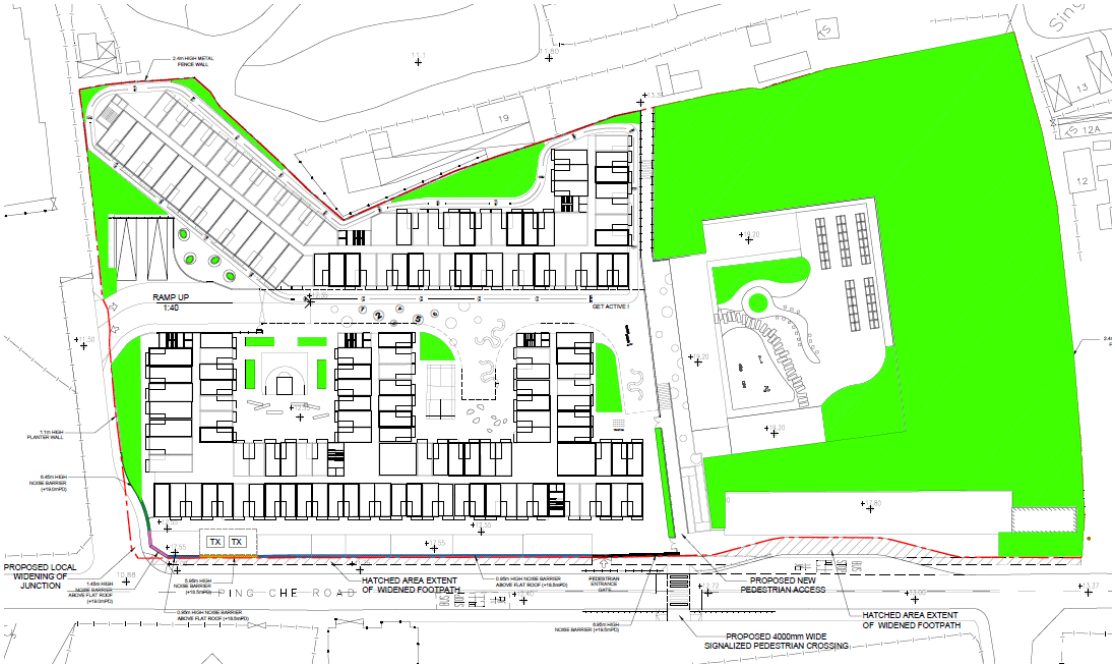
(ii) Site furniture such as benches will be located at appropriate areas i.e. courtyard space, in order to serve its functions fully.

(iii) The floor tiles to be used on pedestrian accesses/floor finishes will be able to achieve certain slip-resistant effect.

(iv) Lighting will be utilised strategically to encourage the use of the spaces at night time and provide an increased sense of security. Lux calculations will be assessed by Building Services Engineer for the whole site.

4.5 Landscape Area Provision

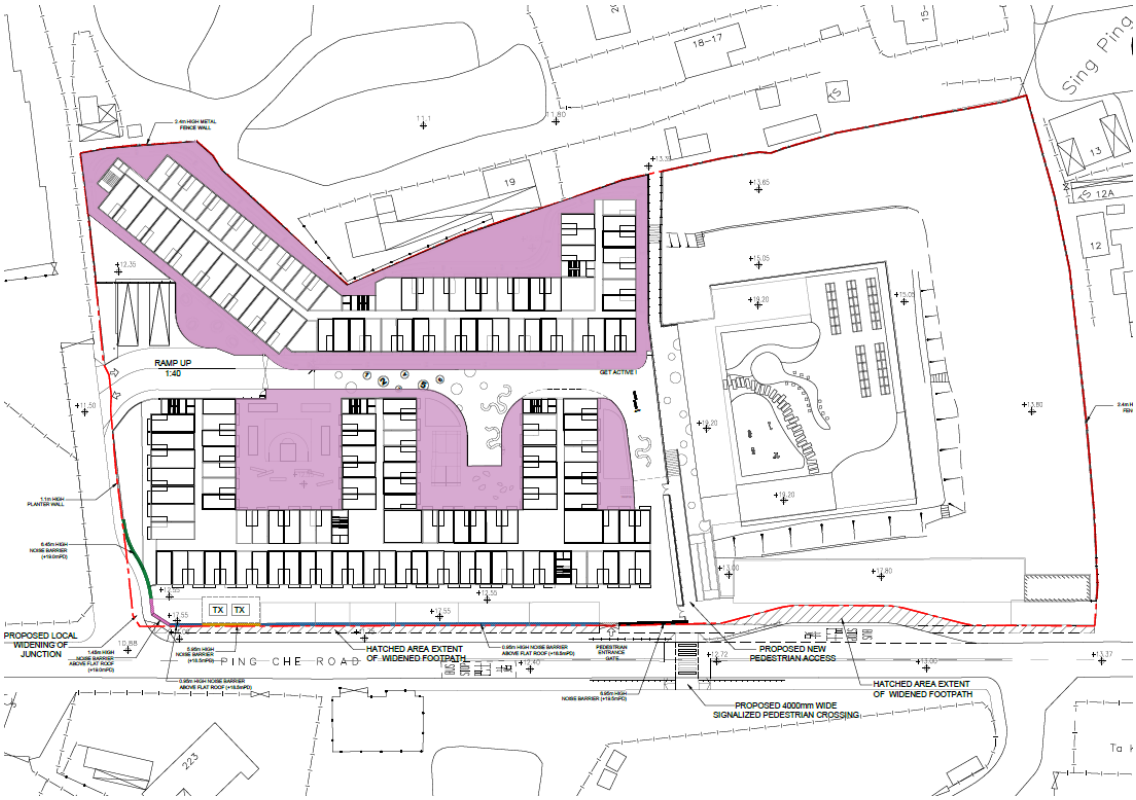
Uncovered greening opportunities in all areas, including pocket garden spaces at the backyard are explored and maximised within the transitional housing development, the total greening coverage is approximately 4,430m^2, occupying over 33.5% of the total site area.



Potential Location for Greening

4.6 Open Space Provision

There is no less than 1m^2 per person of proposed private open space area (i.e. 916 m^2) in accordance to the recommendation from Hong Kong Planning Standards and Guidelines (HKPSG).



Demarcation of Private Open Space

4.7 Others

(i) Soil Depth

The proposed landscaped area of this application site will be designed with adequate soil depth and width for healthy plant growth. Sufficient soil depth and volume will be provided for all landscape planting at ground, intermediate and roof levels. Excluding drainage layer, minimum soil depths of 1200mm, 600mm and 300mm will be provided for tree, shrubs, grass/ground covers respectively

(ii) Drainage

Adequate drainage in forms of soak away system, subsoil drains by pipes or miradrains will be provided for all planting areas to protect plants from waterlogging problems.

(iii) Irrigation

Adequate water points will be provided for general maintenance and watering of vegetation. To facilitate maintenance of soft landscape works, provision of water points located at a distance of maximum 40m centre to centre, which allows for 20m hose connection, for manual watering will be provided for irrigating all planting areas.

(iv) Maintenance and Accessibility

All landscaped areas will be provided with sufficient maintenance accesses.

Annex 1

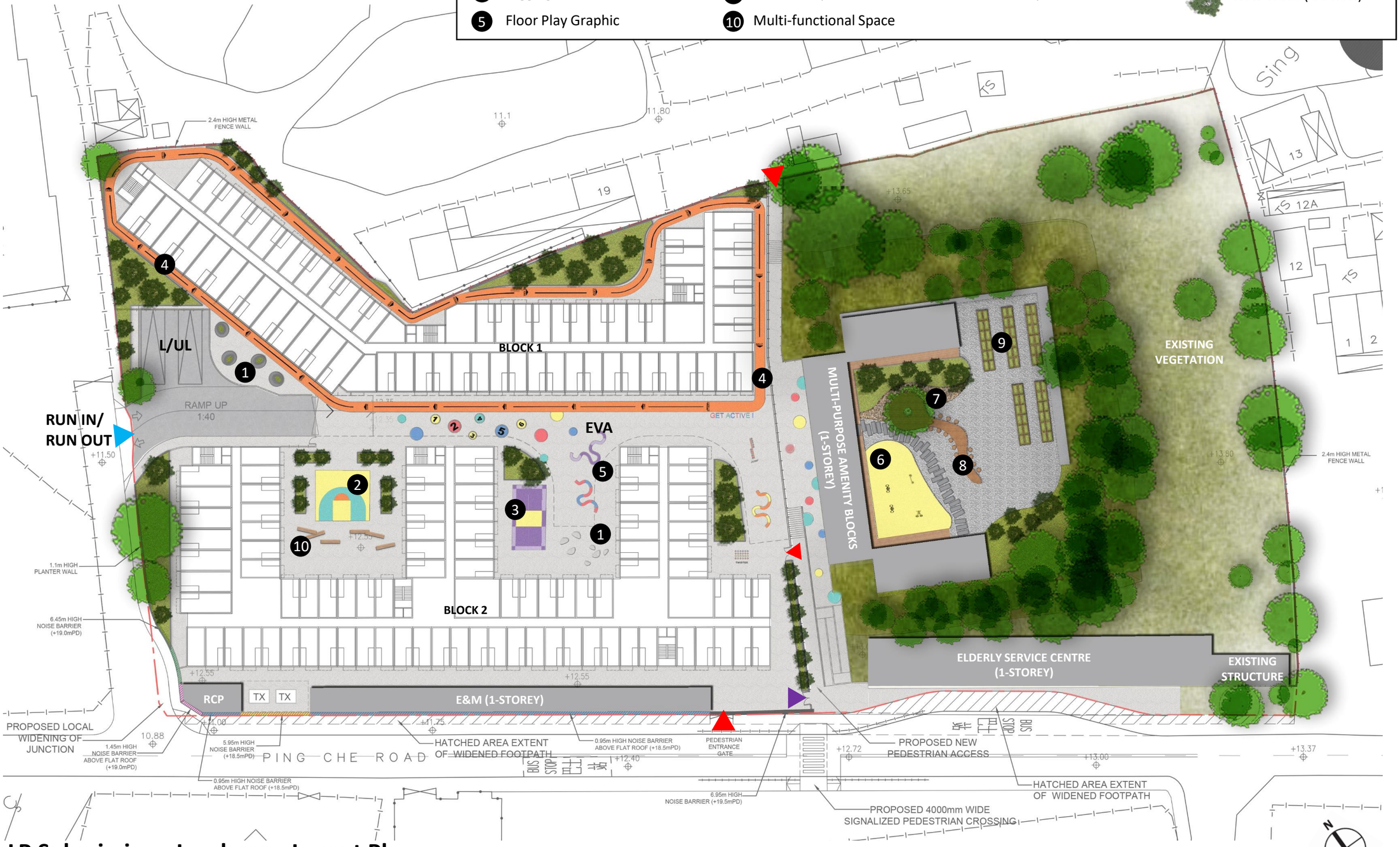
Landscape Layout Plan

Annex 1

Legend

1. Movable Planter / Bench
2. Mini Basketball Court
3. Badminton Court
4. Jogging Trail
5. Floor Play Graphic
6. Elderly Fitness Zone
7. Healthy Trail
8. Outdoor Table
9. Community Farm
10. Multi-functional Space

- Site Boundary
- Pedestrian Entrance/ Exit
- Vehicular Access
- To Elderly Service Centre
- Hard Paved Area
- Planting Area
- Existing Trees (98 nos.)
- New Trees (50 nos.)



LP Submission - Landscape Layout Plan

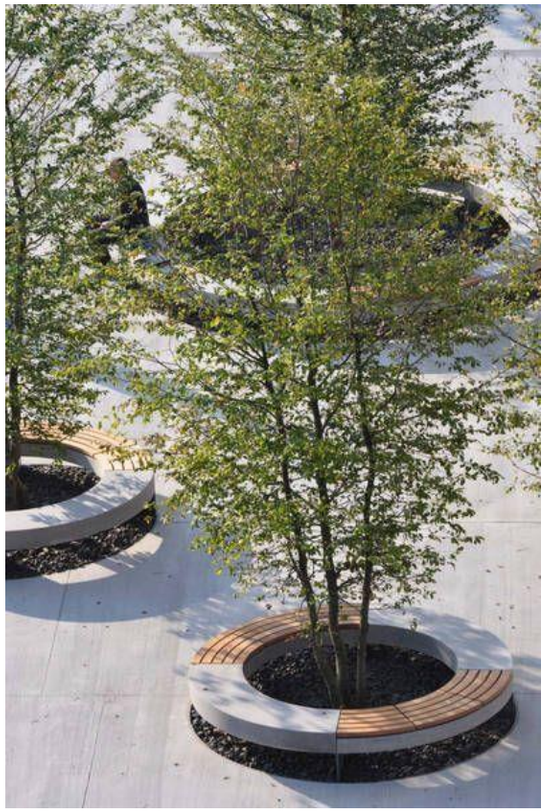
Scale 1:500

Site Area: APPROX. 13,207m²

Annex 1

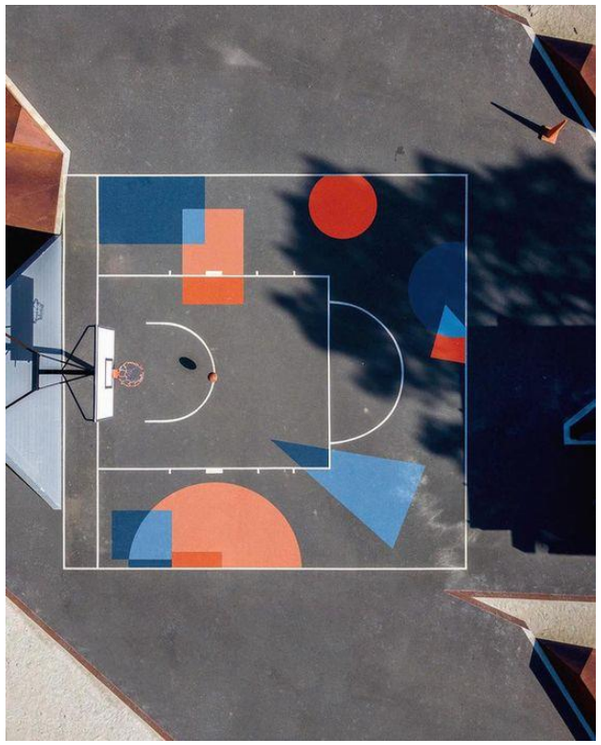


1 Movable Bench & Planters





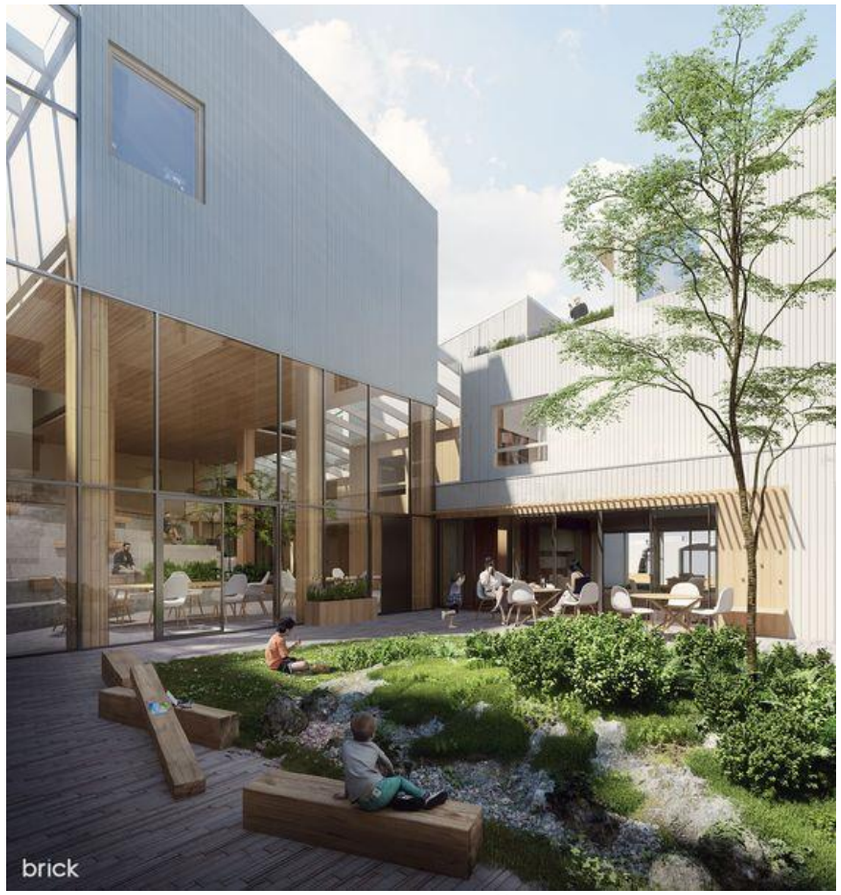
5 Floor Play Graphic



2 Mini Basketball Court



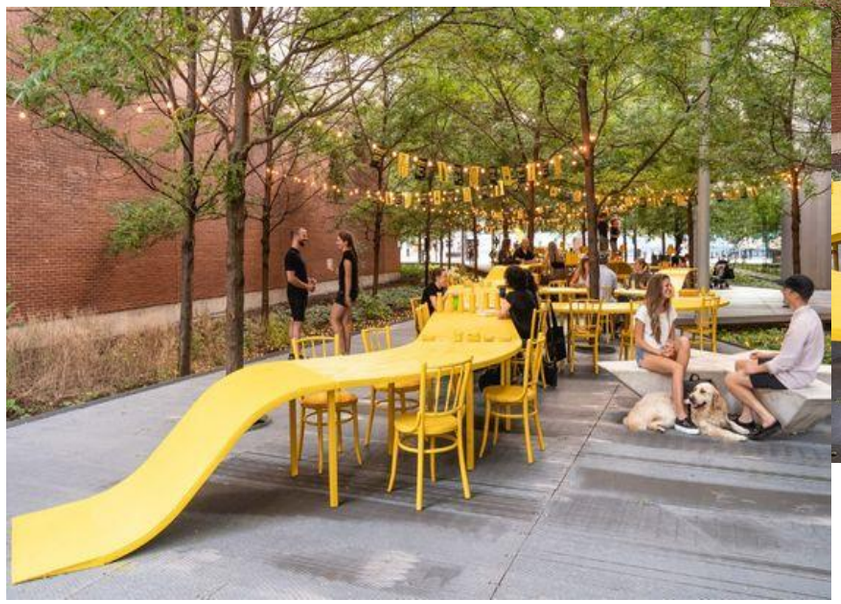
4 Jogging Trail

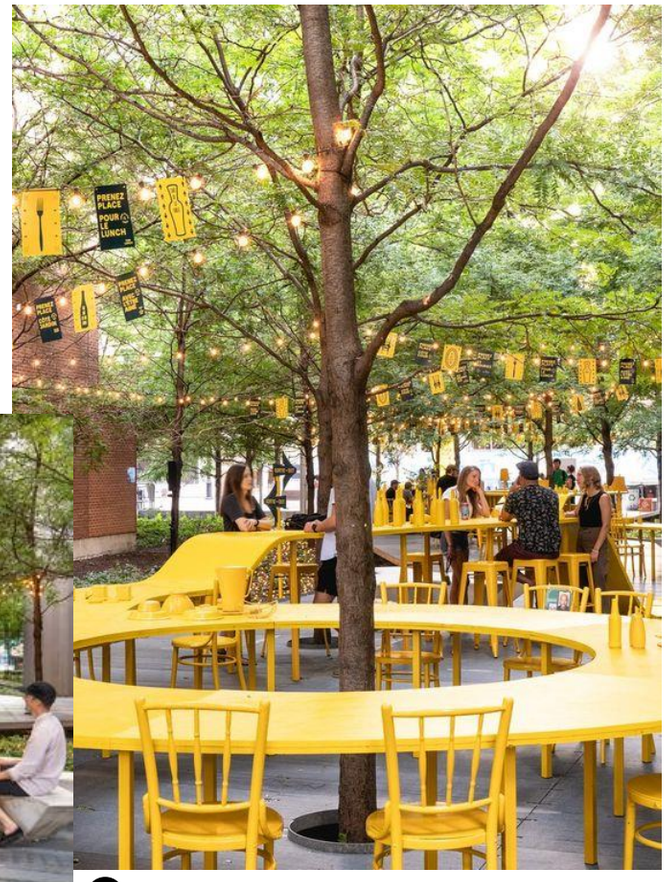


10 Multi-functional Space

LP Submission - Landscape Layout Plan

Annex 1





8 Multi-functional Space & Outdoor Table



7 Healthy Trail

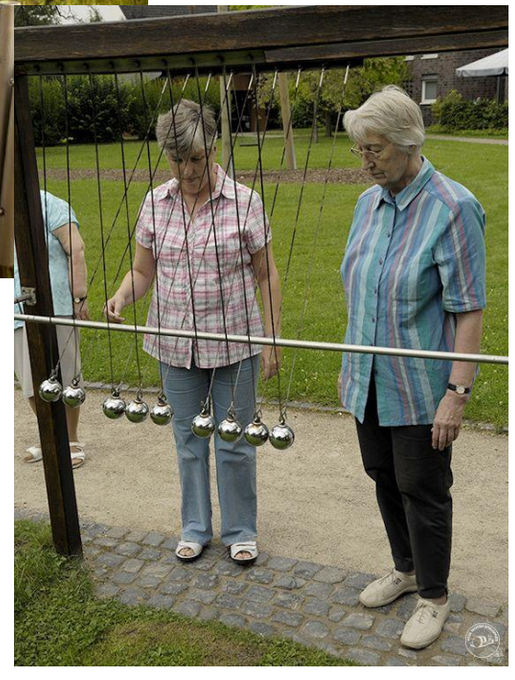






6 Elderly Fitness Zone







9 Community Farm

LP Submission - Landscape Layout Plan

Annex 2
Tree Preservation and Removal Proposal

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4.2 Criteria for Judging Recommendation
4.3 Recommendation on Tree Treatment

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APPENDICE:

Appendix A – Site Location Plan and approved OZP
Appendix B – Tree Survey Plan
Appendix C – Tree Treatment Schedule
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Appendix E – Tree Treatment Plan
Appendix F – Compensatory Planting Plan
Appendix G – Method Statement on Tree Preservation Measures
Appendix H – Schedule of Maintenance

SECTION 1
BACKGROUND INFORMATION

1.1 Introduction

This Tree Treatment Proposal is prepared in support of a Section 16 Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ "Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site"). The Application Site is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

The Application Site Area is approximately 13,207m^2 . The Proposed Transitional Housing Development comprises of two 4-storey residential blocks, a single-storey multipurpose amenity block and a single-storey Elderly Service Centre, providing a total of approximately 596 units, housing approximately 916 persons.

1.2 Description of the Proposed Works

Otherland Limited is appointed as the Landscape Consultant to carry out the tree survey and tree treatment recommendation and preliminary compensatory planting proposal based on the topographical plan prepared through the architectural service.

The Topographical and Tree Location Survey was conducted by KeLand Surveing Planning & GIS Co. Limited. Tree inspection was carried out on 6th July 2020 and 16th July 2020 by Carol Cheung (ISA CA: HK-1615A).

This report outlines the approach and findings of the tree survey; describes the type, extent and condition of existing trees that will be affected by the proposed transitional housing development, and makes recommendations for the removal or preservations of these trees and provides compensatory planting proposal for the loss of greenery.

The Treatment and survey of the existing trees were carried out and recommendations were made regarding the treatment of existing trees in response to the design proposals. Locations of trees are recorded in **Tree Survey Plan enclosed in Appendix B.** Detailed tree identification and survey methodology are described in **Appendix C** and Section 2 respectively.

SECTION 2
TREE SURVEY METHODOLOGY

2.1 Tree Survey Methodology

A tree survey has been conducted to ascertain the extent of existing trees within the proposed site that would be affected directly and indirectly by the proposed building works.

2.1.1 Definition

All existing trees if its trunk diameter measures 95mm or more at a height of 1.3m above ground level were identified.

2.1.2 Individual Tree Survey

Every tree surveyed individually shall be recorded with the following information in Appendix C, with photographic record provided in Appendix D:

- Species
- Height
- Crown Spread
- Trunk Diameter
- Health Condition
- Tree Form
- Amenity Value
- Anticipated Survival Rate after Transplanting

2.1.3 Tree Assessment Schedule

A Tree Assessment Schedule recording the detailed information of existing trees together with photographic records of existing trees is provided in Appendix D and Appendix E respectively. All surveyed trees shall be identified to confirm whether the trees are:

- Included in the Register of Old and Valuable Trees promulgated under DEVB TC(W) No. 5/2020
- Potentially registrable in accordance with the criteria as set out in DEVB TC(W) No. 5/2020
- Tree species included in the latest edition of the publication: *Rare and Precious Plants of Hong Kong*, issued by Agriculture Fisheries and Conservation Department, and /or
- Potentially hazardous.

2.2 Terms Used in the Tree Assessment Schedule

2.2.1 Tree No.

Surveyed tree reference number recorded

2.2.2 Species

Botanical names and Chinese names of the surveyed tree recorded

2.2.3 Height

Full height measured from ground level to the top branch in meters

2.2.4 Spread

Diameter of tree canopy in meter

2.2.5 Trunk diameter

Diameter at breast height (DBH) of the main trunk measured at a height of 1300mm above ground level

2.2.6 Health Condition

Estimate according to the Foliage, Exposed Roots, Branches and Trunk

(G) = Good	Without any visible disease or defect, sound and healthy tree
(F) = Fair	With few visible defects or health problem
(P) = Poor	With many visible defects or health problem such as rot, cavities in the main trunk, insect or fungi attack, lack of vigour and crown die back, etc.

2.2.7 Tree Form

Estimated according to the canopy, branch and trunk

(G) = Good	Well-balanced canopy and straight strong trunk(s) without any broken branch
(F) = Fair	Slightly unbalanced canopy and non-straight trunk(s)
(P) = Poor	Heavily leaning, unbalanced canopy misshapen, awkwardly-forked trunk or with any broken branch or trunk

2.2.8 Amenity Value

Estimated according to the species, age, size, health condition and tree form

(H) = High	Specimen of rare trees to be retained if at all possible
(M) = Medium	Trees which individually or collectively make a useful but not vital contribution to the local environment
(L) = Low	Dead, dangerous and unhealthy trees and trees of generally poor form and shape

2.2.9 Anticipated survival rate after transplanting

The survival rate after transplanting for individual tree is assessed and categorized as follows:

(H) = High
(M) = Medium
(L) = Low

The following criteria are taken into account:

- **Condition of the Tree -** trees with balanced form, in good health and with high amenity value are considered for transplanting
- **Size and Maturity** - small and younger trees have a better chance of surviving transplantation while larger, mature trees are difficult to transplant both logistically and in terms of survival rate

- **Species -** different tree species have better chances of survival or are better suited to transplanting than others
- **Access** - large machinery is required to lift the trees, steep slopes and rocky terrain therefore make it difficult to access trees
- **Trees Located on Sloping Ground -** for those trees located on sloping ground, they may not survive after transplanting even if they are accessible. It is difficult for their inclined root systems to adapt to the normally gentler ground at the receptor site.

2.2.10 Remarks

Supplementary special features identified on site and having status / characteristics / condition as stated in the bullet points of Section 2.1.3 *Tree Assessment Schedule*.

SECTION 3
TREE SURVEY FINDINGS

3.1 General Description of Existing Trees

A tree survey was carried out on 06 Jul, 2020 and 16 Jul, 2020 respectively. There are a total **218** nos. existing trees surveyed (trunk diameter at 1.3m height measuring 95mm or more). The **Tree Survey Plan** drawing no. PCR01-20-TSP-01, PCR01-20-TSP-02, PCR01-20-TSP-03, PCR01-20-TSP-04, PCR01-20-TSP-05 & PCR01-20-TSP-06 are enclosed in **Appendix B**.

The tree species recorded are mostly common species in Hong Kong. There are 27 species identified, the height ranges from **1.5m** to **17m**, crown spread from 1**m** to 15**m**, and DBH from **100mm** to **1030mm**, they are summarized in paragraph 3.2.

No Registered Old and Valuable Trees (OVT) are recorded in this tree survey.

If any of the trees surveyed is a tree having status / characteristics / condition as:

- The tree is included in the Register of Old and Valuable Trees promulgated under DEVB TC(W) No. 5/2020
- The tree is potentially registrable in accordance with the criteria as set out in DEVB TC(W) No. 5/2020
- The tree species is included in the latest edition of the publication *Rare and Precious Plants of Hong Kong* issued by Agriculture, Fisheries and Conservation Department, and
- The tree is potentially hazardous.

The relevant information will be indicated in the "Remarks" column of the Tree Treatment Schedule, and that if no such information is indicated in the "Remarks" column of the Tree Treatment Schedule, it means that the tree does not have such status/characteristics/condition or does not need to be removed or treated with tree surgery.

3.2 Tree Survey Details

	Botanical Name	Chinese Name	Quantity (nos.)
1	*Acacia confusa*	台灣相思	13
2	*Alangium chinense*	八角楓	2
3	*Albizia lebbeck*	大葉合歡	2
4	*Aleurites moluccana*	石栗	1
5	*Artocarpus heterophyllus (syn. Artocarpus macrocarpon)*	菠蘿蜜	3
6	*Bauhinia spp.*	羊蹄甲屬	11
7	*Bombax ceiba*	木棉	1
8	*Bridelia tomentosa*	土蜜樹(逼迫仔)	3
9	*Carica papaya*	番木瓜	1
10	*Casuarina equisetifolia*	木麻黃	9
11	*Celtis sinensis*	朴樹	9
12	*Cinnamomum camphora*	樟	1
13	*Clausena lansium*	黃皮	2

14	*Dead tree*	死樹	3
15	*Delonix regia*	鳳凰木	4
16	*Dimocarpus longan*	龍眼	16
17	*Eucalyptus robusta*	大葉桉	27
18	*Ficus hispida*	對葉榕(牛乳樹)	17
19	*Ficus microcarpa*	榕樹(細葉榕)	10
20	*Leucaena leucocephala*	銀合歡	3
21	*Litchi chinensis*	荔枝	7
22	*Litsea glutinosa*	潺槁樹	2
23	*Macaranga tanarius var. tomentosa*	血桐	53
24	*Mangifera indica*	芒果	13
25	*Melia azedarach*	楝(苦楝)	3
26	*Morus alba*	桑	1
27	*Psidium guajava*	番石榴	1
		Total No. of Trees Surveyed:	**218**

3.3 Reference

1. *LANDS ADMINISTRATION OFFICE PRACTICE NOTE NO.2/2020*
2. *DEVELOPMENT BUREAU TECHNICAL CIRCULAR (WORKS) NO. 6/2015 - MAINTENANCE OF VEGETATION AND HARD LANDSCAPE FEATURES*
3. *DEVELOPMENT BUREAU TECHNICAL CIRCULAR (WORKS) NO. 5/2020 - REGISTRATION AND PRESERVATION OF OLD AND VALUABLE TREES*
4. *ENVIRONMENT, TRANSPORT AND WORKS BUREAU TECHNICAL CIRCULAR (WORKS) NO. 11/2004 - CYBER MANUAL FOR GREENING*
5. *ENVIRONMENT, TRANSPORT AND WORKS BUREAU TECHNICAL CIRCULAR (WORKS) NO. 34/2003 - COMMUNITY INVOLVEMENT IN GREENING WORKS*
6. *WORKS BUREAU TECHNICAL CIRCULAR (WORKS) NO. 7/2002 - TREE PLANTING IN PUBLIC WORKS*
7. *THROWER, S.L., HONG KONG TREES, THE URBAN COUNCIL HONG KONG 1998*
8. *WEBB, R. (ED.) TREE PLANTING & MAINTENANCE IN HONG KONG, HONG KONG GOVERNMENT PRINTER, HONG KONG 1991*
9. *CHECK LIST OF HONG KONG PLANTS, AFCD, 2004*
10. *RARE AND PRECIOUS PLANTS OF HONG KONG, AFCD, 2003*

SECTION 4
RECOMMNDATION ON TREE TREATMENT

4.1 Categories of Recommendation

The number and species of trees to be retained, transplanted or fell shall depend on various factors, e.g. cost of planting and transplanting, health, amenity value, size, survival rate, location and details of the proposed works.

With regards to the recommendation for tree treatment for each tree in the Tree Treatment Schedule, including “retain”, “transplant”, “fell” are in accordance with Lands Administration Office Practice Note No. 2/2020.

4.1.1 Retain
Trees in unaffected areas are recommended to be retained and will be protected during construction by temporary fencing when in proximity to construction works.

4.1.2 Transplant
Tree species that are rare or endangered are recommended to be transplanted. Trees approved to be transplanted will be relocated to a suitable location with consent of the Government.

4.1.3 Fell
Trees in direct conflict with the proposed works and are unsuitable for transplanting will be felled. This shall be the last resort if retain and transplant are both not feasible.

4.2 Criteria for Recommendation

The main criteria for judging ‘Tree Treatment’ for each tree are as follows:

4.2.1 Retain
The following order of priority shall be observed for preservation of healthy trees:

(a) retain the tree(s) at its/their original location(s); or

(b) if paragraph 4.2.1(a) is not practicable having balanced all relevant considerations, transplant the affected tree(s) to other permanent locations within the site, so as to increase the tree’s survival rate after transplantation and minimize the loss of greenery on the local environs; or

(c) if both paragraphs 4.2.1(a) and 4.2.1(b) are not practicable, transplant the affected tree(s) to other permanent location(s) outside the site, which should preferably by nearby location(s) with subsequent maintenance responsibility identified and agreed in order to maintain its/their amenity value to the vicinity; or a temporary holding nursery ex-situ prior to transplant the affected trees back to the site when the site is ready for planting. Location of the temporary holding nursery should preferably be in proximity to the site for minimizing the disturbance to the affected trees during transportation; or

4.2.2 Transplant
For trees that are considered impracticable to be preserved in-situ, justification for the proposed Trees transplanting should be provided and following considerations should be taken into account:

(a) conditions of the tree to be transplanted (including form, health and structure which will affect success of the proposed tree transplanting);

(b) size, species, survival rate after transplanting;

(c) amenity value and conservation status of the tree to be transplanted;

(d) availability and suitability of a permanent receptor site within the site and/or a temporary holding nursery outside the site;

(e) adequate time for preparation of transplanting operation;

(f) identification of a long-term maintenance party for the transplanted tree(s);

(g) access to the existing location and transportation to the permanent receptor site and/or temporary holding nursery (including availability of access to accommodate the tree, topography of the proposed route, engineering/transport limitations, etc.); and

(h) cost-effectiveness.

4.2.3 Fell

Felling of trees will only be considered as the last option under the following circumstances:

(a) if both retaining and transplanting are considered not practicable (with reference to the factors as detailed in paragraph 4.2.1 & 4.2.2) and the tree(s) to be felled is not registered OVTs/ potential registerable OVTs/ stonewall trees/ trees of particular interest/ trees of particular value/ trees of rare species and other trees designated to be preserved under leases or

(b) to strike a balance between cost and benefit, the tree(s) is(are) considered not suitable for transplanting as assessed with reference to paragraph 4.2.2; or

(c) tree has unrecoverable health problem(s), structural problem(s) or in poor form, or any tree irreparably damaged by inclement weather; or

(d) other justifications provided by the Lot owner/RLA.

Compensatory planting / replanting are proposed for implementation whatever tree felling is involved.

4.3 Recommendation on Tree Treatment

There are total 218 nos. of tree surveyed in this report. Some trees will be unavoidably influenced by the construction works of proposed transitional housing projects. Tree Treatment Plans are enclosed in Appendix E.

Among 218 nos. of surveyed trees, 98 nos. of trees are proposed to be retained.

121 nos. of surveyed trees would be affected by the proposed works which cannot be retained in-situ. These trees are proposed to be felled which can be grouped into the following types:

a) Common fast-growing local or exotic species:
These trees often have low amenity value, poor growing forms, short lifespan and low survival rate after transplanting. Species of this type of trees include: *Acacia confuse, Alangium chinense, Artocarpus heterophyllus, Bauhinia spp., Bridelia tomentosa, Carica papaya, Celtis sinensis, Clausena lansium and Dimocarpus longan*. They are not suitable for amenity planting. Thus, they are not recommended for transplanting.

b) Common local or exotic trees with low amenity value:
Species of this type of trees include: *Albizia lebbeck, Aleurites moluccana, Bombax ceiba,, Casuarina equisetifolia, Cinnamomum camphora, Delonix regia, Eucalyptus robusta, Leucaena leucocephala, Litsea glutinosa* and *Melia azedarach.* These trees were grown in a land without proper maintenance and grow under competitive environment for sun light. Thus, most of them are consider not suitable / cost effective to be transplanted because of their current conditions such as poor Form/Health/Structure, low amenity value and low survival rate after transplant.

The Method Statement on Tree Preservation Measures is enclosed in Appendix G and the Schedule of Maintenance is enclosed in Appendix H.

Summary of Treatment to Trees Surveyed:

Proposed Treatment	**Quantity (nos.)**
To be retained	98
To be transplanted	0
To be felled	120
Total No. of Existing Trees Surveyed	**218**

4.3.1 Summary of Trees proposed to be Felled

Botanical Name	**Chinese Name**	**Quantity (nos.)**
Acacia confusa	台灣相思	11
Albizia lebbeck	大葉合歡	1
Aleurites moluccana	石栗	1
Bauhinia spp.	羊蹄甲屬	11
Bombax ceiba	木棉	1
Bridelia tomentosa	土蜜樹(逼迫仔)	3

Casuarina equisetifolia	木麻黃	2
Celtis sinensis	朴樹	8
Cinnamomum camphora	樟	1
Dead tree	死樹	2
Delonix regia	鳳凰木	3
Dimocarpus longan	龍眼	13
Eucalyptus robusta	大葉桉	23
Ficus hispida	對葉榕(牛乳樹)	5
Ficus microcarpa	榕樹(細葉榕)	6
Leucaena leucocephala	銀合歡	1
Litchi chinensis	荔枝	5
Litsea glutinosa	潺槁樹	2
Macaranga tanarius var. tomentosa	血桐	13
Mangifera indica	芒果	5
Melia azedarach	楝(苦楝)	3
Total No. of Trees to be Felled		**120**
Total Aggregated DBH to be Felled		**32,560mm**

SECTION 5
COMPENSATORY PLANTING PROPOSAL

5.1 Compensatory Planting Proposal

Total 120 nos. of existing trees with 32,560 mm aggregated DBH are recommended to be felled. **See Appendix C – Tree Assessment Schedule.**

As far as possible, compensatory tree planting should be provided in a ratio not less than 1:1 in terms of number, i.e. the number of compensatory trees shall not be lower than that of the number of trees felled, including dead trees and trees of undesirable species. In total 50 nos. of trees are proposed to be planted with accumulated DBH of 4,500 mm.

Despite the ratio of numbers, high ratio of compensatory trees are native species, in order to enhance the ecological and amenity value to the vicinity of the site. Sufficient space will be provided for particular tree species growth. Tree location and spacing for each tree is indicated in the **Compensatory Planting Plan, drawing no. PCR01-20-CPP-01, PCR01-20-CPP-02, PCR01-20-CPP-03, PCR01-20-CPP-04, PCR01-20-CPP-05 and PCR01-20-CPP-06 are enclosed in Appendix F**. Compensatory planting tree species and size are summarized in Table **5.1.1**. All planters would have minimum 1.2m soil depth excluding drainage layer for compensatory tree planting.

5.1.1 Compensatory Tree Planting Schedule:

Abbreviation	Botanical name	Chinese name	Height (mm)	Spread (mm)	DBH (mm)	Spacing	Origin	Quantity
ILE. ROT.	*Ilex rotunda*	鐵冬青	2000	1000	90	2000	Native	11
GAR. SUB.	*Garcinia subelliptica*	福木	2000	1500	90	2500	Exotic	18
PSI. GUA.	*Psidium guajava L.*	番石榴	2500	2000	100	3000	Exotic	6
ERI. JAP.	*Eriobotrya japonica*	枇杷	2500	2000	100	3000	Exotic	3
LIQ. FOR.	*Liquidambar formosana*	楓香	2500	2000	100	3000	Native	12

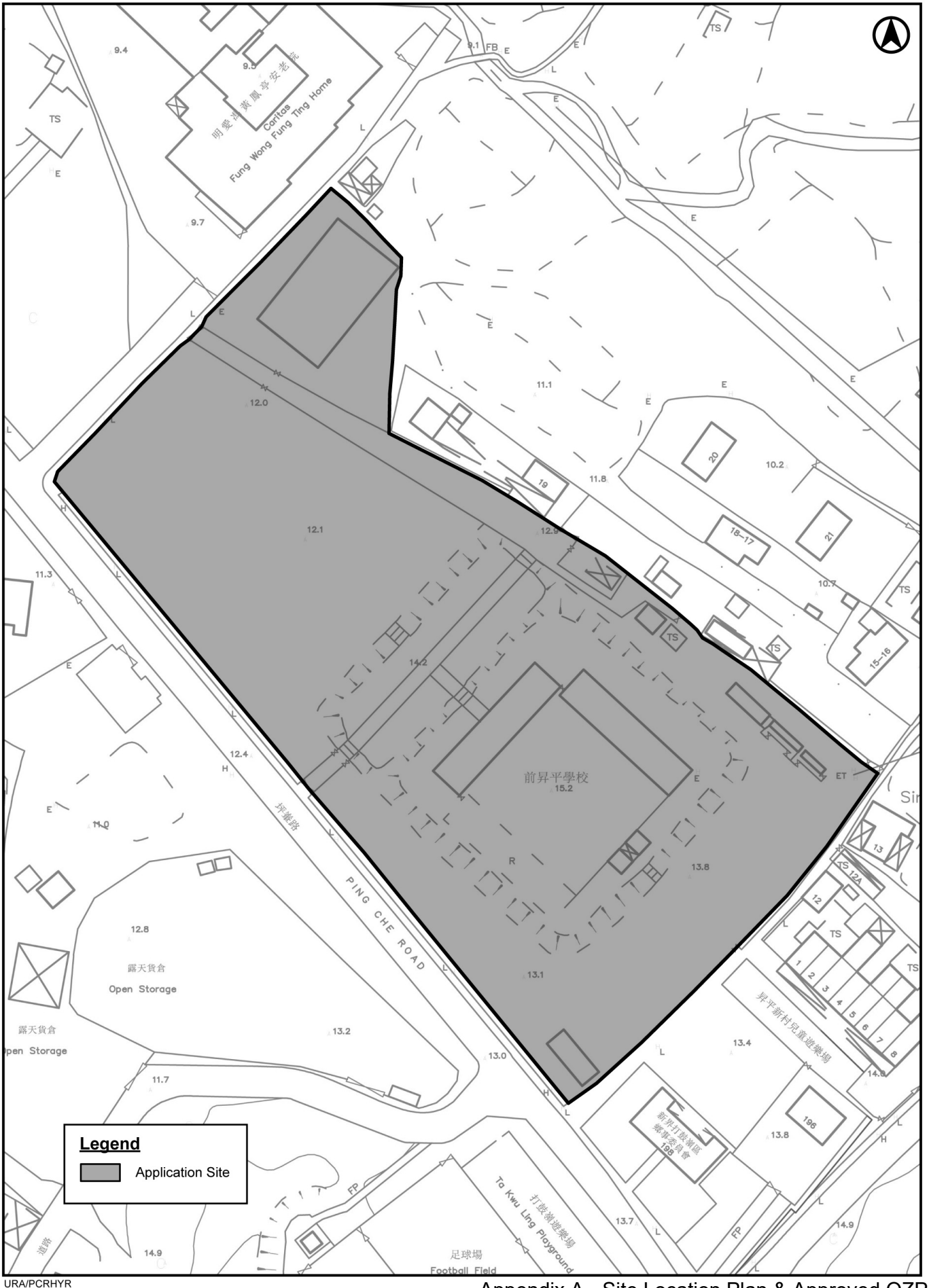
TOTAL DBH 4,500 mm

Overall compensatory proposal is summarized in Table **5.1.2**

5.1.2 Overall compensatory proposal:

Total number of trees to be felled:	120
Number of compensatory trees on-site:	50
Overall compensatory ratio in terms of number	1: 0.42
Total aggregated DBH of trees to be felled	32,560 mm
Aggregated DBH of compensatory trees on site:	4,500 mm
Overall compensatory ratio in terms of aggregated DBH	1: 0.13

-End-



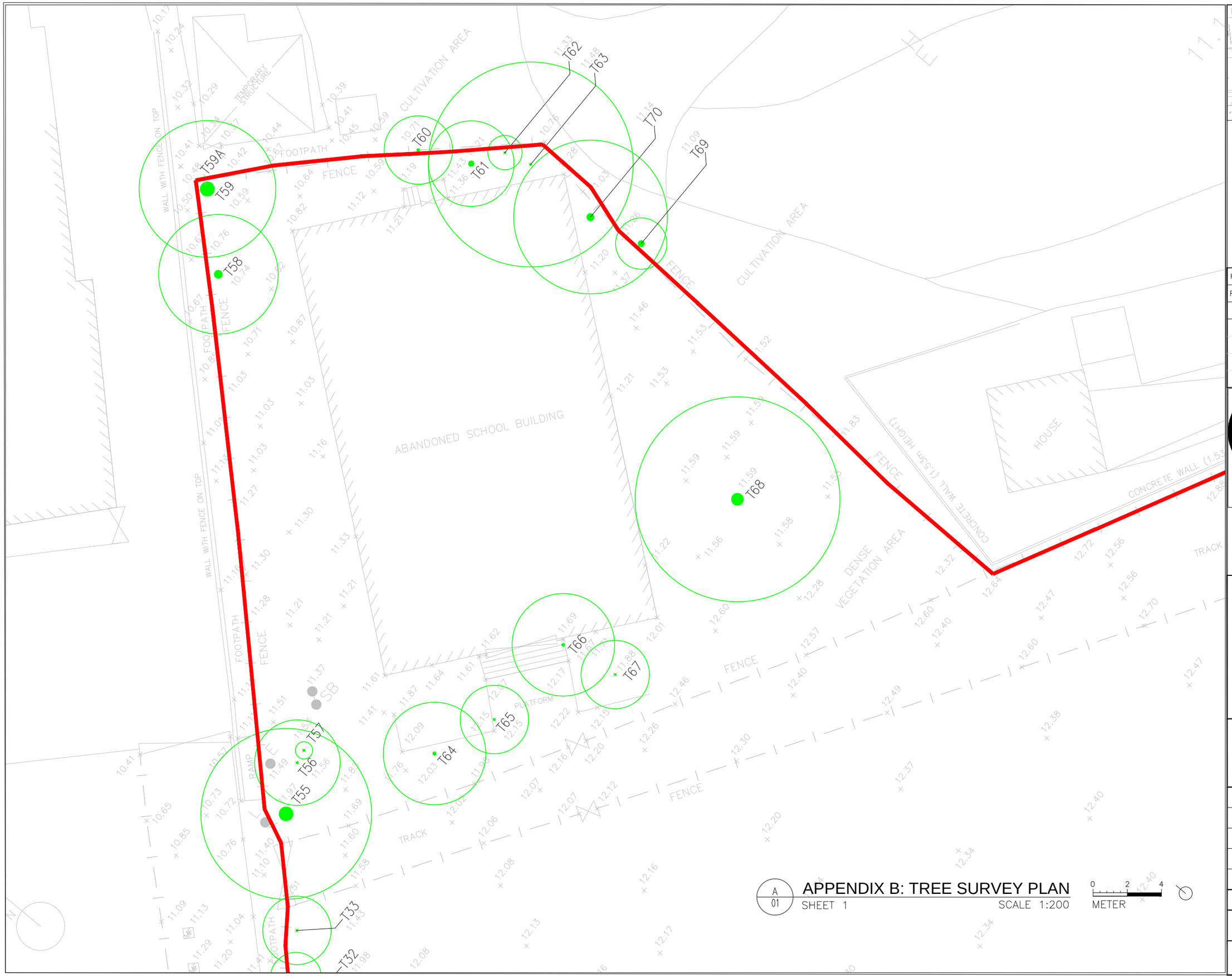
URA/PCRHYR

Appendix A - Site Location Plan & Approved OZP
Scale 1:1000



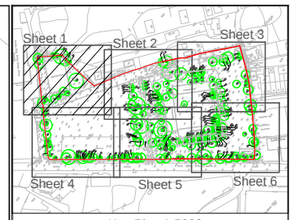
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Appendix A - Site Location Plan & Approved OZP No. S/NE-TKL/14 (Extract)
Scale 1:7500



A 01 APPENDIX B: TREE SURVEY PLAN
SHEET 1 SCALE 1:200

0 2 4
METER



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	(A total 218 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
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Tel: (852) 2893 0270 / 6286 2720
Fax: (852) 2893 3139
WWW.OTHERLAND.COM.HK

CLIENT:

Pok Oi Hospital

PROJECT:
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

(SHEET 1 OF 6)

SCALE: 1:200	A3
DRAWN BY: Tango Chan	
CHECKED BY:	
APPROVED BY:	
DRAWING DATE: 2020-09-28	
PROJECT No: POH01	
SHEET No: POH01-20-TSP-01	REV: 0

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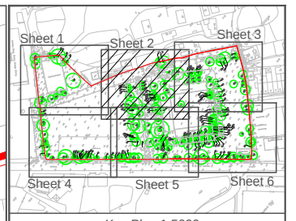
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01

APPENDIX B: TREE SURVEY PLAN

SHEET 2

SCALE 1:200

0 2 4
METER



Key Plan 1:5000

LEGEND:

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	(A total 218 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START

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SCALE: 1:200	A3
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PROJECT No: POH01	
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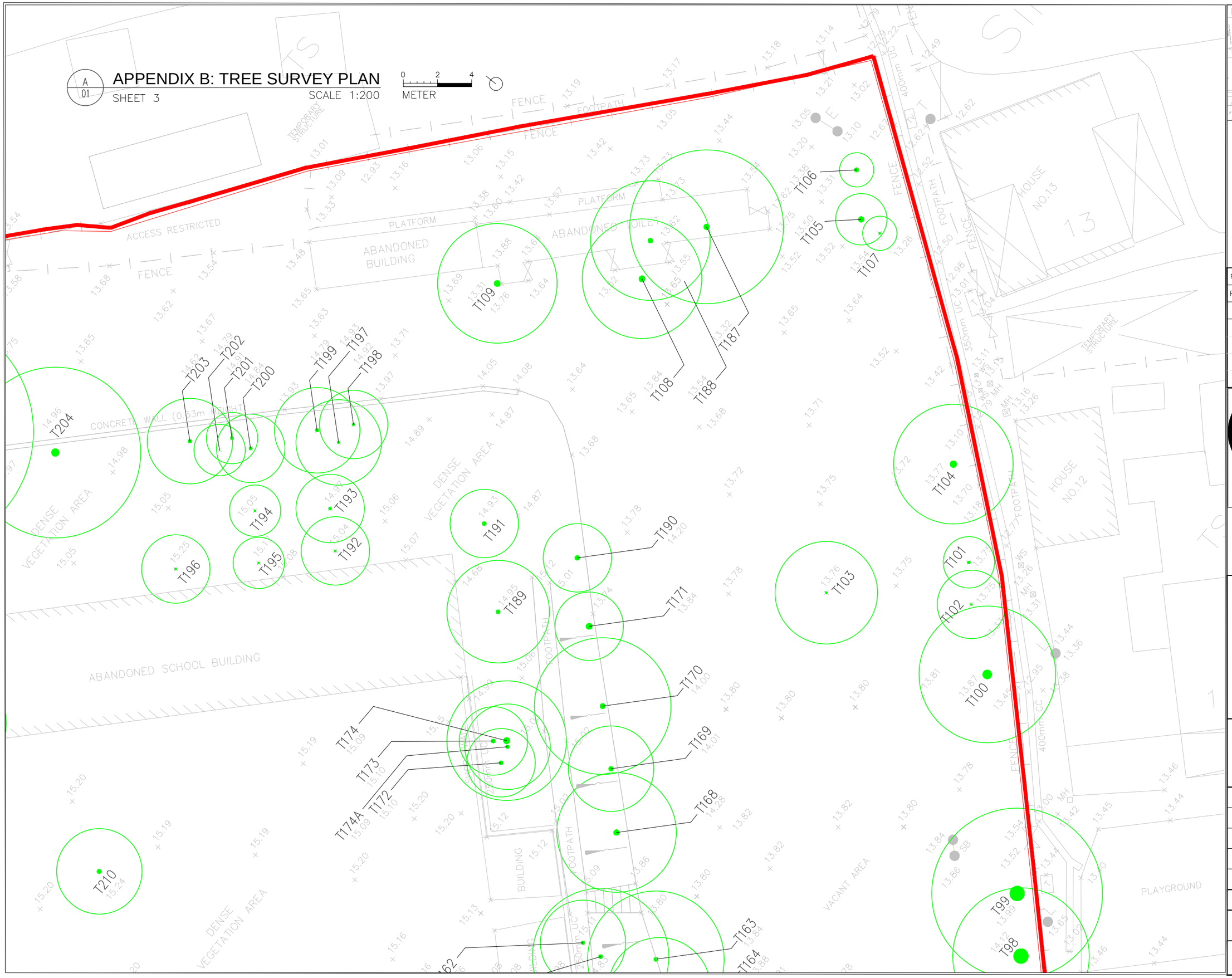
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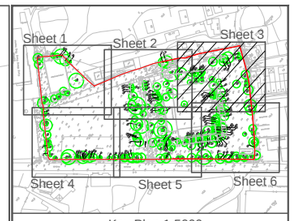
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APPENDIX B: TREE SURVEY PLAN

SHEET 3 SCALE 1:200

0 2 4 METER





Key Plan 1:5000

LEGEND:

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	(A total 218 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START

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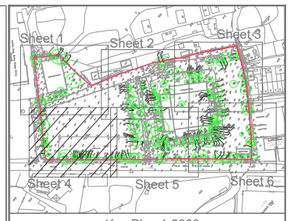
APPENDIX B: TREE SURVEY PLAN

A / 01

SHEET 4

SCALE 1:200

0 2 4 METER



Key Plan 1:5000

LEGEND:

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	(A total 218 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START

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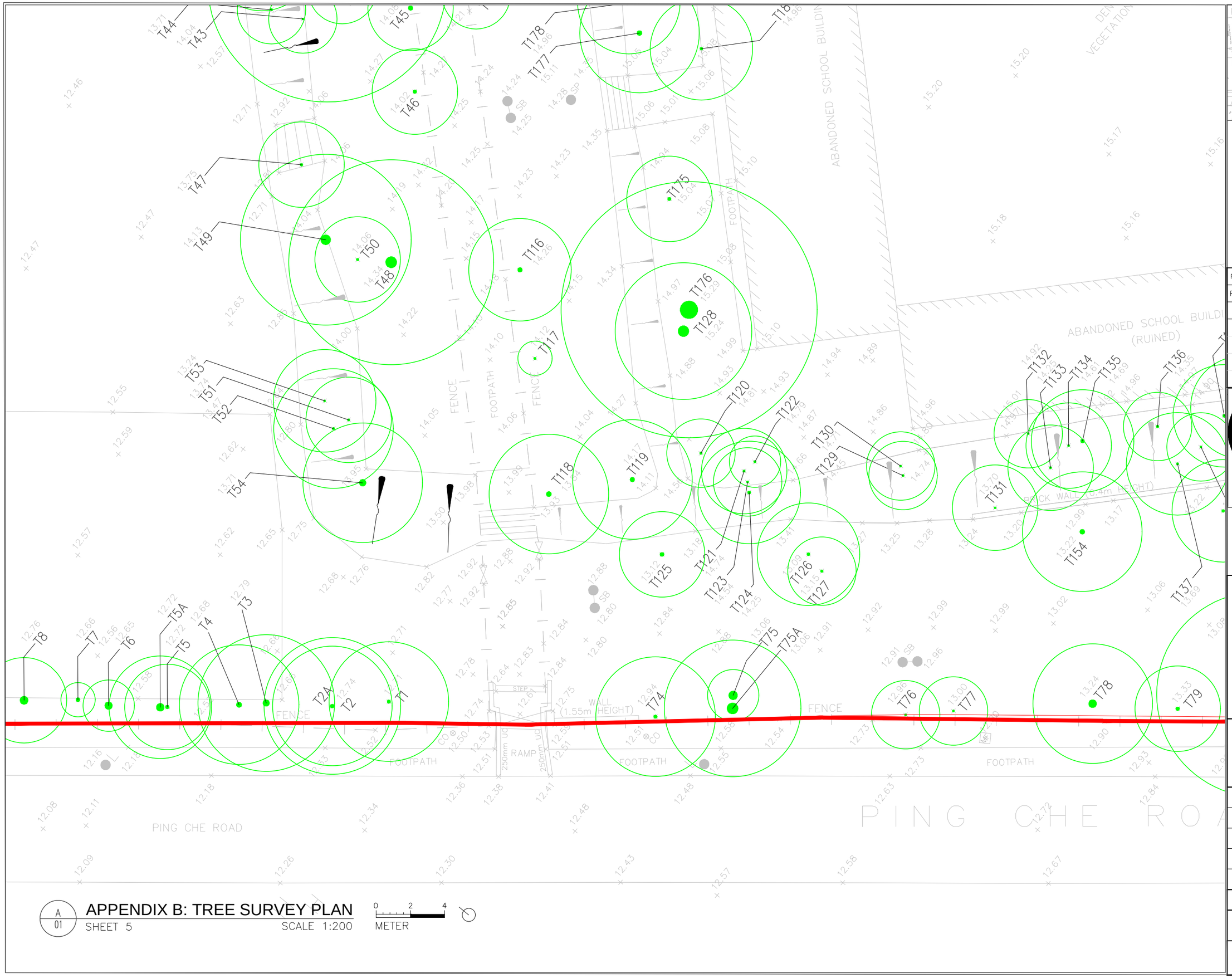
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TITLE:

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SHEET No: POH01-20-TSP-04	REV: 0

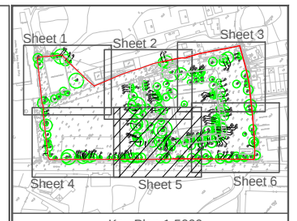
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A 01 **APPENDIX B: TREE SURVEY PLAN**

SHEET 5 SCALE 1:200

0 2 4 METER



Key Plan 1:5000

LEGEND:

T## (+ 10.00) TREE NUMBER and EXISTING LEVEL

(A total 218 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START

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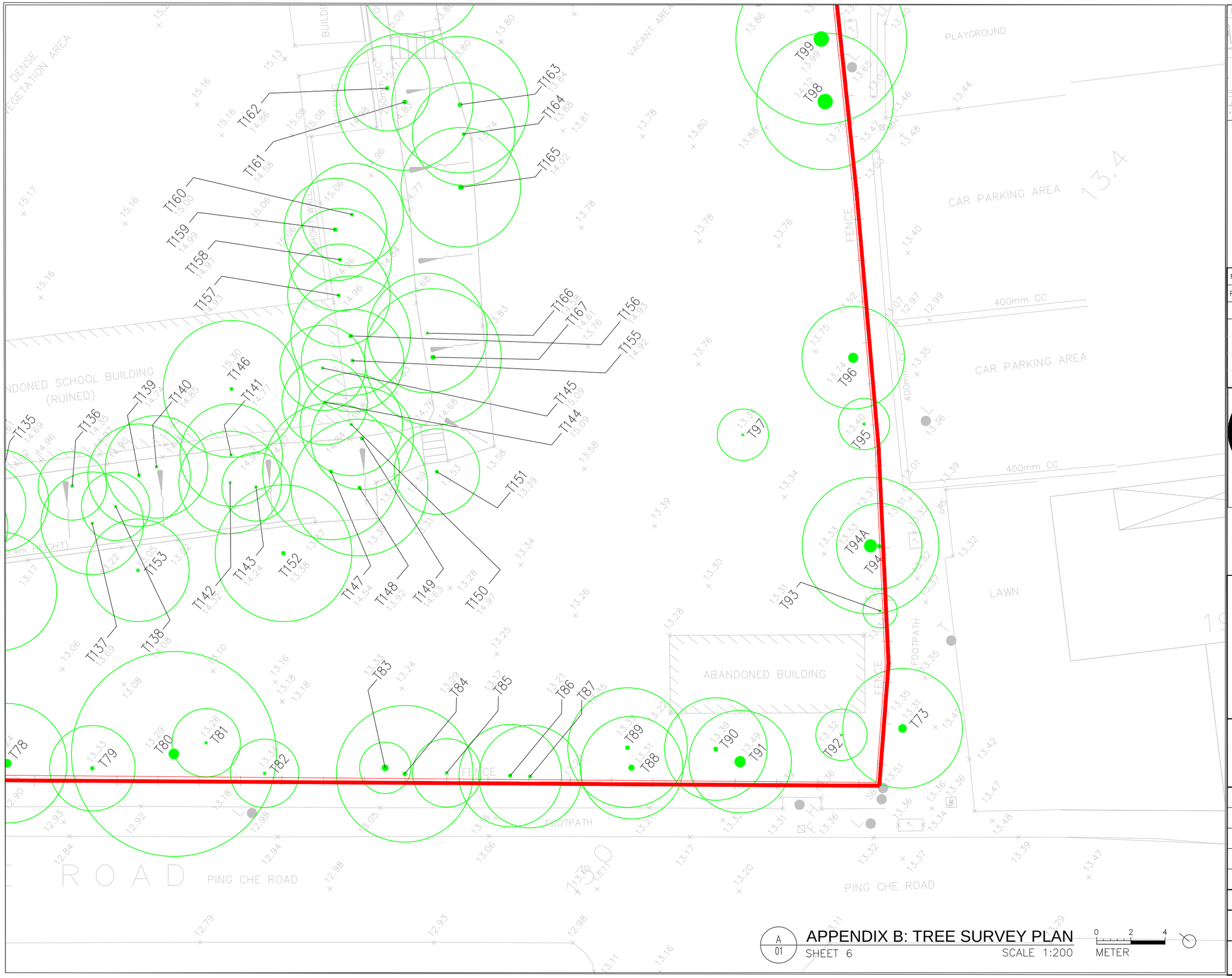
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TITLE:

(SHEET 5 OF 6)

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PROJECT No: POH01	
SHEET No: POH01-20-TSP-05	REV: 0

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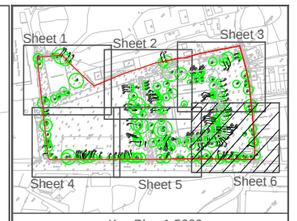
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APPENDIX B: TREE SURVEY PLAN

SHEET 6

SCALE 1:200

0 2 4 METER



Key Plan 1:5000

LEGEND:

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	(A total 218 nos.)

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Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T1	*Acacia confusa*	台灣相思	180	6	7	F	P	P	L	L	N	Fell	a, b, d	Broken branch, dead branches
T2	*Ficus microcarpa*	榕樹(細葉榕)	150	8	8	F	P	F	L	L	N	Fell	a, b	Tree trunk intertwined with T2A
T2A	*Eucalyptus robusta*	大葉桉	210	8	7	F	P	P	L	L	N	Fell	a, b, d	Tree trunk intertwined with T2, Dieback, Small tree crown
T3	*Eucalyptus robusta*	大葉桉	370	8	8	F	P	F	L	L	N	Fell	a, b, d	crooked branches
T4	*Eucalyptus robusta*	大葉桉	290	10	7	F	p	F	L	L	N	Fell	a, b	Topped branches
T5	*Ficus microcarpa*	榕樹(細葉榕)	200	12	5	F	P	P	L	L	N	Fell	a, b, d	Trunk cross with T5A, restricted root
T5A	*Eucalyptus robusta*	大葉桉	500	12	6	F	P	P	L	L	N	Fell	a, b, d	Dead branch, broken branches, Trunk cross with T5, Topped, restricted root
T6	*Eucalyptus robusta*	大葉桉	430	7	3	F	P	F	L	L	N	Fell	a, b	-
T7	*Eucalyptus robusta*	大葉桉	220	7	2	P	P	F	L	L	N	Fell	a, b, c	Dieback
T8	*Eucalyptus robusta*	大葉桉	460	11	5	P	P	P	L	L	N	Fell	a, b, c, d	Dieback, Small crown, Imbalanced crown, Crooked trunk, Twisted trunk
T9	*Dimocarpus longan*	龍眼	120	4	3	F	P	F	L	L	N	Fell	a, b	-
T10	*Eucalyptus robusta*	大葉桉	430	5	3	F	P	P	L	L	N	Fell	a, b, d	Topped branches
T11	*Acacia confusa*	台灣相思	460	6	6	F	P	P	L	L	N	Fell	a, b, d	Dead branches, leaning
T12	*Celtis sinensis*	朴樹	280	12	5	F	P	F	L	L	N	Fell	a, b	Restricted root
T13	*Cinnamomum camphora*	樟	230	7	7	F	P	P	L	L	N	Fell	a, b, d	Leaning, Exposed root
T14	*Eucalyptus robusta*	大葉桉	280	12	2	F	P	P	L	L	N	Fell	a, b, d	Dead branches
T15	*Dimocarpus longan*	龍眼	100	5	3	F	P	F	L	L	N	Fell	a, b	-
T16	*Delonix regia*	鳳凰木	400	12	10	F	P	P	L	L	N	Fell	a, b, d	Leaning on ground
T17	*Bauhinia spp.*	羊蹄甲屬	100	5	2	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T18	*Litsea glutinosa*	潺槁樹	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T19	*Litsea glutinosa*	潺槁樹	120	5	3	F	P	F	L	L	N	Fell	a, b	-
T20	*Bauhinia spp.*	羊蹄甲屬	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T21	*Eucalyptus robusta*	大葉桉	560	12	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch
T22	*Delonix regia*	鳳凰木	410	12	12	F	P	P	L	L	N	Fell	a, b, d	Branches leaning on ground
T23	*Eucalyptus robusta*	大葉桉	720	11	8	F	P	F	L	L	N	Fell	a, b	Dead branches, Restricted root
T24	*Eucalyptus robusta*	大葉桉	390	8	3	F	P	F	L	L	N	Fell	a, b	Dead branch
T25	*Bauhinia spp.*	羊蹄甲屬	100	3	2	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T26	*Eucalyptus robusta*	大葉桉	580	10	6	F	P	F	L	L	N	Fell	a, b	-
T27	*Eucalyptus robusta*	大葉桉	330	8	5	F	P	F	L	L	N	Fell	a, b	-
T28	*Dimocarpus longan*	龍眼	140	4	4	F	P	F	L	L	N	Fell	a, b	-
T29	*Eucalyptus robusta*	大葉桉	350	8	6	F	F	P	L	L	N	Retain		Bulge, Near Chain link
T30	*Casuarina equisetifolia*	木麻黃	540	16	10	F	F	P	L	L	N	Retain		Codominant trunks, Restricted root
T31	*Dead tree*	死樹	230	6	4	D	P	P	L	L	N	Fell	a, b, d	No foliage
T32	*Bauhinia spp.*	羊蹄甲屬	110	3	3	F	P	P	L	L	N	Fell	a, b, d	Restricted root, multiple trunks
T33	*Bauhinia spp.*	羊蹄甲屬	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T34	*Dead tree*	死樹	160	1.5	1	D	P	P	L	L	N	Fell	a, b, d	Topped
T35	*Litchi chinensis*	荔枝	200	2	1	F	P	P	L	L	N	Fell	a, b, d	Dead branches
T36	*Bauhinia spp.*	羊蹄甲屬	100	6	3	F	P	P	L	L	N	Fell	a, b, d	Conflict wirh other trees
T37	*Bauhinia spp.*	羊蹄甲屬	290	7	4	F	F	P	L	L	N	Fell	a, b, d	Leaning
T38	*Eucalyptus robusta*	大葉桉	360	10	3	F	P	F	L	L	N	Fell	a, b	-
T39	*Melia azedarach*	楝(苦楝)	120	8	2	F	P	F	L	L	N	Fell	a, b	-
T40	*Eucalyptus robusta*	大葉桉	480	8	7	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks, loosen bark
T41	*Macaranga tanarius var. tomentosa*	血桐	120	6	6	F	P	P	L	L	N	Fell	a, b, d	Imbalanced crown, Leaning
T42	*Ficus microcarpa*	榕樹(細葉榕)	400	10	4	F	P	P	L	L	N	Fell	a, b, d	Strangle T42A

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T42A	*Acacia confusa*	台灣相思	850	16	14	P	P	P	L	L	N	Fell	a, b, c, d	Dead branch, multiple trunks, decay trunk, strangled by T42
T43	*Macaranga tanarius var. tomentosa*	血桐	100	8	4	F	P	F	L	L	N	Fell	a, b	-
T44	*Macaranga tanarius var. tomentosa*	血桐	110	5	4	F	P	F	L	L	N	Fell	a, b	-
T45	*Dimocarpus longan*	龍眼	250	5	5	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T46	*Dimocarpus longan*	龍眼	190	6	5	F	p	F	L	L	N	Fell	a, b	-
T47	*Melia azedarach*	楝(苦楝)	140	8	5	F	p	F	L	L	N	Fell	a, b	-
T48	*Eucalyptus robusta*	大葉桉	640	12	12	F	p	F	L	L	N	Fell	a, b	Loosen bark
T49	*Eucalyptus robusta*	大葉桉	570	12	10	F	p	F	L	L	N	Fell	a, b	-
T50	*Melia azedarach*	楝(苦楝)	130	5	5	F	P	P	L	L	N	Fell	a, b, d	Leaning
T51	*Macaranga tanarius var. tomentosa*	血桐	120	6	5	F	p	F	L	L	N	Fell	a, b	Broken branches
T52	*Macaranga tanarius var. tomentosa*	血桐	120	7	7	F	p	p	L	L	N	Fell	a, b, d	Imbalanced crown, Crooked trunk
T53	*Macaranga tanarius var. tomentosa*	血桐	100	7	6	F	F	p	L	L	N	Fell	a, d	Exposed root, Leaning
T54	*Eucalyptus robusta*	大葉桉	380	6	7	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks, Dead branch
T55	*Casuarina equisetifolia*	木麻黃	820	16	10	F	p	F	L	L	N	Fell	a, b	Dead branch
T56	*Dimocarpus longan*	龍眼	120	6	5	F	F	F	M	L	N	Retain		-
T57	*Dimocarpus longan*	龍眼	120	3	1	F	F	F	M	L	N	Retain		Topped branches
T58	*Eucalyptus robusta*	大葉桉	470	11	7	p	p	p	L	L	N	Fell	a, b, c, d	Topped branch, Restricted root
T59	*Ficus microcarpa*	榕樹(細葉榕)	840	10	8	F	p	F	L	L	N	Retain		Tree trunk intertwined with T59A
T59A	*Eucalyptus robusta*	大葉桉	840	10	8	F	p	F	L	L	N	Retain		Tree trunk intertwined with T59
T60	*Ficus hispida*	對葉榕(牛乳樹)	160	4	4	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T61	*Eucalyptus robusta*	大葉桉	320	13	5	F	p	F	L	L	N	Fell	a, b	Cavity
T62	*Dimocarpus longan*	龍眼	100	7	2	F	p	F	L	L	N	Fell	a, b	-
T63	*Aleurites moluccana*	石栗	900	17	12	F	P	P	L	L	N	Fell	a, b, d	Conflict with building, Codominant branches
T64	*Bauhinia spp.*	羊蹄甲屬	180	7	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T65	*Bauhinia spp.*	羊蹄甲屬	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Leaning, topped
T66	*Bauhinia spp.*	羊蹄甲屬	170	7	6	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk, near structure, Restricted root
T67	*Ficus hispida*	對葉榕(牛乳樹)	100	2	4	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T68	*Acacia confusa*	台灣相思	700	9	12	P	P	P	L	L	N	Fell	a, b, c, d	Dead branch, leaning
T69	*Celtis sinensis*	朴樹	360	6	3	F	P	P	L	L	N	Fell	a, b, d	Broken branch, restricted root, poor taper
T70	*Celtis sinensis*	朴樹	420	8	9	F	p	p	L	L	N	Fell	a, b, d	Restricted root, near building
T71	*Celtis sinensis*	朴樹	150	9	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T72	*Celtis sinensis*	朴樹	150	8	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root, Near Chain link
T73	*Albizia leBroken brancheck*	大葉合歡	460	9	7	F	P	P	L	L	N	Retain		Cavity, Crooked trunk, Restricted root
T74	*Bridelia tomentosa*	土蜜樹(逼迫仔)	190	4	7	F	P	P	L	L	N	Fell	a, b, d	Imbalanced crown, Crooked branches, Wound on basal trunk
T75	*Ficus microcarpa*	榕樹(細葉榕)	500	4	3	F	P	P	L	L	N	Fell	a, b, d	Strangling T75A, topped
T75A	*Eucalyptus robusta*	大葉桉	640	9	8	F	P	P	L	L	N	Fell	a, b, d	Strangled by T75
T76	*Bridelia tomentosa*	土蜜樹(逼迫仔)	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch, Codominant trunks, Restricted root
T77	*Leucaena leucocephala*	銀合歡	110	7	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch, hanger, Restricted root, leaning
T78	*Eucalyptus robusta*	大葉桉	450	13	7	F	p	F	L	L	N	Fell	a, b	-
T79	*Dimocarpus longan*	龍眼	200	7	5	F	p	F	L	L	N	Fell	a, b	-
T80	*Delonix regia*	鳳凰木	580	13	12	F	P	P	M	L	N	Fell	b, d	Codominant branches, Dead branch
T81	*Dimocarpus longan*	龍眼	130	5	4	F	p	F	M	L	N	Fell		-

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T82	*Dimocarpus longan*	龍眼	140	5	4	F	F	p	L	L	N	Fell	a, d	Restricted root
T83	*Casuarina equisetifolia*	木麻黃	350	12	3	p	p	p	L	L	N	Fell	a, b, c, d	Cross with T84, Dead branch, hanger
T84	*Acacia confusa*	台灣相思	210	11	8	F	p	p	L	L	N	Fell		Cross with T83, Leaning
T85	*Macaranga tanarius var. tomentosa*	血桐	140	6	4	F	p	F	L	L	N	Fell		Exposed root
T86	*Bridelia tomentosa*	土蜜樹(逼迫仔)	180	6	6	F	P	P	L	L	N	Fell	a, b, d	Crooked trunk, Codominant trunks, Dead branch, Near Chain link
T87	*Celtis sinensis*	朴樹	170	7	6	F	F	p	L	L	N	Fell	a, d	Near Chain link, Restricted root
T88	*Macaranga tanarius var. tomentosa*	血桐	320	8	6	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T89	*Macaranga tanarius var. tomentosa*	血桐	220	7	7	F	p	F	L	L	N	Fell	a, b	Climber
T90	*Macaranga tanarius var. tomentosa*	血桐	230	6	6	F	F	P	L	L	N	Retain		Multiple trunk
T91	*Eucalyptus robusta*	大葉桉	620	12	6	F	F	P	L	L	N	Retain		Climber, hanger, Restricted root
T92	*Alangium chinense*	八角楓	100	3	3	F	P	P	L	L	N	Retain		Broken branch
T93	*Alangium chinense*	八角楓	110	3	2	F	P	P	L	L	N	Retain		Restricted root, topped
T94	*Ficus microcarpa*	榕樹(細葉榕)	200	5	5	F	P	P	L	L	N	Retain		Strangling T94A
T94A	*Eucalyptus robusta*	大葉桉	730	10	8	F	P	P	L	L	N	Retain		Strangled by T94
T95	*Macaranga tanarius var. tomentosa*	血桐	130	3	3	F	P	P	L	L	N	Retain		Multiple trunk, topped
T96	*Acacia confusa*	台灣相思	550	8	6	F	F	P	L	L	N	Retain		Dieback, Restricted root
T97	*Morus alba*	桑	100	4	3	F	F	P	L	L	N	Retain		Multiple trunk, topped, Restricted root
T98	*Casuarina equisetifolia*	木麻黃	860	14	8	F	F	P	L	L	N	Retain		Restricted root
T99	*Delonix regia*	鳳凰木	860	10	10	F	F	F	M	L	N	Retain		Codominant branches, trunk wound
T100	*Casuarina equisetifolia*	木麻黃	520	12	8	F	F	P	L	L	N	Retain		Restricted root
T101	*Clausena lansium*	黃皮	160	4	3	F	F	F	M	L	N	Retain		Codominant trunks
T102	*Clausena lansium*	黃皮	100	4	4	F	F	F	M	L	N	Retain		-
T103	*Psidium guajava*	番石榴	110	3	6	F	P	P	L	L	N	Retain		Multiple trunk
T104	*Dimocarpus longan*	龍眼	380	5	7	F	F	P	L	L	N	Retain		Restricted root, trunk cavity, trunk wound
T105	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	320	7	3	F	F	F	M	L	N	Retain		-
T106	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	240	4	2	F	F	F	M	L	N	Retain		-
T107	*Carica papaya*	番木瓜	100	3	2	F	P	P	L	L	N	Retain		Multiple trunks
T108	*Leucaena leucocephala*	銀合歡	350	6	7	F	P	P	L	L	N	Retain		Broken branch
T109	*Ficus microcarpa*	榕樹(細葉榕)	350	8	7	F	P	P	L	L	N	Retain		Restricted root
T110	*Casuarina equisetifolia*	木麻黃	940	13	14	F	P	P	L	L	N	Retain		Codominant branches, dead branches, merge with chain link
T111	*Dimocarpus longan*	龍眼	100	3	3	F	p	p	L	L	N	Fell	a, b, d	Dead branch
T112	*Dimocarpus longan*	龍眼	180	4	4	F	p	F	L	L	N	Fell	a, b	Dead branch
T113	*Dimocarpus longan*	龍眼	160	4	3	P	F	F	L	L	N	Fell	a, c	Dead branch
T114	*Litchi chinensis*	荔枝	130	3	1	P	P	P	L	L	N	Fell	a, b, c, d	Dead branches , multiple trunks
T115	*Dimocarpus longan*	龍眼	110	2	4	F	P	P	L	L	N	Fell	a, b, d	Broken branch, heavy lateral limb
T116	*Mangifera indica*	芒果	250	8	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T117	*Mangifera indica*	芒果	120	5	2	F	p	p	L	L	N	Fell	a, b, d	Broken trunk
T118	*Mangifera indica*	芒果	280	8	7	F	F	p	L	L	N	Fell	a, d	Codominant branches, Exposed root, Girdling root
T119	*Mangifera indica*	芒果	250	9	7	F	F	p	L	L	N	Fell	a, d	Codominant branches, Dead branch
T120	*Ficus hispida*	對葉榕(牛乳樹)	130	9	4	F	p	p	L	L	N	Fell	a, b, d	Exposed root, co-dominant stems, Imbalanced crown
T121	*Macaranga tanarius var. tomentosa*	血桐	120	7	5	F	p	F	L	L	N	Fell	a, b	-
T122	*Macaranga tanarius var. tomentosa*	血桐	120	7	3	F	p	F	L	L	N	Fell	a, b	-
T123	*Macaranga tanarius var. tomentosa*	血桐	100	7	4	F	p	F	L	L	N	Fell	a, b	-

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Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T124	*Macaranga tanarius var. tomentosa*	血桐	170	8	6	F	p	F	L	L	N	Fell	a, b	-
T125	*Litchi chinensis*	荔枝	220	5	5	F	p	F	L	L	N	Fell	a, b	Codominant trunks
T126	*Litchi chinensis*	荔枝	160	4	6	F	p	F	L	L	N	Fell	a, b	-
T127	*Albizia lebbeck*	大葉合歡	130	4	4	F	p	p	L	L	N	Fell	a, b, d	Imbalanced crown, Multiple trunks
T128	*Celtis sinensis*	朴樹	620	12	8	F	p	p	L	L	N	Fell	a, b, d	Multiple trunks with included bark
T129	*Macaranga tanarius var. tomentosa*	血桐	110	7	4	F	P	P	L	L	N	Retain		Multiple trunks
T130	*Macaranga tanarius var. tomentosa*	血桐	100	7	4	F	P	P	L	L	N	Retain		Multiple trunks
T131	*Macaranga tanarius var. tomentosa*	血桐	100	7	5	F	F	P	L	L	N	Retain		Climber, Restricted root
T132	*Ficus hispida*	對葉榕(牛乳樹)	100	7	4	F	F	F	M	L	N	Retain		-
T133	*Macaranga tanarius var. tomentosa*	血桐	110	7	5	F	P	P	L	L	N	Retain		Leaning
T134	*Macaranga tanarius var. tomentosa*	血桐	110	6	5	F	P	P	L	L	N	Retain		Leaning
T135	*Ficus hispida*	對葉榕(牛乳樹)	200	7	6	F	P	P	L	L	N	Retain		Multiple trunks
T136	*Macaranga tanarius var. tomentosa*	血桐	140	9	4	F	P	P	L	L	N	Retain		Codominant branches, Restricted root
T137	*Macaranga tanarius var. tomentosa*	血桐	110	8	6	F	P	P	L	L	N	Retain		Multiple trunks, Restricted root
T138	*Macaranga tanarius var. tomentosa*	血桐	100	8	4	F	P	P	L	L	N	Retain		Codominant trunks
T139	*Ficus hispida*	對葉榕(牛乳樹)	160	8	6	F	P	P	L	L	N	Retain		Codominant branches, Restricted root
T140	*Macaranga tanarius var. tomentosa*	血桐	130	8	6	F	P	P	L	L	N	Retain		Codominant trunks, leaning
T141	*Macaranga tanarius var. tomentosa*	血桐	110	8	6	F	F	F	M	L	N	Retain		-
T142	*Macaranga tanarius var. tomentosa*	血桐	100	8	6	F	F	F	M	L	N	Retain		-
T143	*Macaranga tanarius var. tomentosa*	血桐	110	8	4	F	F	F	M	L	N	Retain		-
T144	*Macaranga tanarius var. tomentosa*	血桐	130	7	5	F	P	P	L	L	N	Retain		Multiple trunks
T145	*Macaranga tanarius var. tomentosa*	血桐	110	7	5	F	P	P	L	L	N	Retain		Multiple trunks
T146	*Ficus hispida*	對葉榕(牛乳樹)	170	7	8	F	P	P	L	L	N	Retain		Multiple trunks
T147	*Macaranga tanarius var. tomentosa*	血桐	160	7	8	F	F	F	M	L	N	Retain		-
T148	*Macaranga tanarius var. tomentosa*	血桐	170	7	8	F	F	F	M	L	N	Retain		Codominant branches
T149	*Macaranga tanarius var. tomentosa*	血桐	190	7	6	F	F	F	M	L	N	Retain		Codominant trunks
T150	*Macaranga tanarius var. tomentosa*	血桐	120	6	6	F	P	P	L	L	N	Retain		Codominant trunks, near structure
T151	*Ficus hispida*	對葉榕(牛乳樹)	170	4	5	F	P	P	L	L	N	Retain		Multiple trunks, Restricted root
T152	*Litchi chinensis*	荔枝	210	4	8	F	F	F	M	L	N	Retain		Codominant trunks
T153	*Litchi chinensis*	荔枝	150	4	6	F	F	F	M	L	N	Retain		Codominant trunks
T154	*Litchi chinensis*	荔枝	270	5	7	F	F	F	M	L	N	Fell	a, b	Codominant trunks, Dead branch
T155	*Macaranga tanarius var. tomentosa*	血桐	160	7	6	F	F	P	L	L	N	Retain		Near structure, leaning, Restricted root
T156	*Macaranga tanarius var. tomentosa*	血桐	200	8	7	F	F	P	L	L	N	Retain		Codominant branches, near structure, Restricted root
T157	*Macaranga tanarius var. tomentosa*	血桐	160	7	6	F	P	P	L	L	N	Retain		Codominant branches, leaning, Restricted root
T158	*Dead tree*	死樹	170	7	6	D	P	P	L	L	N	Retain		Loosen bark, near channel
T159	*Ficus hispida*	對葉榕(牛乳樹)	200	7	6	F	F	P	L	L	N	Retain		Codominant trunks, Restricted root, near channel
T160	*Ficus hispida*	對葉榕(牛乳樹)	150	8	6	F	F	F	M	L	N	Retain		Codominant branches
T161	*Macaranga tanarius var. tomentosa*	血桐	220	8	8	F	F	F	M	L	N	Retain		Codominant branches
T162	*Macaranga tanarius var. tomentosa*	血桐	190	5	5	F	P	P	L	L	N	Retain		Crooked trunk, Restricted root
T163	*Acacia confusa*	台灣相思	230	13	8	F	F	F	M	L	N	Retain		Broken branch, Dead branches
T164	*Celtis sinensis*	朴樹	150	8	6	P	P	P	L	L	N	Retain		Loosen bark, sparse foliage
T165	*Leucaena leucocephala*	銀合歡	270	8	7	F	P	P	L	L	N	Retain		Codominant branches, uproot
T166	*Ficus hispida*	對葉榕(牛乳樹)	100	6	7	F	F	F	M	L	N	Retain		-
T167	*Ficus hispida*	對葉榕(牛乳樹)	240	5	8	F	F	F	M	L	N	Retain		Codominant branches, Dead branch

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T168	*Mangifera indica*	芒果	320	8	7	F	F	F	M	L	N	Retain		Codominant branches, Dead branch
T169	*Mangifera indica*	芒果	260	8	5	F	F	F	M	L	N	Retain		Dead branch
T170	*Mangifera indica*	芒果	300	8	8	F	F	F	M	L	N	Retain		Branch wound, Codominant branches
T171	*Mangifera indica*	芒果	350	5	4	F	P	P	L	L	N	Retain		Topped
T172	*Macaranga tanarius var. tomentosa*	血桐	220	4	4	F	P	P	L	L	N	Retain		Leaning on building
T173	*Macaranga tanarius var. tomentosa*	血桐	220	5	4	F	F	F	M	L	N	Retain		-
T174	*Macaranga tanarius var. tomentosa*	血桐	360	8	7	F	P	P	L	L	N	Retain		Cross with T174 A, restricted root
T174A	*Ficus hispida*	對葉榕(牛乳樹)	200	12	5	F	P	P	L	L	N	Retain		Restricted root, crossed with T174
T175	*Ficus hispida*	對葉榕(牛乳樹)	180	7	5	F	p	F	L	L	N	Fell	a, b	Imbalanced crown
T176	*Celtis sinensis*	朴樹	1030	14	15	F	P	P	L	L	N	Fell	a, b, d	Close to T128, Multiple trunks, restricted root
T177	*Mangifera indica*	芒果	270	8	7	F	p	F	L	L	N	Fell	a, b	Climber
T178	*Acacia confusa*	台灣相思	170	7	6	F	p	F	L	L	N	Fell	a, b	Dead branch, poor taper
T179	*Acacia confusa*	台灣相思	150	9	5	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T180	*Acacia confusa*	台灣相思	140	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T181	*Ficus microcarpa*	榕樹(細葉榕)	150	7	6	F	p	p	L	L	N	Fell	a, b, d	Conflict with building, strangling other trees
T182	*Acacia confusa*	台灣相思	150	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T183	*Acacia confusa*	台灣相思	160	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T184	*Acacia confusa*	台灣相思	240	10	6	F	p	F	L	L	N	Fell	a, b	Restricted root
T185	*Bauhinia spp.*	羊蹄甲屬	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Conflict wirh other trees
T186	*Bombax ceiba*	木棉	480	7	6	F	P	P	L	L	N	Fell	a, b, d	Topped, restricted root
T187	*Macaranga tanarius var. tomentosa*	血桐	320	6	9	F	P	P	L	L	N	Retain		Conflict with building, restricted root
T188	*Ficus microcarpa*	榕樹(細葉榕)	270	6	7	F	P	P	L	L	N	Retain		Conflict with building
T189	*Mangifera indica*	芒果	220	5	6	F	P	P	L	L	N	Retain		Broken branch, climber, Codominant trunks
T190	*Mangifera indica*	芒果	270	5	4	F	P	P	L	L	N	Retain		Broken branch, climber
T191	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	220	6	4	F	P	P	L	L	N	Retain		Broken trunk, climber, topped
T192	*Ficus hispida*	對葉榕(牛乳樹)	100	6	4	F	F	F	M	L	N	Retain		Conflict with building
T193	*Mangifera indica*	芒果	160	6	4	F	F	F	M	L	N	Retain		Codominant branches, Dead branch
T194	*Macaranga tanarius var. tomentosa*	血桐	100	5	3	P	P	P	L	L	N	Retain		Hanger, dead branches
T195	*Ficus hispida*	對葉榕(牛乳樹)	100	5	3	F	F	F	M	L	N	Retain		-
T196	*Macaranga tanarius var. tomentosa*	血桐	110	6	4	F	F	P	L	L	N	Retain		Restricted root
T197	*Macaranga tanarius var. tomentosa*	血桐	130	6	5	F	F	F	M	L	N	Retain		Climber, Restricted root
T198	*Macaranga tanarius var. tomentosa*	血桐	140	6	4	F	P	P	L	L	N	Retain		Climber, Restricted root,
T199	*Macaranga tanarius var. tomentosa*	血桐	180	7	5	F	P	P	L	L	N	Retain		Broken branch, climber, Codominant trunks, Restricted root
T200	*Macaranga tanarius var. tomentosa*	血桐	170	7	4	F	F	F	M	L	N	Retain		Dead branches
T201	*Macaranga tanarius var. tomentosa*	血桐	170	7	3	F	F	F	M	L	N	Retain		-
T202	*Macaranga tanarius var. tomentosa*	血桐	100	7	3	F	P	P	L	L	N	Retain		-
T203	*Macaranga tanarius var. tomentosa*	血桐	190	6	5	F	P	P	L	L	N	Retain		Climber, leaning
T204	*Casuarina equisetifolia*	木麻黃	440	12	10	P	P	P	L	L	N	Retain		Broken branch, crooked branches, Dead branch, climber
T205	*Ficus microcarpa*	榕樹(細葉榕)	400	10	8	F	p	p	L	L	N	Fell	a, b, d	Conflict with building
T206	*Macaranga tanarius var. tomentosa*	血桐	120	6	4	F	P	P	L	L	N	Retain		Poor taper
T207	*Macaranga tanarius var. tomentosa*	血桐	110	6	5	F	F	F	M	L	N	Retain		Poor taper
T208	*Casuarina equisetifolia*	木麻黃	500	12	10	P	P	P	L	L	N	Retain		Dieback, Restricted root
T209	*Casuarina equisetifolia*	木麻黃	460	10	8	P	P	P	L	L	N	Retain		Dieback, restricted root, trunk wound

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.:

POH01-20-TSP-01	Rev. 0	POH01-20-TSP-04	Rev. 0
POH01-20-TSP-02	Rev. 0	POH01-20-TSP-05	Rev. 0
POH01-20-TSP-03	Rev. 0	POH01-20-TSP-06	Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	*(Good / Fair / Poor)*	*(Good / Fair / Poor)*	*(High / Medium / Low)*	*(High/ Medium / Low)*	*(Yes/ No)*			
T210	*Mangifera indica*	芒果	250	5	5	F	F	F	M	L	N	Retain		-
T211	*Ficus hispida*	對葉榕(牛乳樹)	200	10	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks

Remark:

LEGEND

Tree Proposed to be Felled

Tree Proposed to be Transplanted

Tree Proposed to be Retained

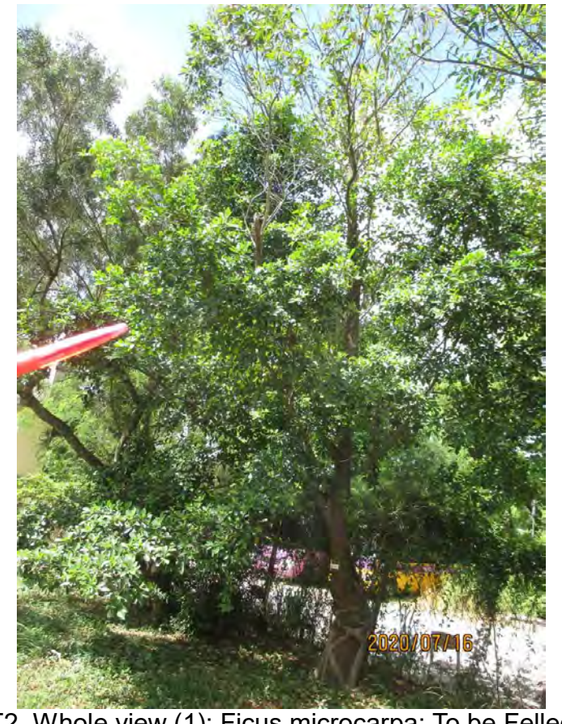
Total No. of Trees	**218**
Total No. of Retained	**98**
Total No. of Transplanted	**0**
Total No. of Felled Trees:	**120**
Total DBH of Felled Trees	**32560**

#Justification:

a. Affected by proposed work, impossible to retain in-situ
b. Poor form (e.g. canopy lopsided & unbalanced, tree trunk leaning dangerously, tree trunk crooked, with hazard-beam bending)
c. Poor health (e.g. tree severely stressed, diseased, insect-pest infected, thin foliage density cover, dieback of canopy)
d. Poor structure (e.g. tree trunk decayed, with decayed hollow cavity, dangerous bifurcation codominant stems with included-bark likely to split apart)
e. Root ball not extractable for transplant (e.g. trees grown on slope/masonry wall; trees with roots are tangled together with adjacent tree)
f. Ubiquitous species - easily replaceable by new compensatory planting of better quality in term of ecological value
g. Undesirable Species: According to DEVB TCW No. 2/2020
h. Oversized tree not feasible for transportable/ transplantable



T1_Whole view; Acacia confusa; To be Felled



T2_Whole view (1); Ficus microcarpa; To be Felled



T2_Whole view (2)



T2_Whole view (3)



T2A_Whole view (1); Eucalyptus robusta; To be Felled



T2A_Whole view (2)



T2A_Whole view (3)



T3_Whole view (1); Eucalyptus robusta; To be Felled



T3_Whole view (2)



T3_Whole view (3)



T4_Whole view (1); Eucalyptus robusta; To be Felled



T4_Whole view (2)



T4_Whole view (3)



T5_Whole view; Ficus microcarpa; To be Felled



T5A_Whole view; Eucalyptus robusta; To be Felled



T6_Whole view (1); Eucalyptus robusta; To be Felled



T6_Whole view (2)



T6_Whole view (3)



T6_Whole view



T7_Whole view (1); Eucalyptus robusta; To be Felled



T7_Whole view (2)



T7_Whole view (3)



T7_Whole view



T8_Whole view (1); Eucalyptus robusta; To be Felled



T8_Whole view (2)



T8_Whole view (3)



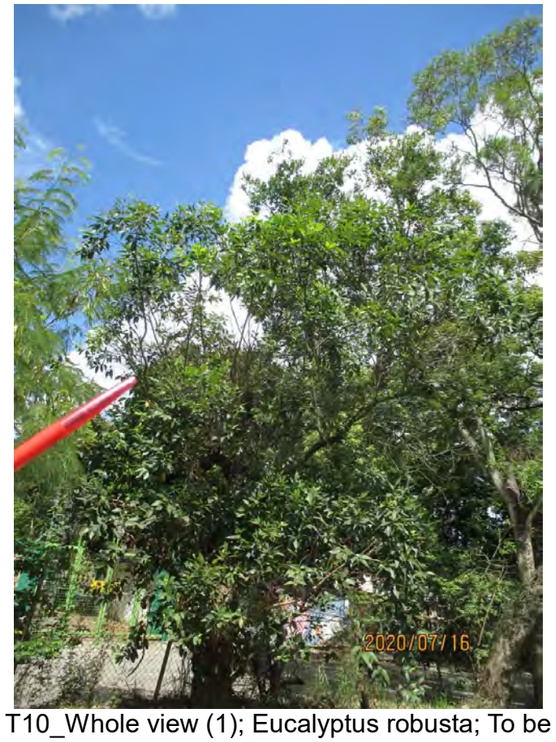
T9_Whole view (1); Dimocarpus longan; To be Felled



T9_Whole view (2)



T9_Whole view (3)



T10_Whole view (1); Eucalyptus robusta; To be Felled



T10_Whole view (2)



T10_Whole view (3)



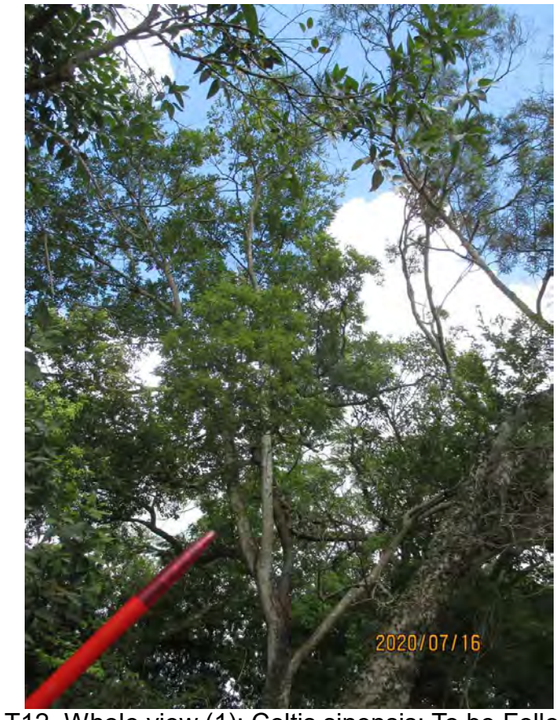
T11_Whole view (1); Acacia confusa; To be Felled



T11_Whole view (2)



T11_Whole view (3)



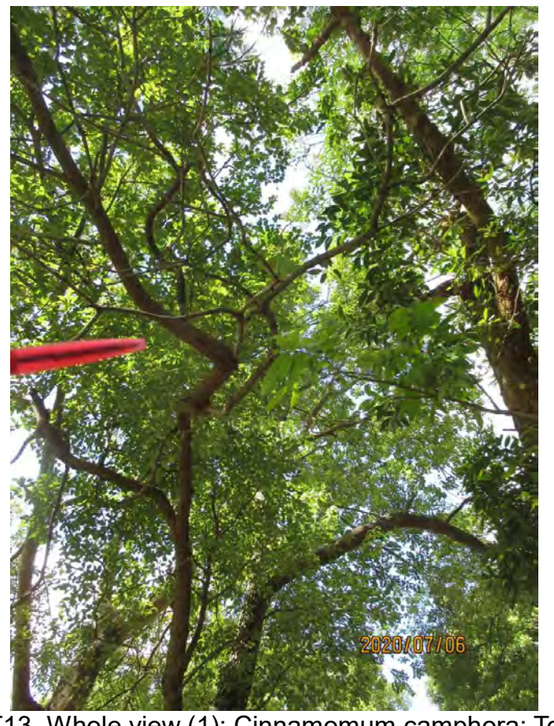
T12_Whole view (1); Celtis sinensis; To be Felled



T12_Whole view (2)



T12_Whole view (3)



T13_Whole view (1); Cinnamomum camphora; To be Felled



T13_Whole view (2)



T14_Whole view (1); Eucalyptus robusta; To be Felled



T14_Whole view (2)



T15_Whole view (1); Dimocarpus longan; To be Felled



T15_Whole view (2)



T15_Whole view (3)



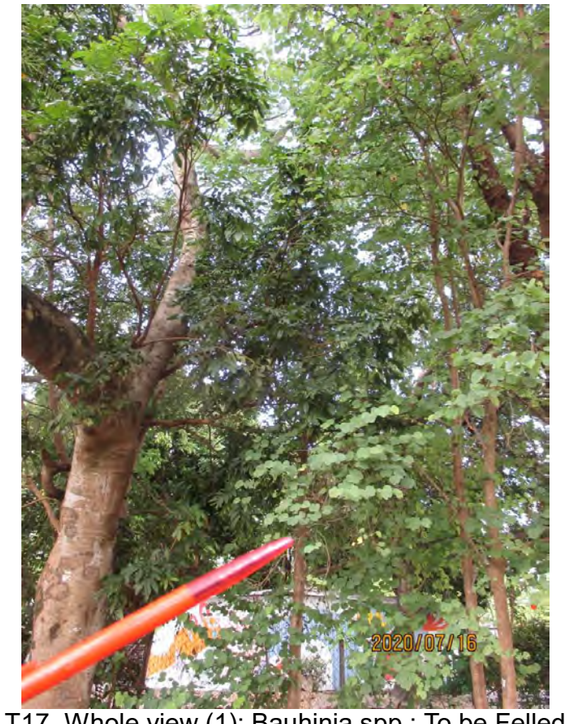
T16_Whole view (1); Delonix regia; To be Felled



T16_Whole view (2)



T16_Whole view (3)



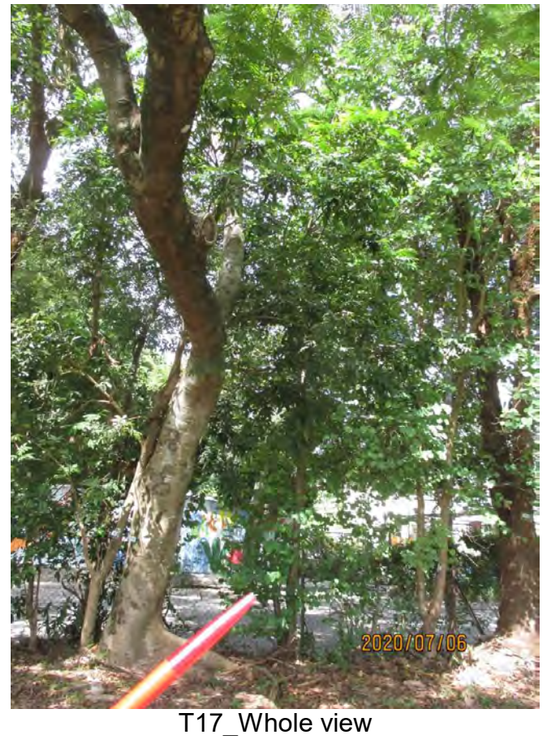
T17_Whole view (1); Bauhinia spp.; To be Felled



T17_Whole view (2)



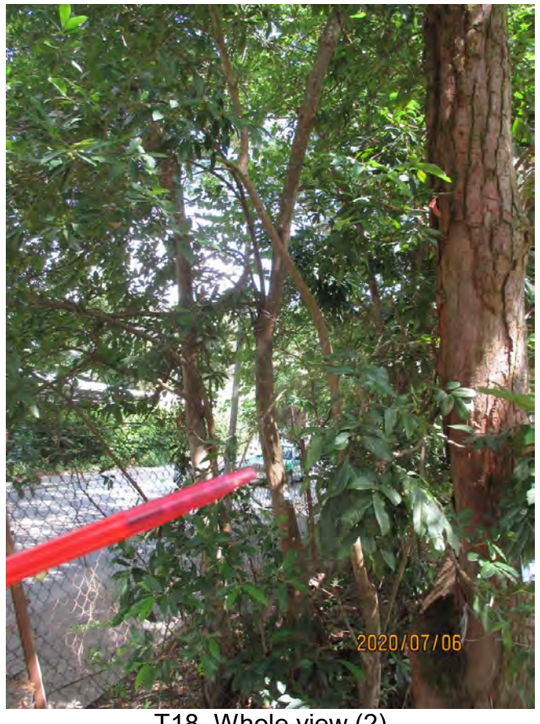
T17_Whole view (3)



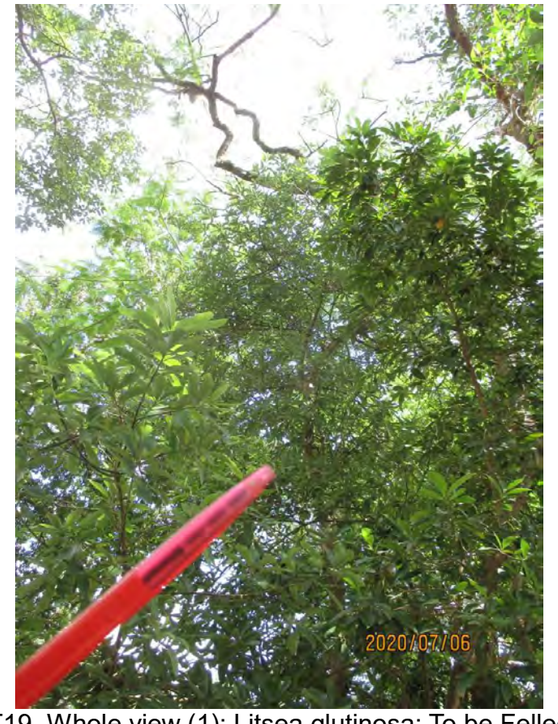
T17_Whole view



T18_Whole view (1); Litsea glutinosa; To be Felled



T18_Whole view (2)



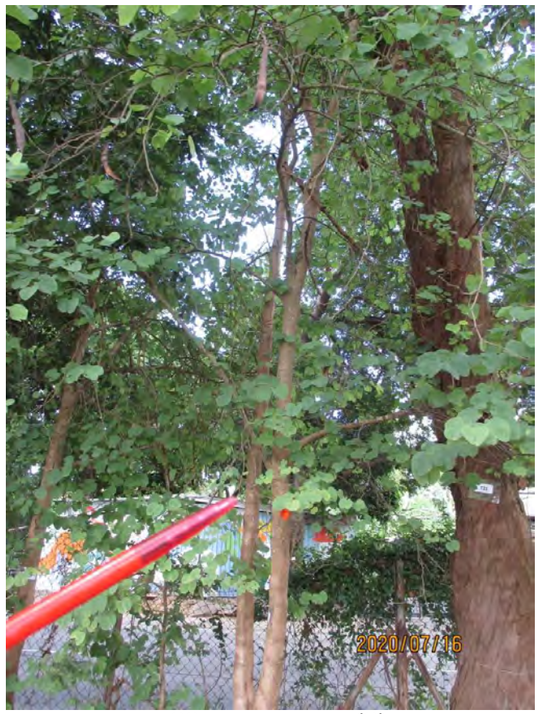
T19_Whole view (1); Litsea glutinosa; To be Felled



T19_Whole view (2)



T20_Whole view (1); Bauhinia spp.; To be Felled



T20_Whole view (2)



T20_Whole view (3)



T21_Whole view (1); Eucalyptus robusta; To be Felled



T21_Whole view (2)



T22_Whole view; Delonix regia; To be Felled



T23_Whole view (1); Eucalyptus robusta; To be Felled



T23_Whole view (2)



T23_Whole view (3)



T24_Whole view (1); Eucalyptus robusta; To be Felled



T24_Whole view (2)



T24_Whole view (3)



T25_Whole view (1); Bauhinia spp.; To be Felled



T25_Whole view (2)



T25_Whole view (3)



T26_Whole view (1); Eucalyptus robusta; To be Felled



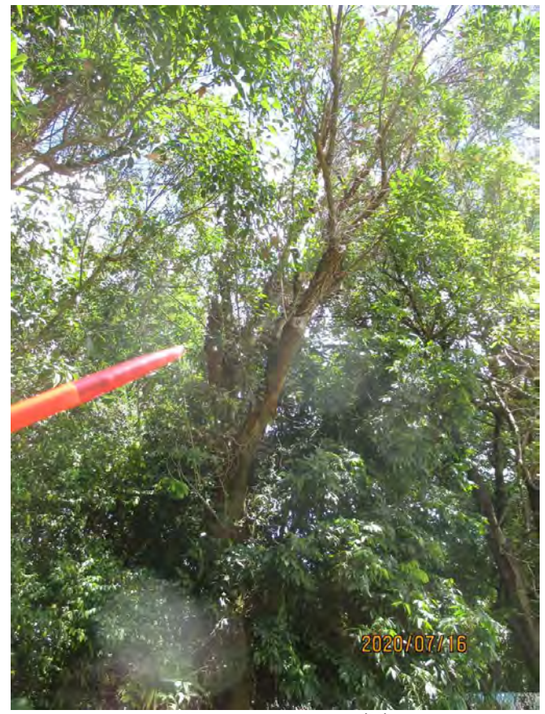
T26_Whole view (2)



T26_Whole view (3)



T27_Whole view (1); Eucalyptus robusta; To be Felled



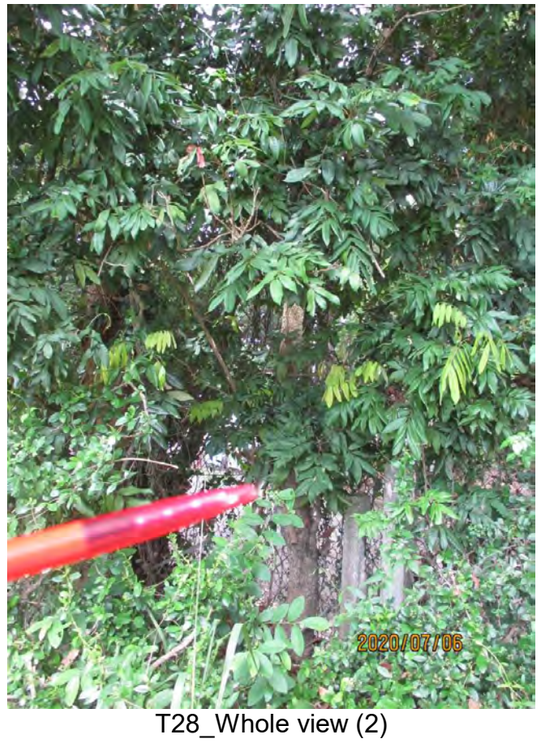
T27_Whole view (2)



T27_Whole view (3)



T28_Whole view (1); Dimocarpus longan; To be Felled



T28_Whole view (2)



T29_Whole view (1); Eucalyptus robusta; To be Retained



T29_Whole view (2)



T29_Whole view (3)



T30_Whole view (1); Casuarina equisetifolia; To be Retained



T30_Whole view (2)



T30_Whole view (3)



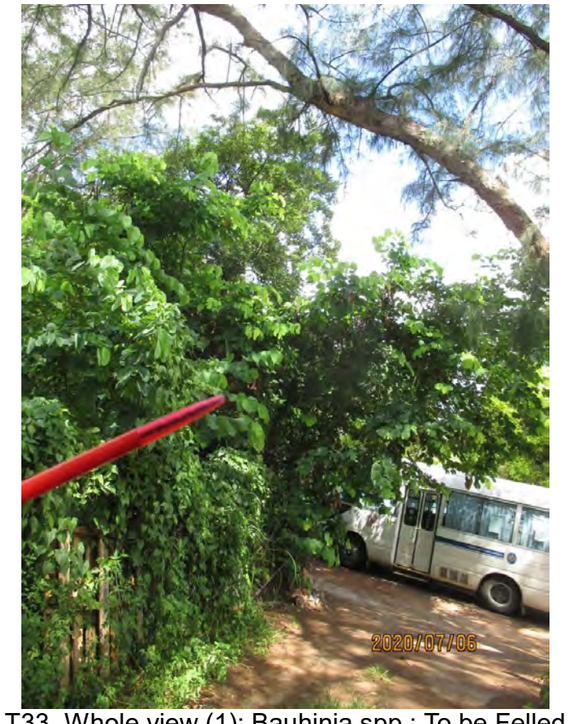
T31_Whole view; Dead tree; To be Felled



T32_Whole view (1); Bauhinia spp.; To be Felled



T32_Whole view (2)



T33_Whole view (1); Bauhinia spp.; To be Felled



T33_Whole view (2)



T34_Whole view; Dead tree; To be Felled



T35_Whole view;Litchi chinensis; To be Felled



T36_Whole view; Bauhinia spp.; To be Felled



T37_Whole view (1); Bauhinia spp.; To be Felled



T37_Whole view (2)



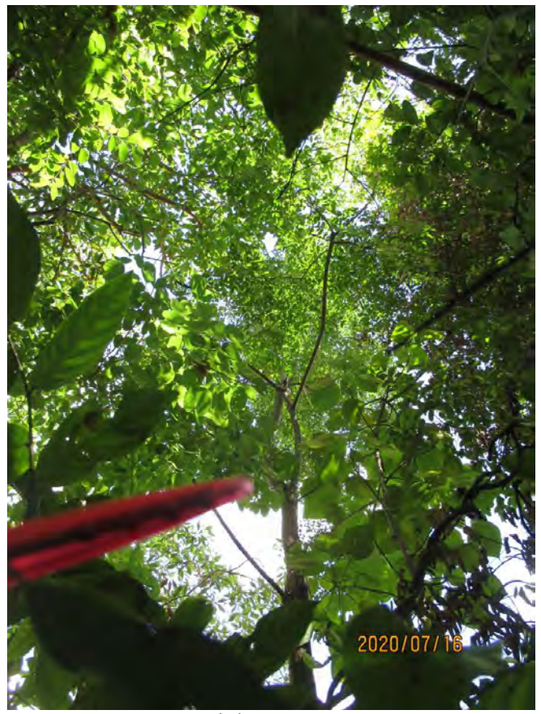
T38_Whole view (1); Eucalyptus robusta; To be Felled



T38_Whole view (2)



T38_Whole view (3)



T39_Whole view (1); Melia azedarach; To be Felled



T39_Whole view (2)



T39_Whole view (3)



T40_Whole view (1); Eucalyptus robusta; To be Felled



T40_Whole view (2)



T41_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T41_Whole view (2)



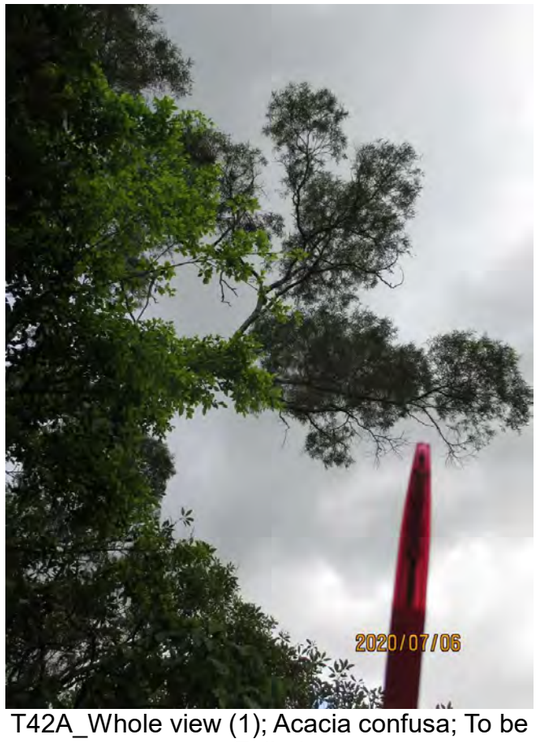
T41_Whole view (3)



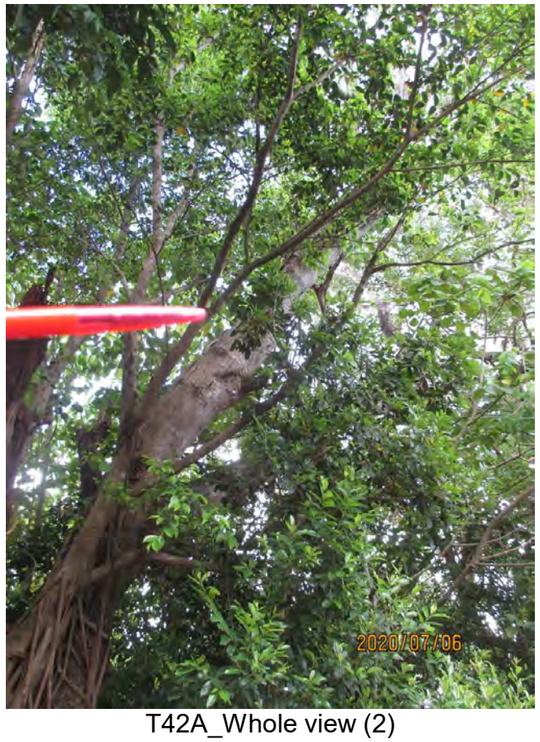
T42_Whole view (1); Ficus microcarpa; To be Felled



T42_Whole view (2)



T42A_Whole view (1); Acacia confusa; To be Felled



T42A_Whole view (2)



T43_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T44_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T44_Whole view (2)



T45_Whole view (1); Dimocarpus longan; To be Felled



T45_Whole view (2)



T45_Whole view (3)



T46_Whole view; Dimocarpus longan; To be Felled



T47_Whole view (1); Melia azedarach; To be Felled



T47_Whole view (2)



T48_Whole view; Eucalyptus robusta; To be Felled



T49_Whole view (1); Eucalyptus robusta; To be Felled



T49_Whole view (2)



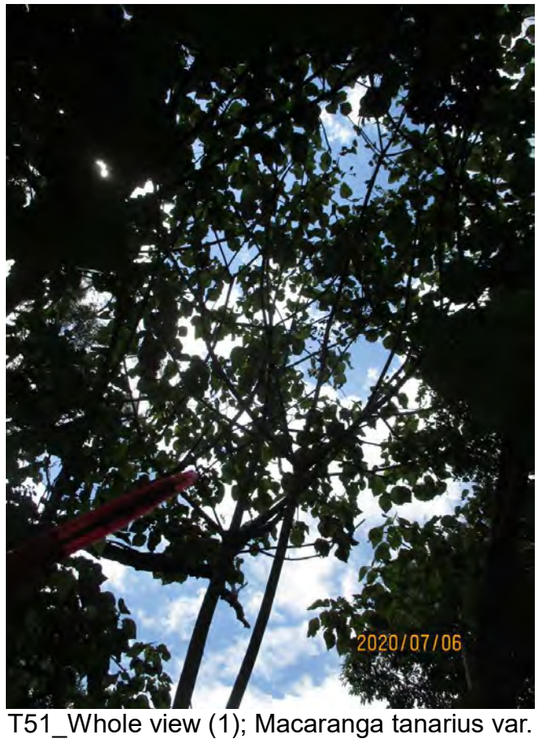
T49_Whole view (3)



T50_Whole view (1); Melia azedarach; To be Felled



T50_Whole view (2)



T51_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T51_Whole view (2)



T52_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T52_Whole view (2)



T52_Whole view (3)



T53_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T53_Whole view (2)



T53_Whole view (3)



T54_Whole view (1); Eucalyptus robusta; To be Felled



T54_Whole view (2)



T54_Whole view (3)



T55_Whole view (1); Casuarina equisetifolia; To be Felled



T55_Whole view (2)



T55_Whole view (3)



T56_Whole view (1); Dimocarpus longan; To be Retained



T56_Whole view (2)



T56_Whole view (3)



T57_Whole view; Dimocarpus longan; To be Retained



T58_Whole view (1); Eucalyptus robusta; To be Felled



T58_Whole view (2)



T59_Whole view (1); Ficus microcarpa; To be Retained



T59_Whole view (2)



T59_Whole view (3)



T59A_Whole view (1); Eucalyptus robusta; To be Retained



T59A_Whole view (2)



T59A_Whole view (3)



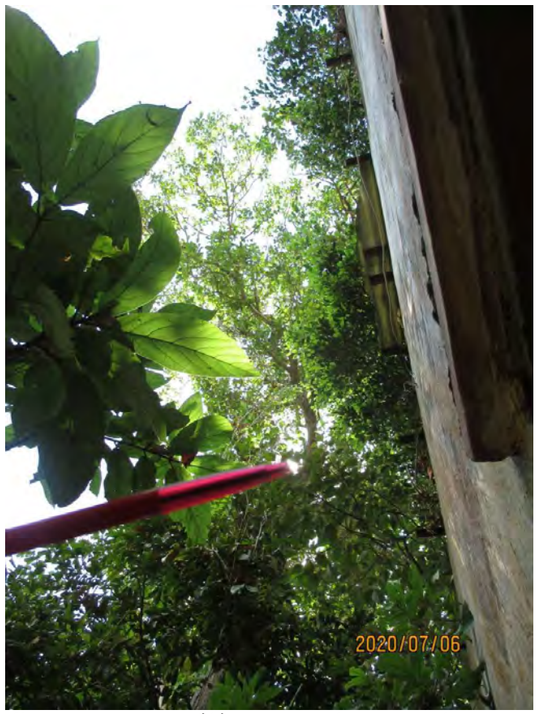
T60_Whole view (1); Ficus hispida; To be Felled



T60_Whole view (2)



T60_Whole view (3)



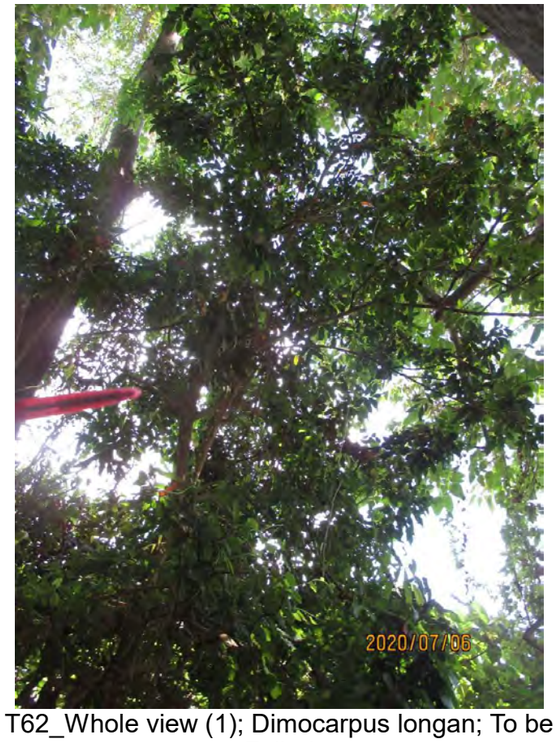
T61_Whole view (1); Eucalyptus robusta; To be Felled



T61_Whole view (2)



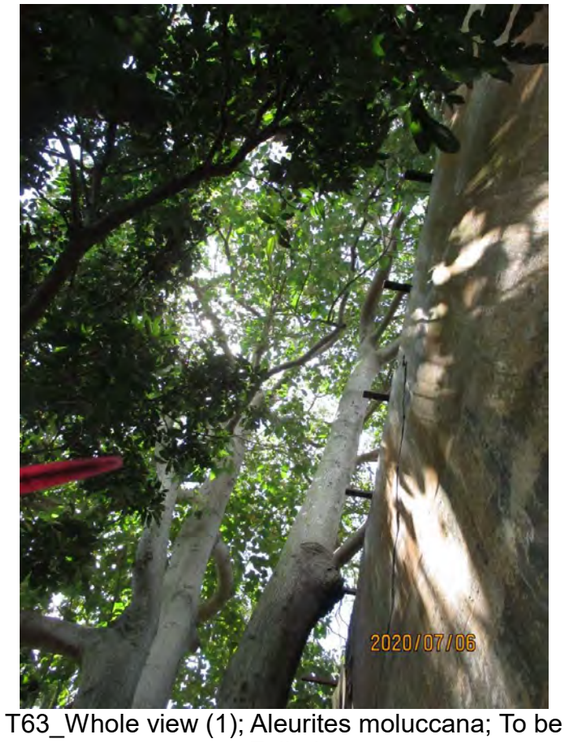
T61_Whole view (3)



T62_Whole view (1); Dimocarpus longan; To be Felled



T62_Whole view (2)



T63_Whole view (1); Aleurites moluccana; To be Felled



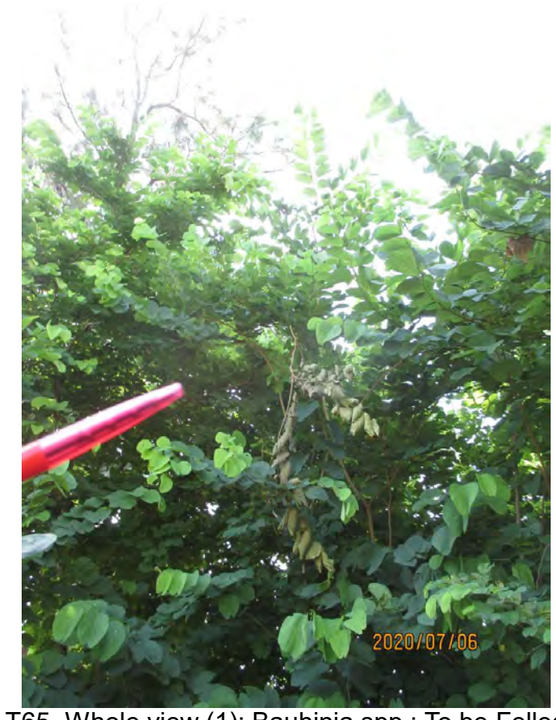
T63_Whole view (2)



T64_Whole view (1); Bauhinia spp.; To be Felled



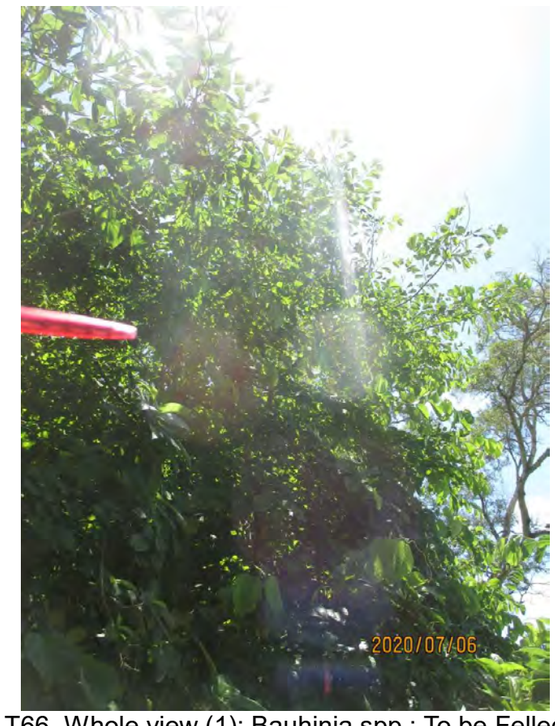
T64_Whole view (2)



T65_Whole view (1); Bauhinia spp.; To be Felled



T65_Whole view (2)



T66_Whole view (1); Bauhinia spp.; To be Felled



T66_Whole view (2)



T67_Whole view; Ficus hispida; To be Felled



T68_Whole view (1); Acacia confusa; To be Felled



T68_Whole view (2)



T69_Whole view (1); Celtis sinensis; To be Felled



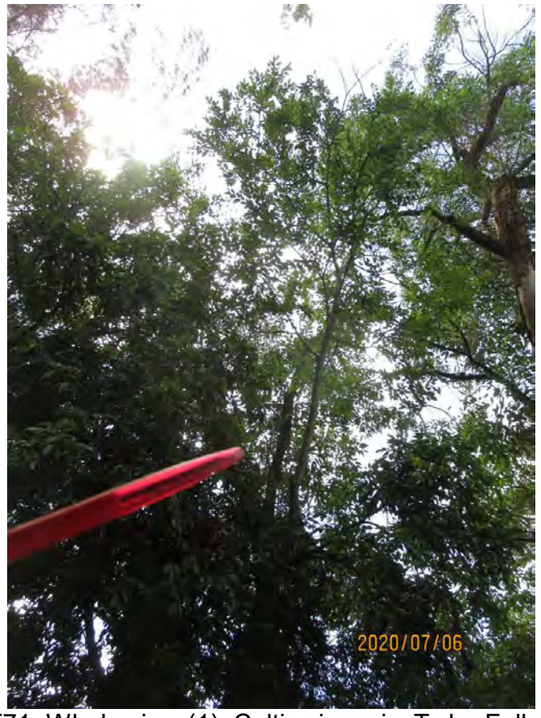
T69_Whole view (2)



T70_Whole view (1); Celtis sinensis; To be Felled



T70_Whole view (2)



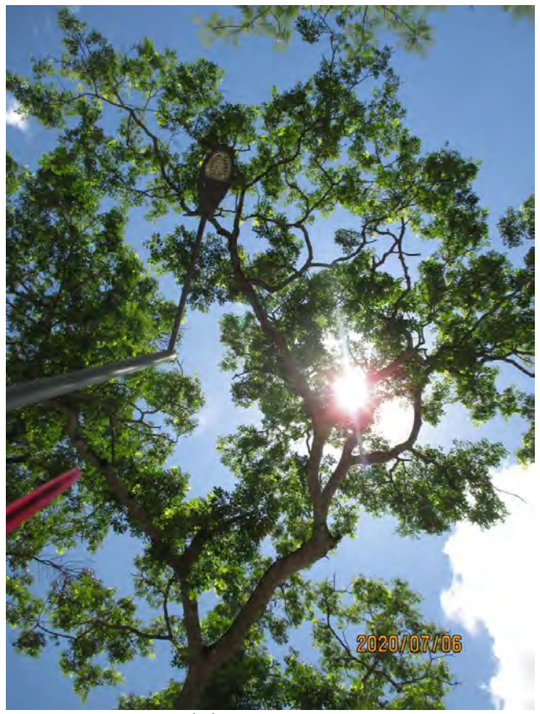
T71_Whole view (1); Celtis sinensis; To be Felled



T71_Whole view (2)



T72_Whole view; Celtis sinensis; To be Felled



T73_Whole view (1); Albizia leBroken brancheck; To be Retained



T73_Whole view (2)



T74_Whole view (1); Bridelia tomentosa; To be Felled



T74_Whole view (2)



T74_Whole view (3)



T75_Whole view; Ficus microcarpa; To be Felled



T75A_Whole view (1); Eucalyptus robusta; To be Felled



T75A_Whole view (2)



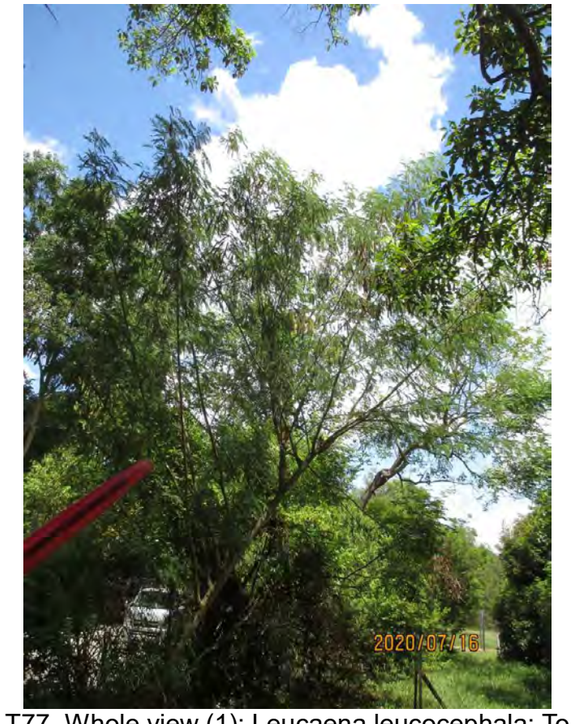
T76_Whole view (1); Bridelia tomentosa; To be Felled



T76_Whole view (2)



T76_Whole view (3)



T77_Whole view (1); Leucaena leucocephala; To be Felled



T77_Whole view (2)



T77_Whole view (3)



T78_Whole view (1); Eucalyptus robusta; To be Felled



T78_Whole view (2)



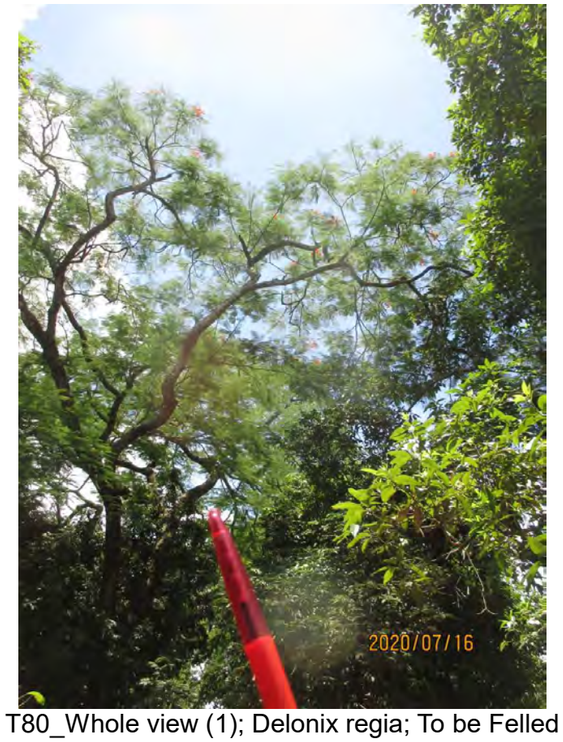
T79_Whole view (1); Dimocarpus longan; To be Felled



T79_Whole view (2)



T79_Whole view (3)



T80_Whole view (1); Delonix regia; To be Felled



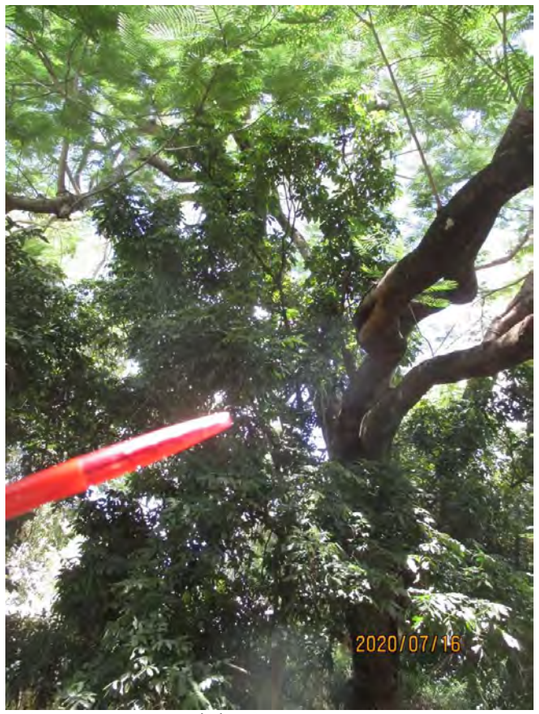
T80_Whole view (2)



T80_Whole view (3)



T80_Whole view (4)



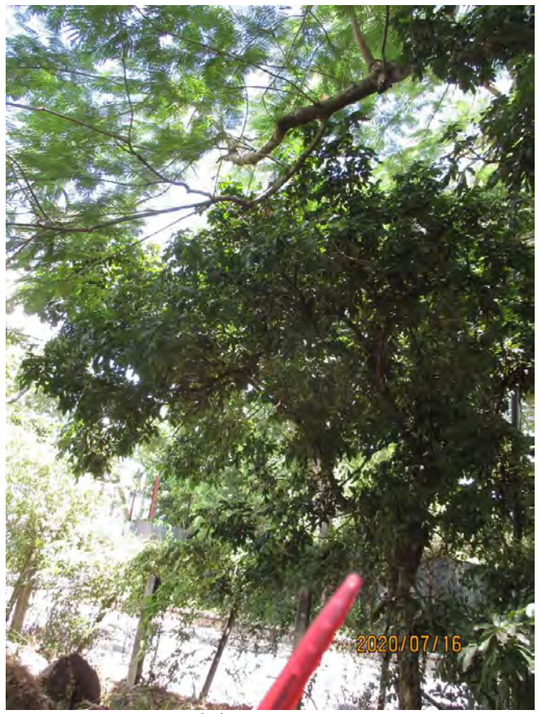
T81_Whole view (1); Dimocarpus longan; To be Felled



T81_Whole view (2)



T81_Whole view (3)



T82_Whole view (1); Dimocarpus longan; To be Felled



T82_Whole view (2)



T82_Whole view (3)



T83_Whole view (1); Casuarina equisetifolia; To be Felled



T83_Whole view (2)



T83_Whole view (3)



T84_Whole view (1); Acacia confusa; To be Felled



T84_Whole view (2)



T84_Whole view (3)



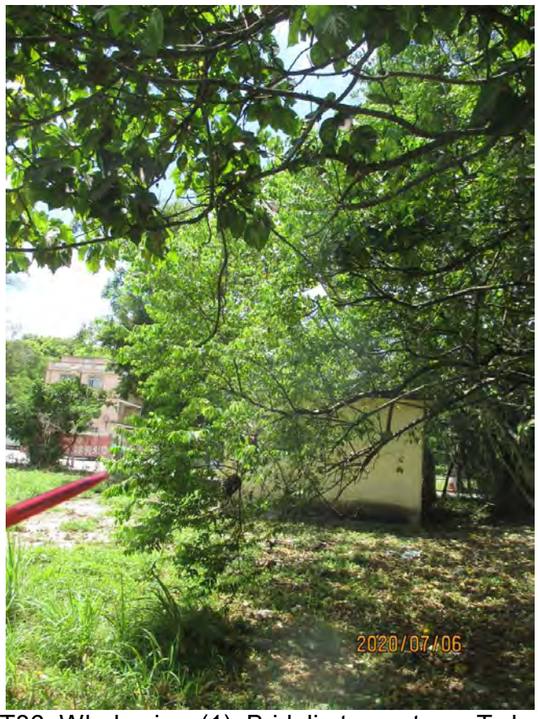
T85_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T85_Whole view (2)



T85_Whole view (3)



T86_Whole view (1); Bridelia tomentosa; To be Felled



T86_Whole view (2)



T87_Whole view (1); Celtis sinensis; To be Felled



T87_Whole view (2)



T88_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T88_Whole view (2)



T89_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T89_Whole view (2)



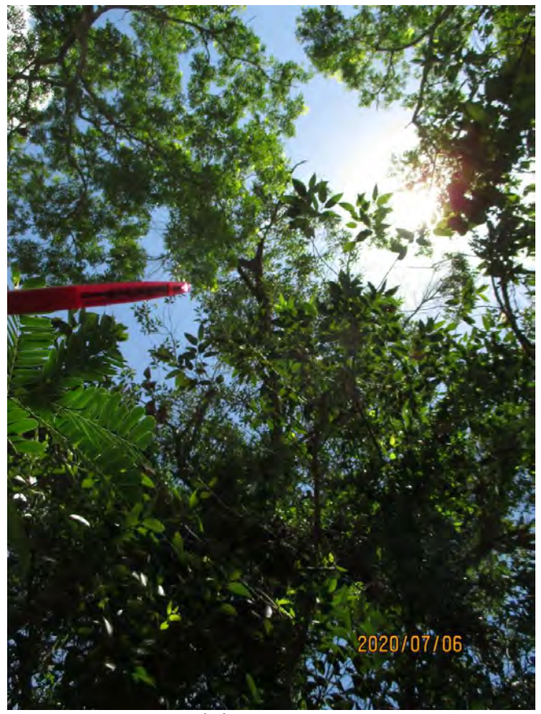
T89_Whole view (3)



T90_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T90_Whole view (2)



T91_Whole view (1); Eucalyptus robusta; To be Retained



T91_Whole view (2)



T91_Whole view (3)



T92_Whole view (1); Alangium chinense; To be Retained



T92_Whole view (2)



T92_Whole view (3)



T93_Whole view (1); Alangium chinense; To be Retained



T93_Whole view (2)



T93_Whole view (3)



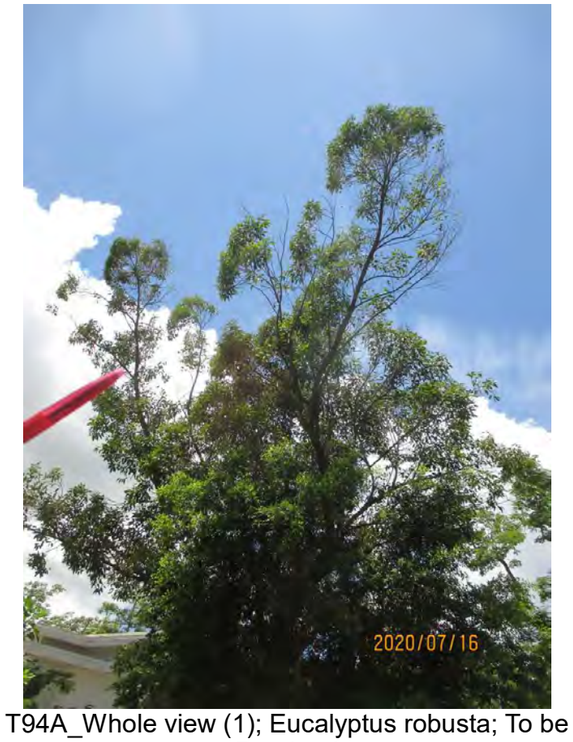
T94_Whole view (1); Ficus microcarpa; To be Retained



T94_Whole view (2)



T94_Whole view (3)



T94A_Whole view (1); Eucalyptus robusta; To be Retained



T94A_Whole view (2)



T94A_Whole view (3)



T95_Whole view; Macaranga tanarius var. tomentosa; To be Retained



T96_Whole view; Acacia confusa; To be Retained



T97_Whole view (1); Morus alba; To be Retained



T97_Whole view (2)



T97_Whole view (3)



T98_Whole view (1); Casuarina equisetifolia; To be Retained



T98_Whole view (2)



T98_Whole view (3)



T99_Whole view; Delonix regia; To be Retained



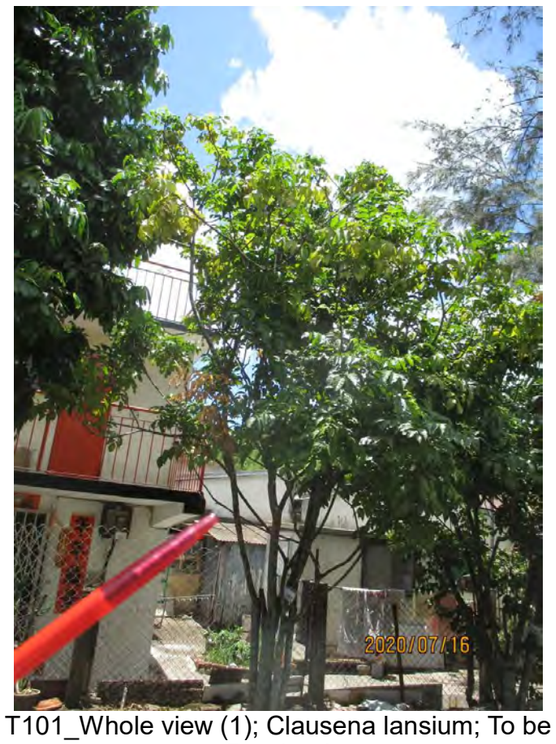
T100_Whole view (1); Casuarina equisetifolia; To be Retained



T100_Whole view (2)



T100_Whole view (3)



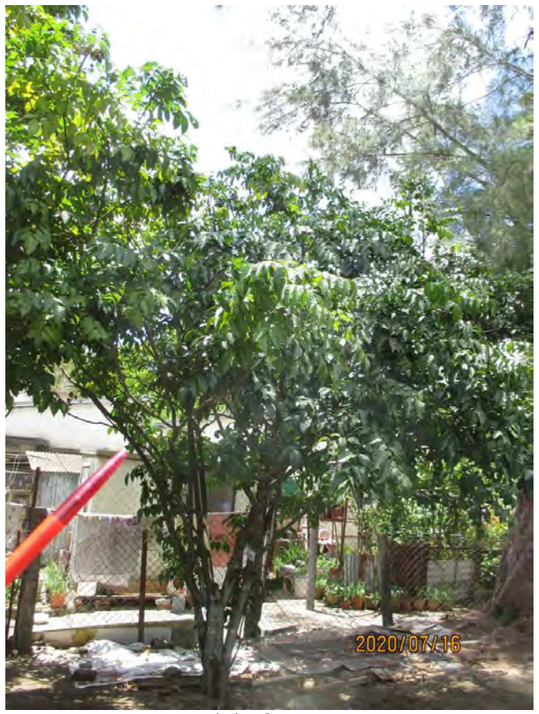
T101_Whole view (1); Clausena lansium; To be Retained



T101_Whole view (2)



T101_Whole view (3)



T102_Whole view (1); Clausena lansium; To be Retained



T102_Whole view (2)



T102_Whole view (3)



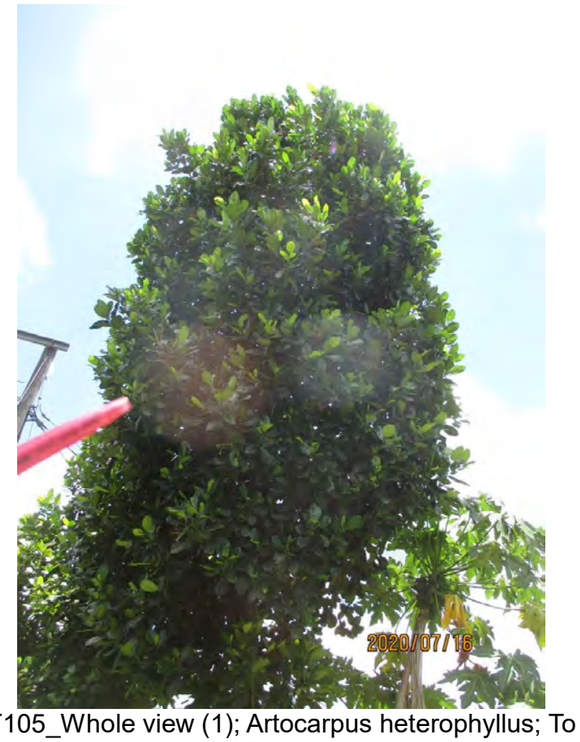
T102_Whole view



T103_Whole view; Psidium guajava; To be Retained



T104_Whole view; Dimocarpus longan



T105_Whole view (1); Artocarpus heterophyllus; To be Retained



T105_Whole view (2)



T105_Whole view (3)



T105_Whole view



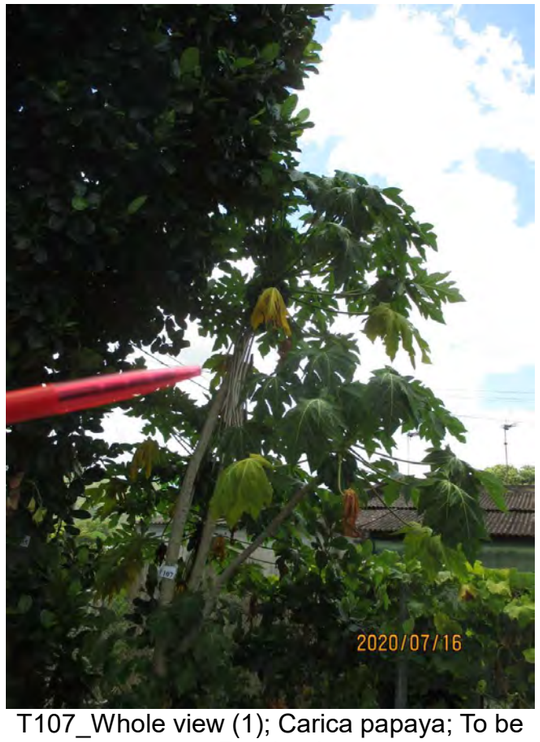
T106_Whole view (1); Artocarpus heterophyllus; To be Retained



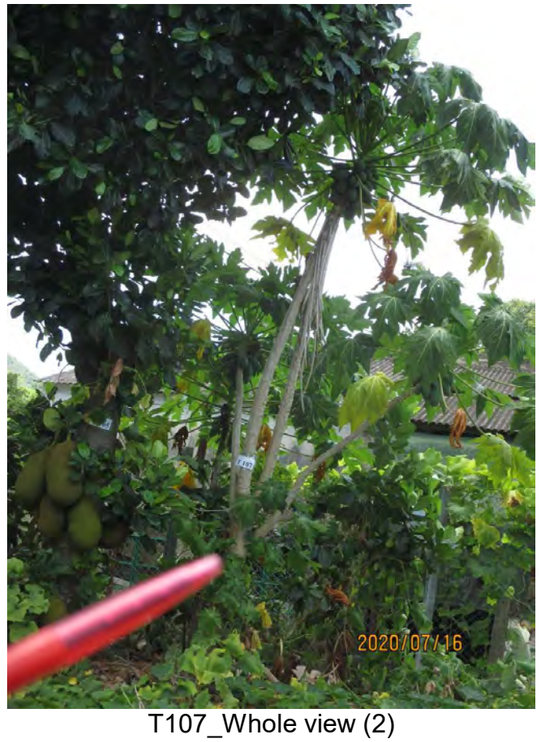
T106_Whole view (2)



T106_Whole view (3)



T107_Whole view (1); Carica papaya; To be Retained



T107_Whole view (2)



T107_Whole view (3)



T108_Whole view; Leucaena leucocephala; To be Retained



T109_Whole view (1); Ficus microcarpa; To be Retained



T109_Whole view (2)



T109_Whole view (3)



T110_Whole view (1); Casuarina equisetifolia; To be Retained



T110_Whole view (2)



T111_Whole view (1); Dimocarpus longan; To be Felled



T111_Whole view (2)



T111_Whole view (3)



T112_Whole view (1); Dimocarpus longan; To be Felled



T112_Whole view (2)



T112_Whole view (3)



T113_Whole view (1); Dimocarpus longan; To be Felled



T113_Whole view (2)



T113_Whole view (3)



T114_Whole view; Litchi chinensis; To be Felled



T115_Whole view; Dimocarpus longan; To be Felled



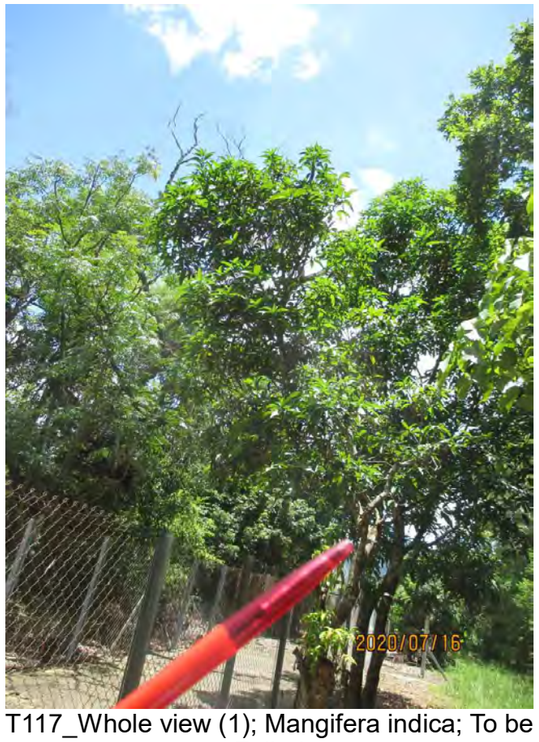
T116_Whole view (1); Mangifera indica; To be Felled



T116_Whole view (2)



T116_Whole view (3)



T117_Whole view (1); Mangifera indica; To be Felled



T117_Whole view (2)



T117_Whole view (3)



T118_Whole view (1); Mangifera indica; To be Felled



T118_Whole view (2)



T118_Whole view (3)



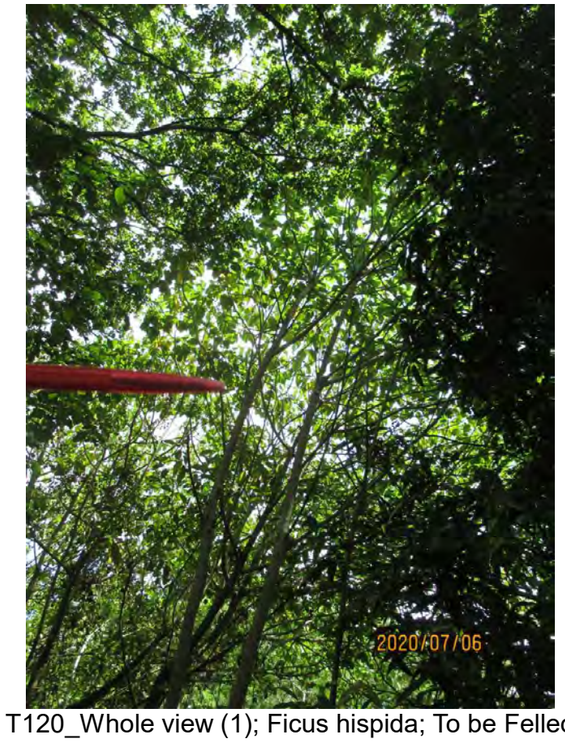
T119_Whole view (1); Mangifera indica; To be Felled



T119_Whole view (2)



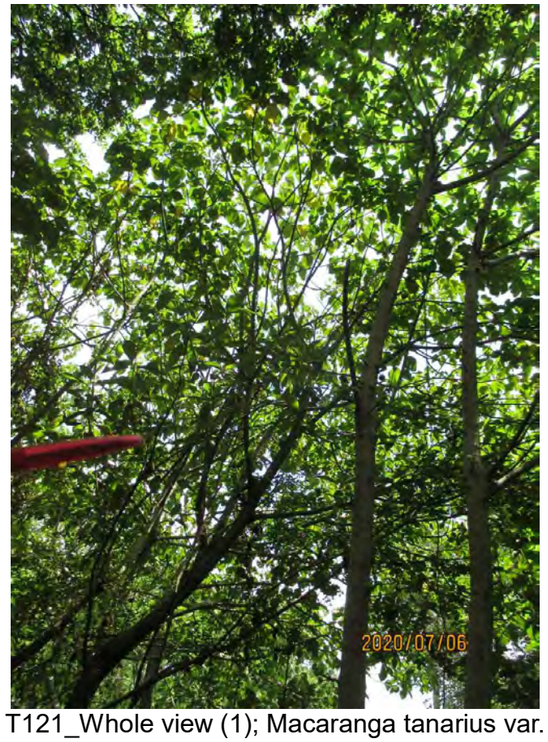
T119_Whole view (3)



T120_Whole view (1); Ficus hispida; To be Felled



T120_Whole view (2)



T121_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T121_Whole view (2)



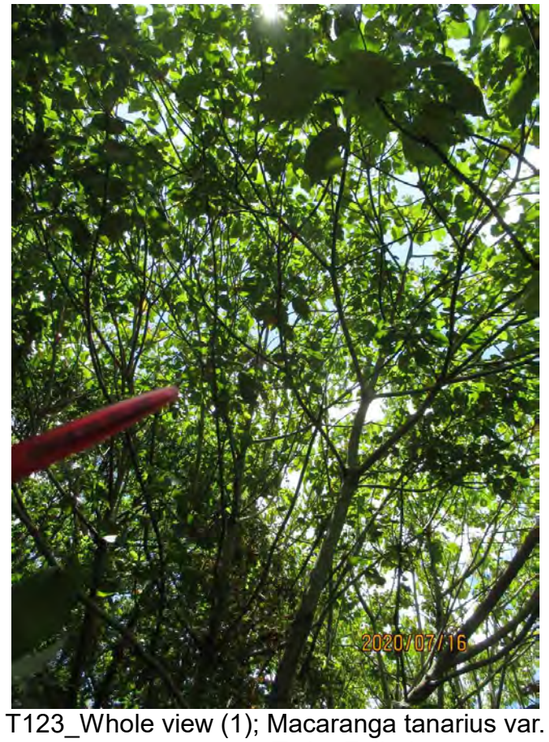
T122_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T122_Whole view (2)



T122_Whole view (3)



T123_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T123_Whole view (2)



T123_Whole view (3)



T124_Whole view (1); Macaranga tanarius var. tomentosa; To be Felled



T124_Whole view (2)



T124_Whole view (3)



T125_Whole view (1); Litchi chinensis; To be Felled



T125_Whole view (2)



T125_Whole view (3)



T126__Whole view (1); Litchi chinensis; To be Felled



T126__Whole view (2)



T126__Whole view (3)



T127__Whole view (1); Albizia lebbeck; To be Felled



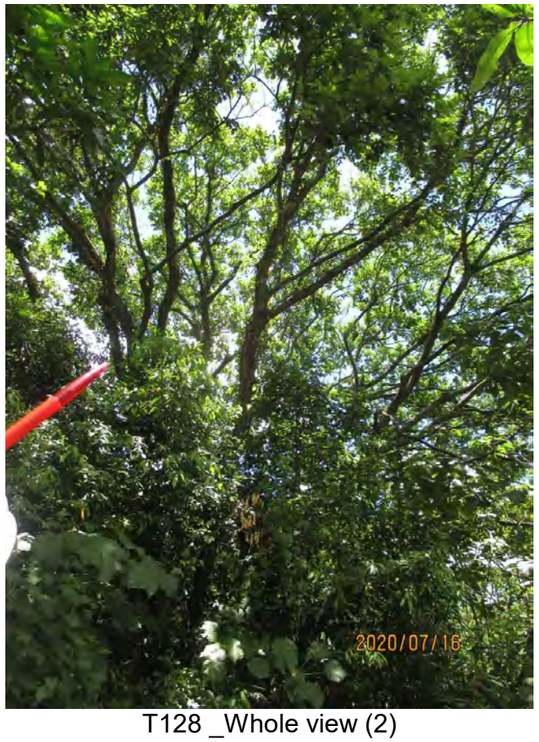
T127__Whole view (2)



T127__Whole view (3)



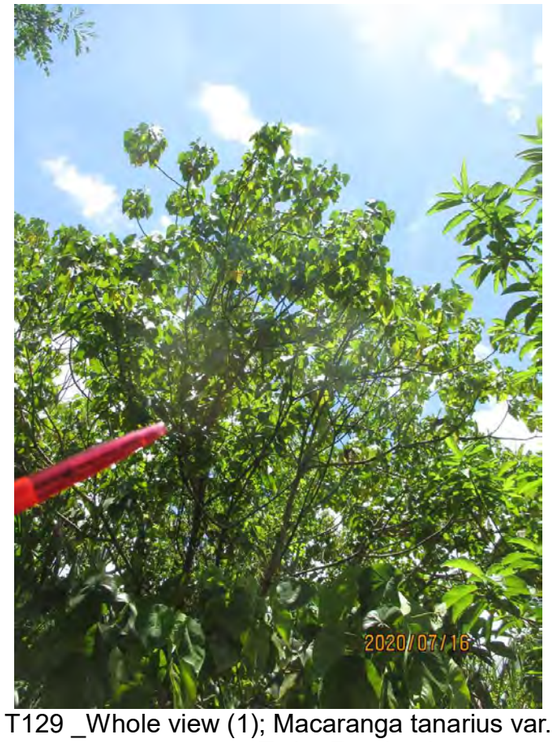
T128 _Whole view (1); Celtis sinensis; To be Felled



T128 _Whole view (2)



T128 _Whole view (3)



T129 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T129 _Whole view (2)



T129 _Whole view (3)



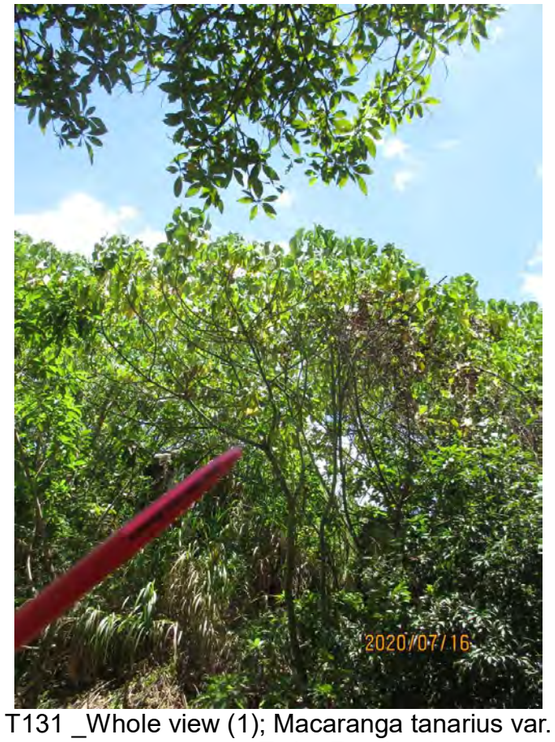
T130 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T130 _Whole view (2)



T130 _Whole view (3)



T131 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T131 _Whole view (2)



T131 _Whole view (3)



T132 _Whole view (1); Ficus hispida; To be Retained



T132 _Whole view (2)



T132 _Whole view (3)



T133 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



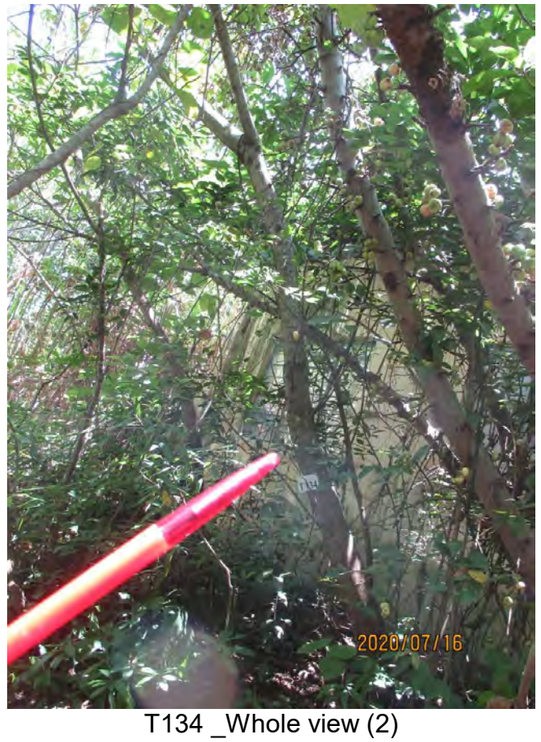
T133 _Whole view (2)



T133 _Whole view (3)



T134 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T134 _Whole view (2)



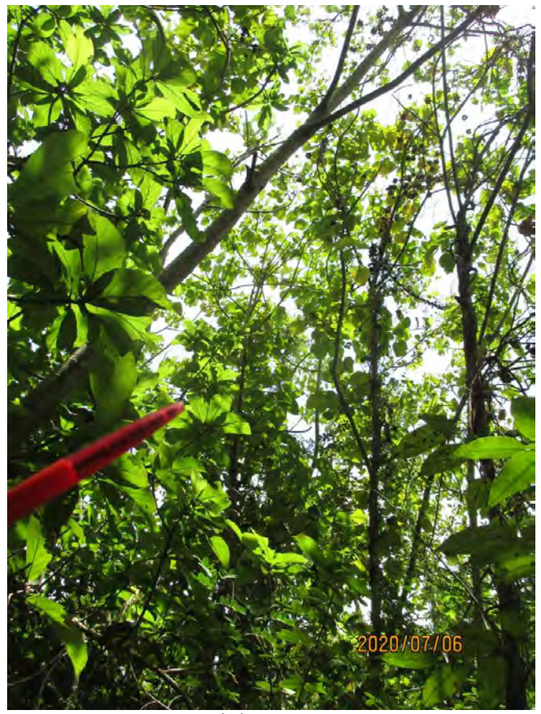
T134 _Whole view (3)



T135__Whole view (1) Ficus hispida; To be Retained



T135__Whole view (2)__Whole view



T136_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



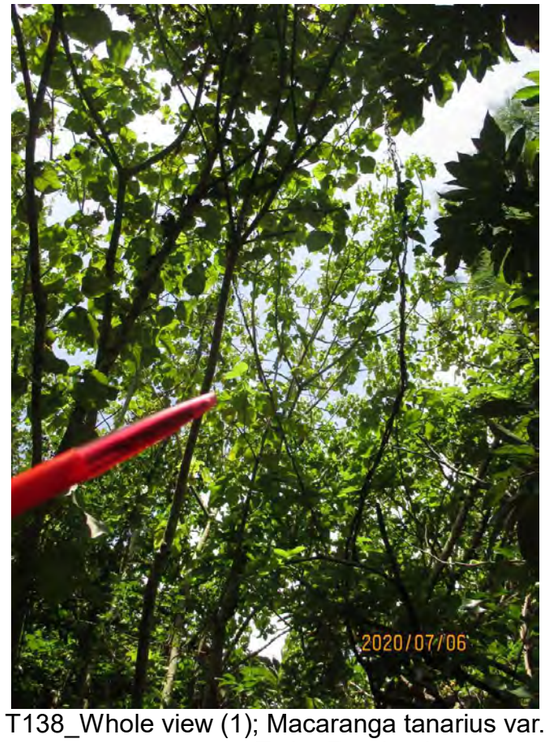
T136_Whole view (2)



T137_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T137_Whole view (2)



T138_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T138_Whole view (2)



T139 _Whole view (1); Ficus hispida; To be Retained



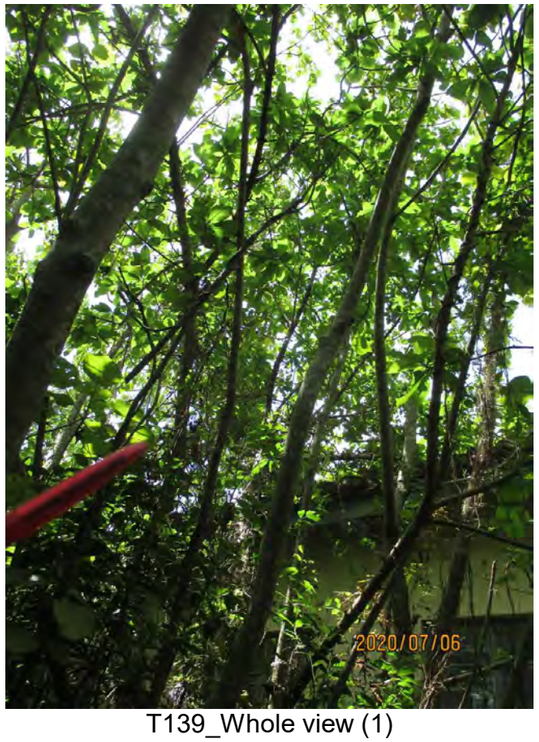
T139 _Whole view (2)



T139 _Whole view (3)



T139 _Whole view (4)



T139_Whole view (1)



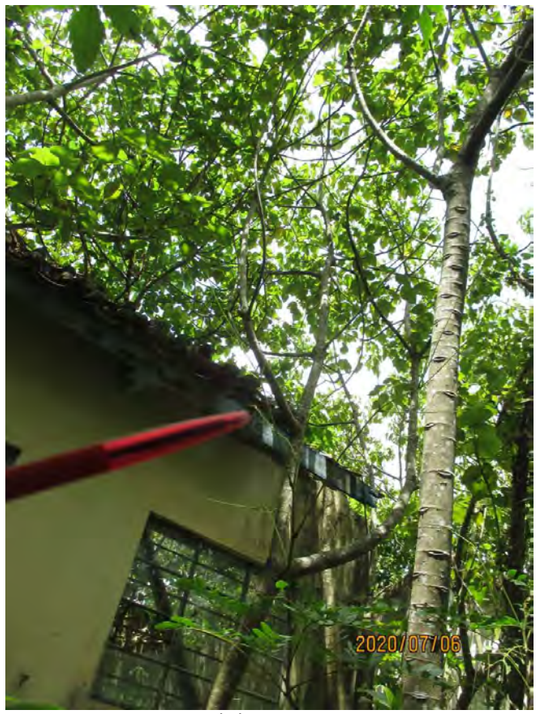
T139_Whole view (2)



T140_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



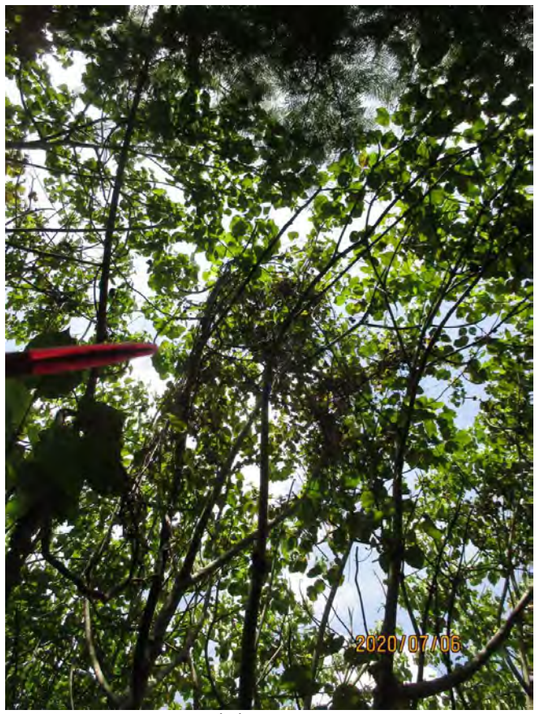
T140_Whole view (2)



T141_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



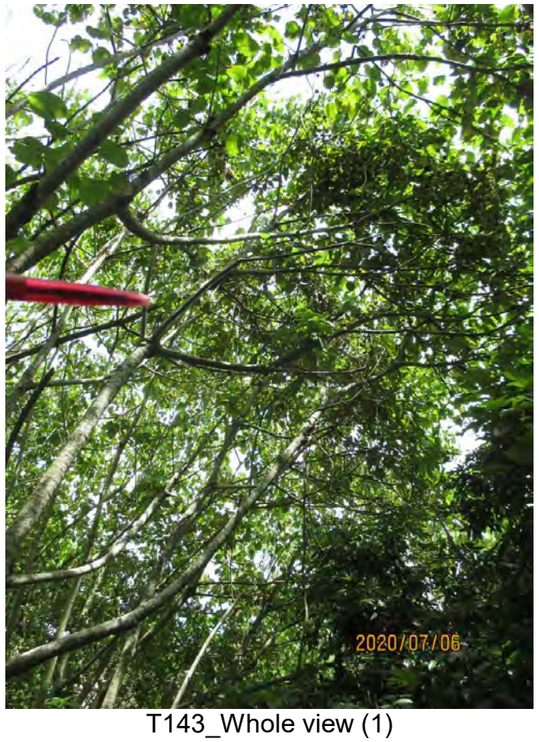
T141_Whole view (2)



T142_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T142_Whole view (2)



T143_Whole view (1)



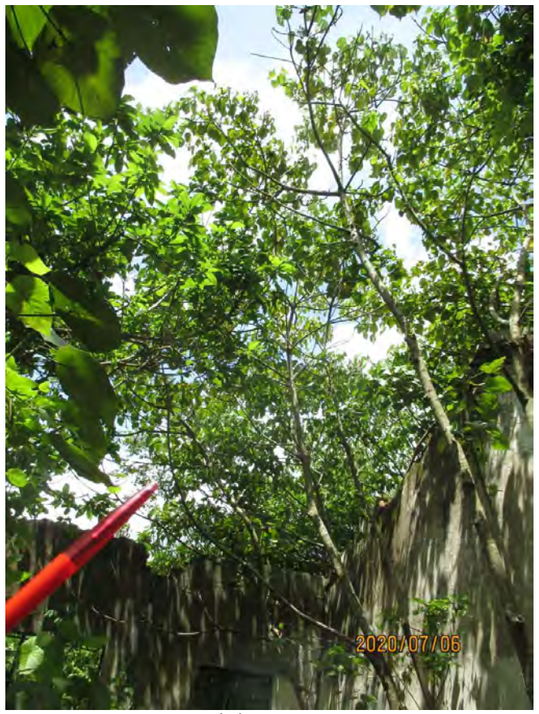
T143_Whole view (2)



T144_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



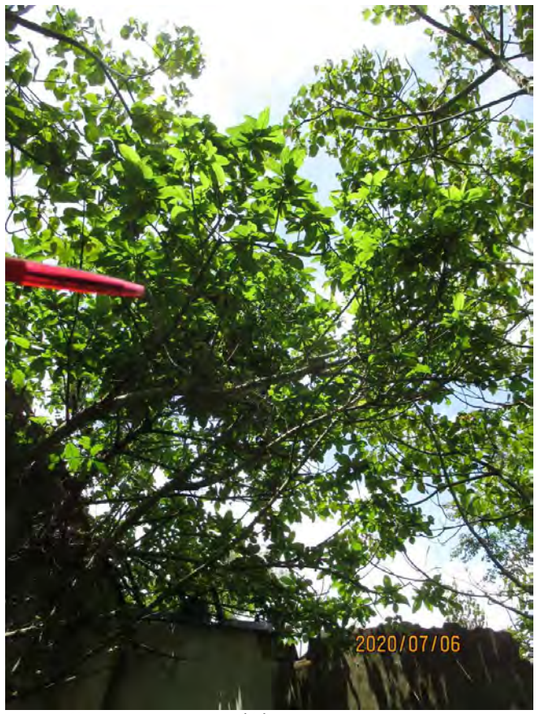
T144_Whole view (2)



T145_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



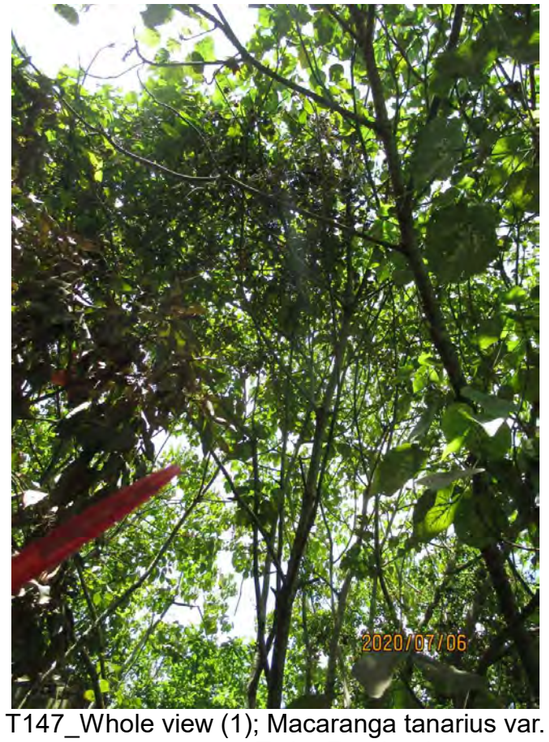
T145_Whole view (2)



T146_Whole view (1); Ficus hispida; To be Retained



T146_Whole view (2)



T147_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T147_Whole view (2)



T148 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T148 _Whole view (2)



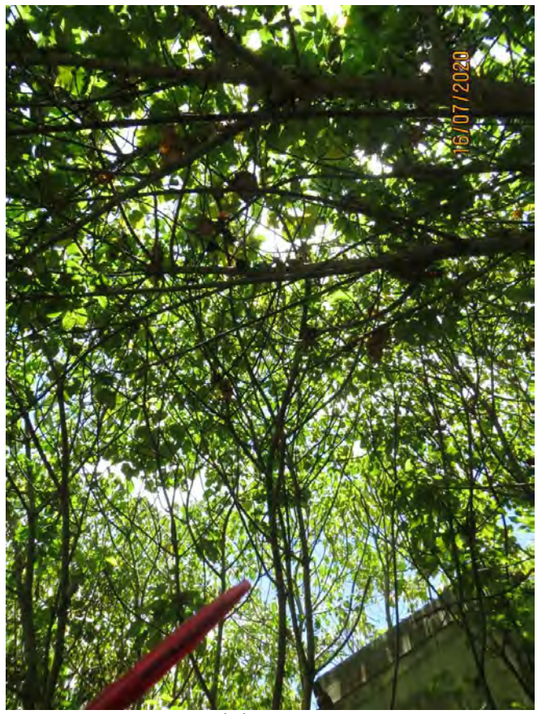
T148 _Whole view (3)



T149__Whole view (1) Macaranga tanarius var. tomentosa; To be Retained



T149__Whole view (2)



T150 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T150 _Whole view (2)



T150 _Whole view (3)



T150_Whole view



T151_Whole view; Ficus hispida; To be Retained



T152 _Whole view (1); Litchi chinensis; To be Retained



T152 _Whole view (2)



T152 _Whole view (3)



T153 _Whole view (1); Litchi chinensis; To be Retained



T153 _Whole view (2)



T153 _Whole view (3)



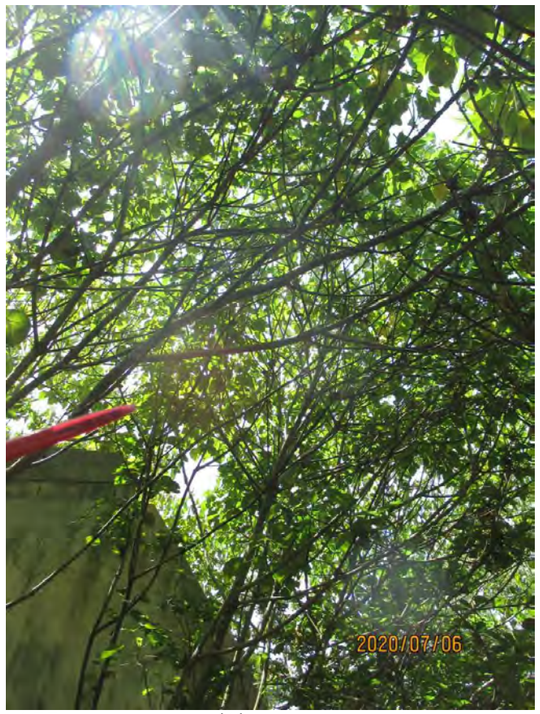
T154 _Whole view (1); Litchi chinensis; To be Felled



T154 _Whole view (2)



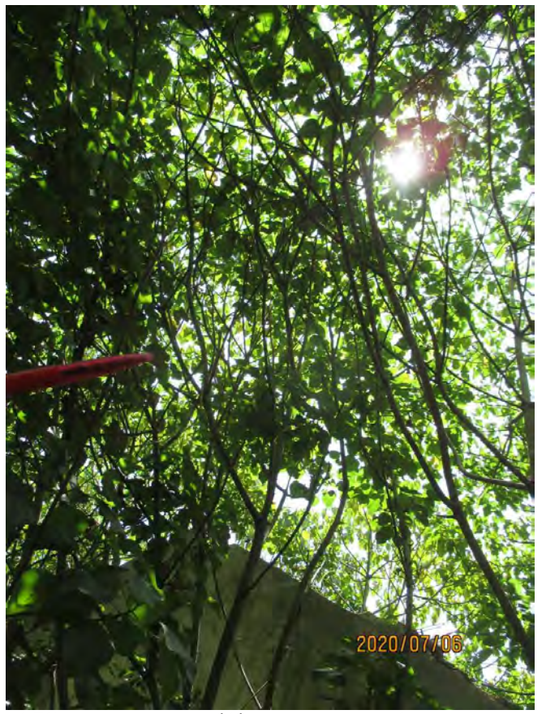
T154 _Whole view (3)



T155_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T155_Whole view (2)



T156_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T156_Whole view (2)



T157_Whole view; Macaranga tanarius var. tomentosa; To be Retained



T158_Whole view (1); Dead tree; To be Retained



T158_Whole view (2)



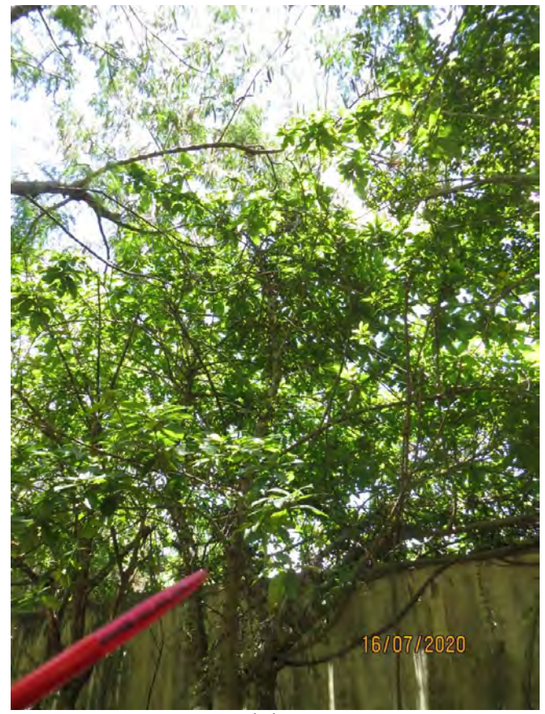
T159 _Whole view (1); Ficus hispida; To be Retained



T159 _Whole view (2)



T159 _Whole view (3)



T160 _Whole view (1); Ficus hispida; To be Retained



T160 _Whole view (2)



T160 _Whole view (3)



T161 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T161 _Whole view (2)



T161 _Whole view (3)



T162_Whole view; Macaranga tanarius var. tomentosa; To be Retained



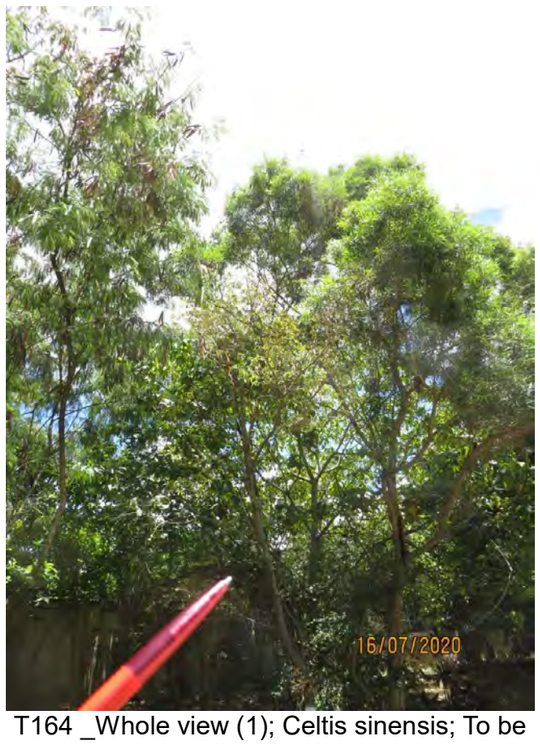
T163 _Whole view (1); Acacia confusa; To be Retained



T163 _Whole view (2)



T163 _Whole view (3)



T164 _Whole view (1); Celtis sinensis; To be Retained



T164 _Whole view (2)



T164 _Whole view (3)



T165_Whole view; Leucaena leucocephala; To be Retained



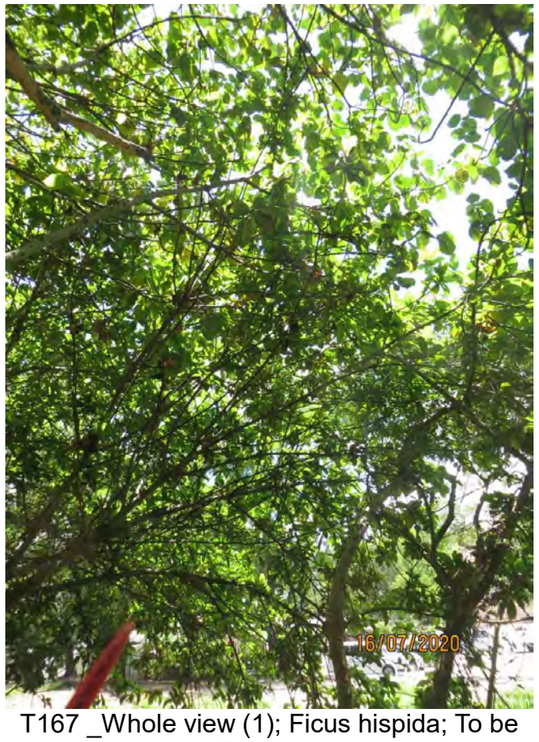
T166 _Whole view (1); Ficus hispida; To be Retained



T166 _Whole view (2)



T166 _Whole view (3)



T167 _Whole view (1); Ficus hispida; To be Retained



T167 _Whole view (2)



T167 _Whole view (3)



T168 _Whole view (1); Mangifera indica; To be Retained



T168 _Whole view (2)



T168 _Whole view (3)



T169 _Whole view (1); Mangifera indica; To be Retained



T169 _Whole view (2)



T169 _Whole view (3)



T170_Whole view; Mangifera indica; To be Retained



T171 _Whole view (1); Mangifera indica; To be Retained



T171 _Whole view (2)



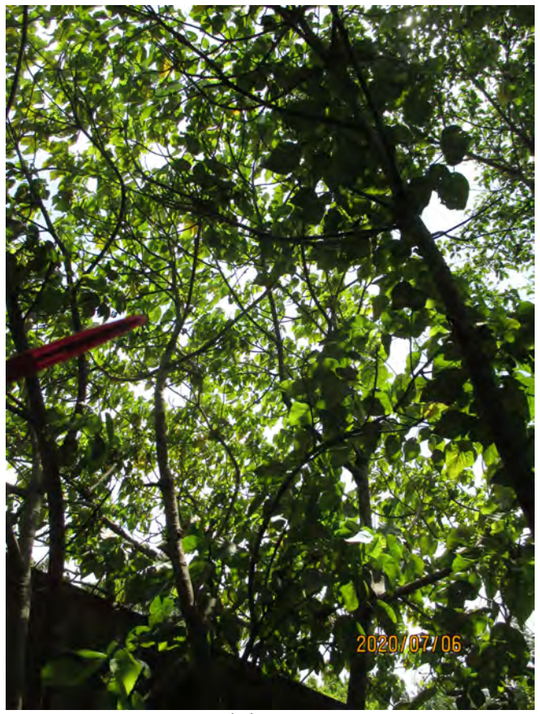
T171 _Whole view (3)



T172__Whole view (1) Macaranga tanarius var. tomentosa; To be Retained



T172__Whole view (2)



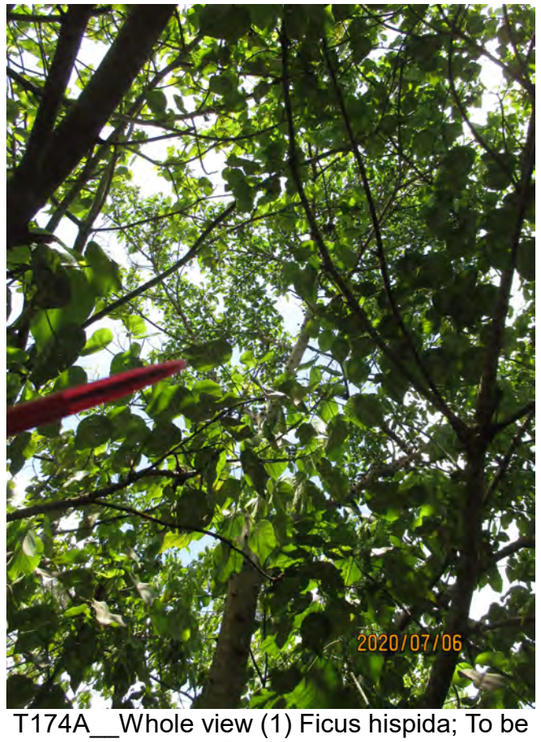
T173__Whole view (1) Macaranga tanarius var. tomentosa; To be Retained



T173__Whole view (2)



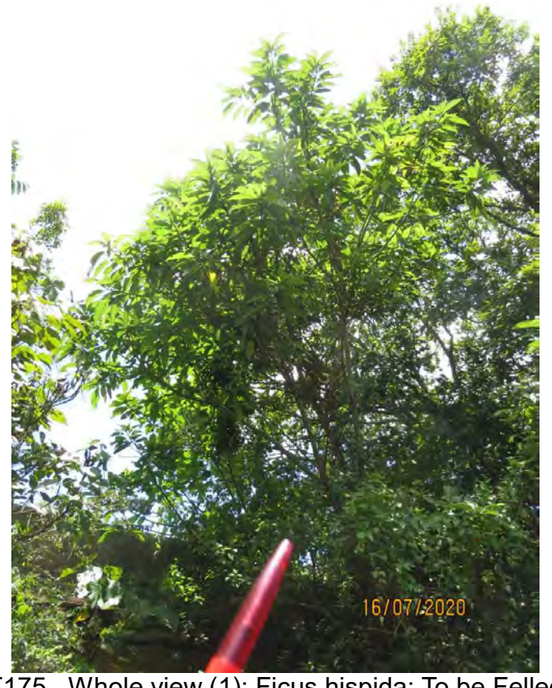
T174__Whole view (1) Macaranga tanarius var. tomentosa; To be Retained



T174A__Whole view (1) Ficus hispida; To be Retained



T174A__Whole view (2)



T175 _Whole view (1); Ficus hispida; To be Felled



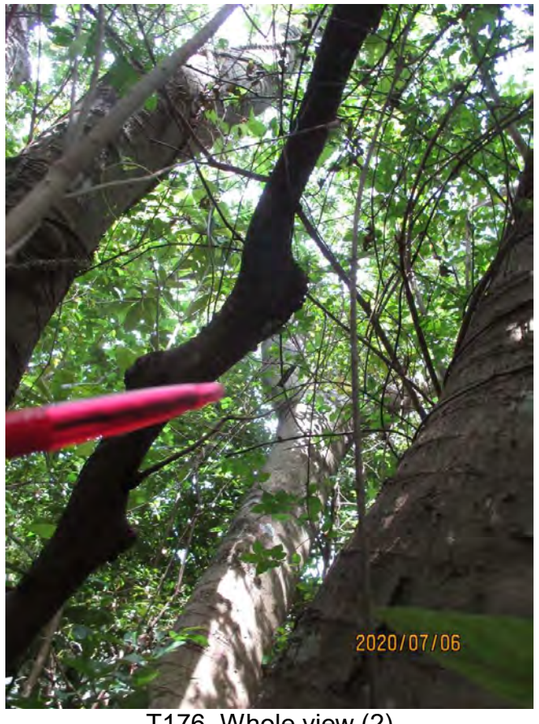
T175 _Whole view (2)



T175 _Whole view (3)



T176_Whole view (1); Celtis sinensis; To be Felled



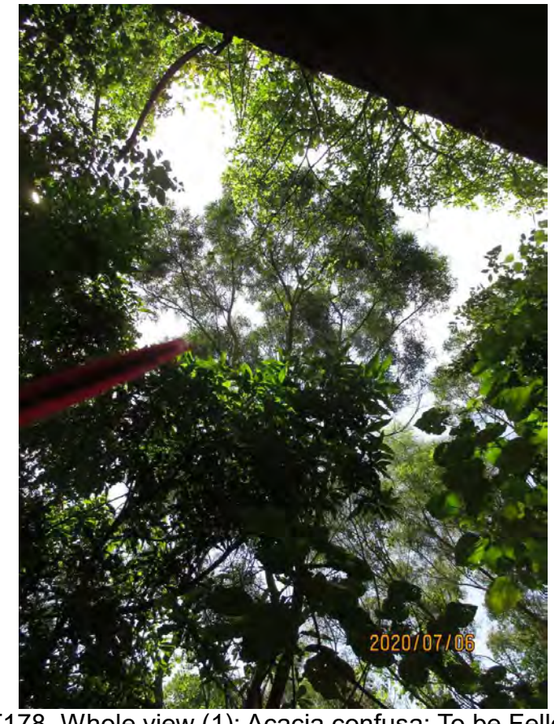
T176_Whole view (2)



T177_Whole view (1); Mangifera indica; To be Felled



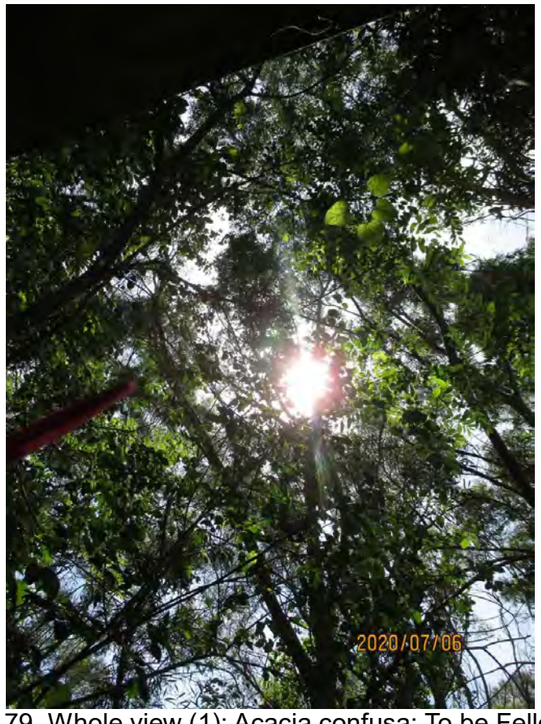
T177_Whole view (2)



T178_Whole view (1); Acacia confusa; To be Felled



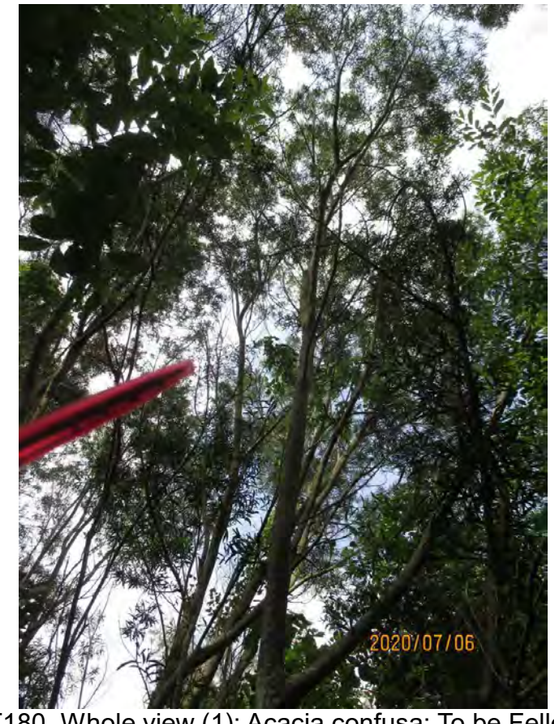
T178_Whole view (2)



T179_Whole view (1); Acacia confusa; To be Felled



T179_Whole view (2)



T180_Whole view (1); Acacia confusa; To be Felled



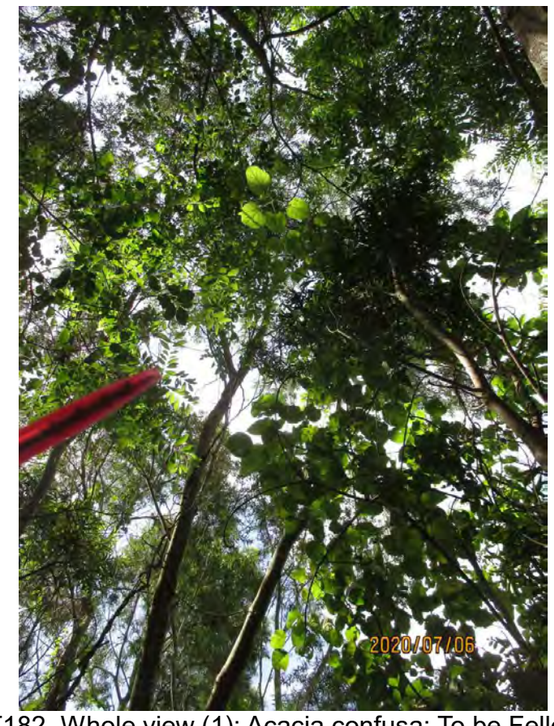
T180_Whole view (2)



T181_Whole view (1); Ficus microcarpa; To be Felled



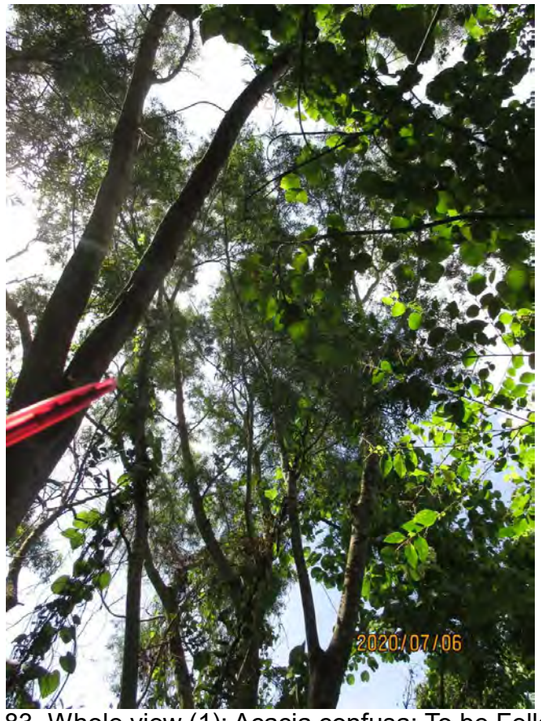
T181_Whole view (2)



T182_Whole view (1); Acacia confusa; To be Felled



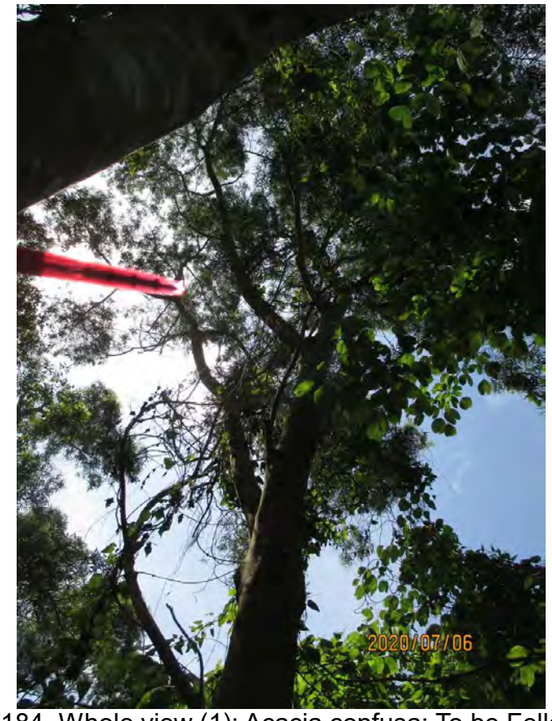
T182_Whole view (2)



T183_Whole view (1); Acacia confusa; To be Felled



T183_Whole view (2)



T184_Whole view (1); Acacia confusa; To be Felled



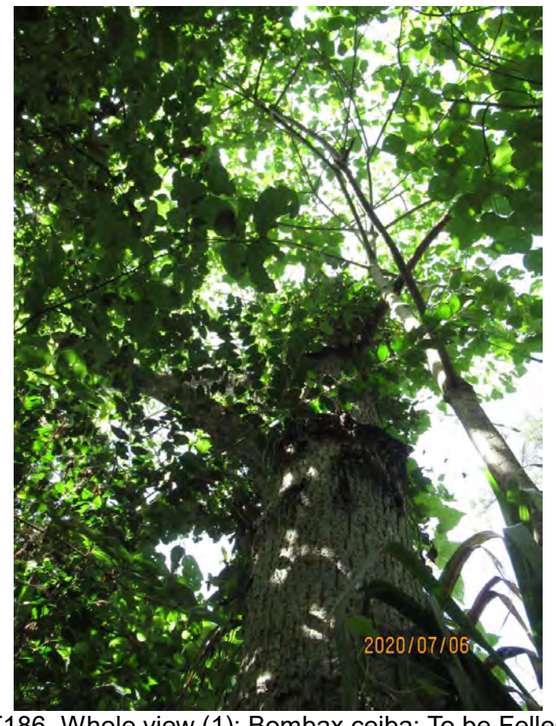
T184_Whole view (2)



T185_Whole view (1); Bauhinia spp.; To be Felled



T185_Whole view (2)



T186_Whole view (1); Bombax ceiba; To be Felled



T186_Whole view (2)



T187_Whole view; Macaranga tanarius var. tomentosa; To be Retained



T188_Whole view (1); Ficus microcarpa; To be Retained



T188_Whole view (2)



T189_Whole view; To be Retained



T190 _Whole view (1); Mangifera indica; To be Retained



T190 _Whole view (2)



T190 _Whole view (3)



T191_Whole view (1); Artocarpus heterophyllus; To be Retained



T191_Whole view (2)



T192_Whole view (1); Ficus hispida; To be Retained



T192_Whole view (2)



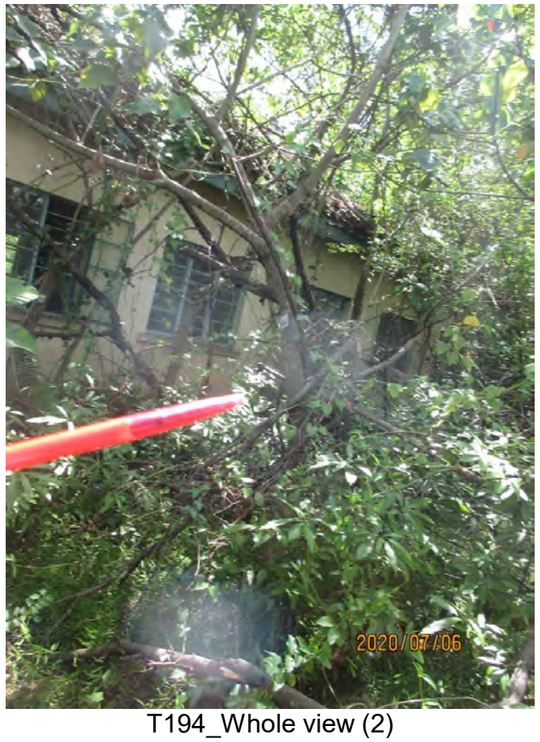
T193_Whole view (1); Mangifera indica; To be Retained



T193_Whole view (2)



T194_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T194_Whole view (2)



T195_Whole view (1); Ficus hispida; To be Retained



T195_Whole view (2)



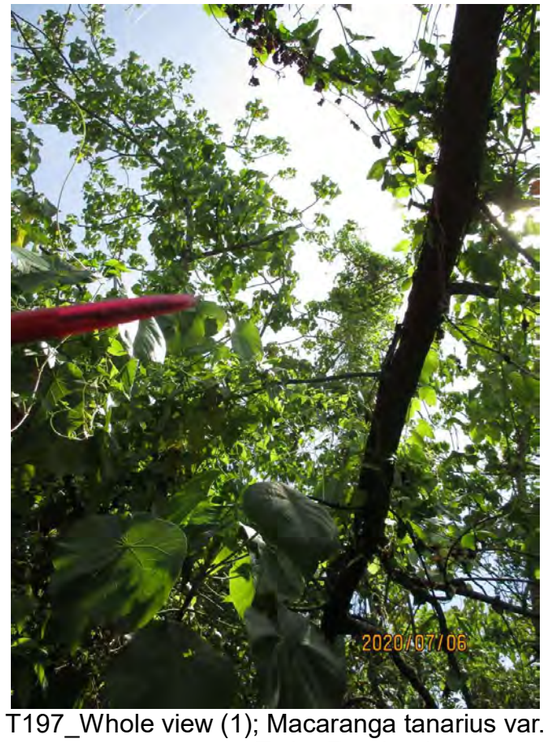
T196 _ Whole view(1); Macaranga tanarius var. tomentosa; To be Retained



T196 _Whole view (2)



T196 _Whole view (3)



T197_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T197_Whole view (2)



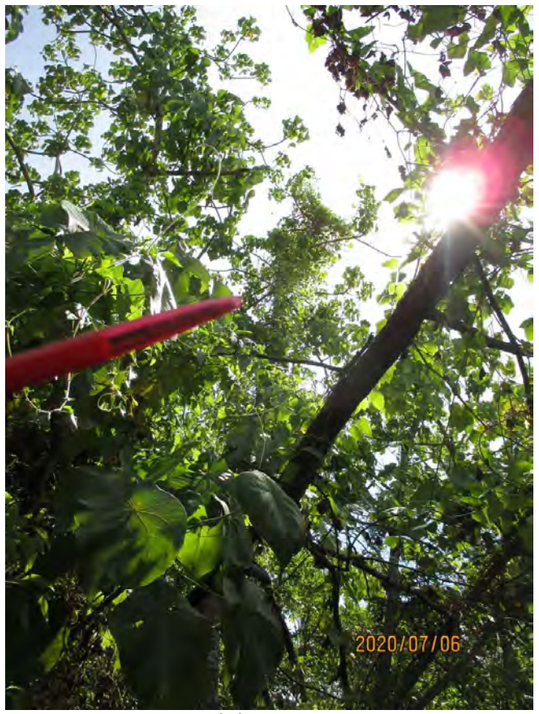
T197_Whole view



T198_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



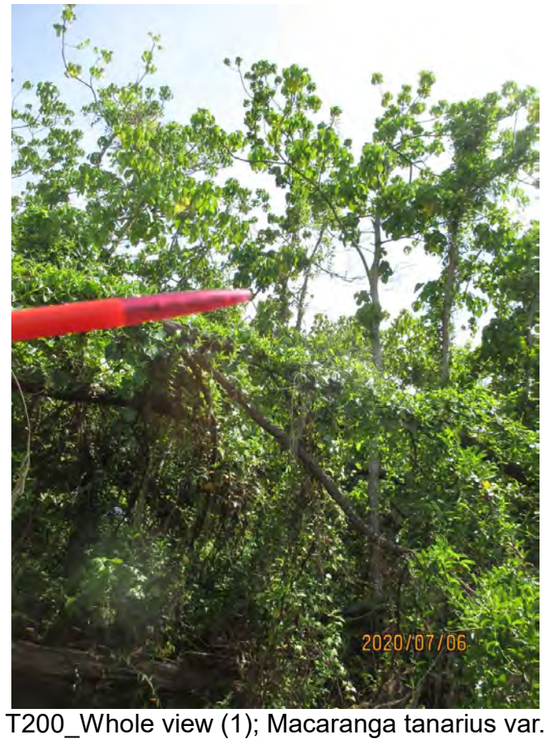
T198_Whole view (2)



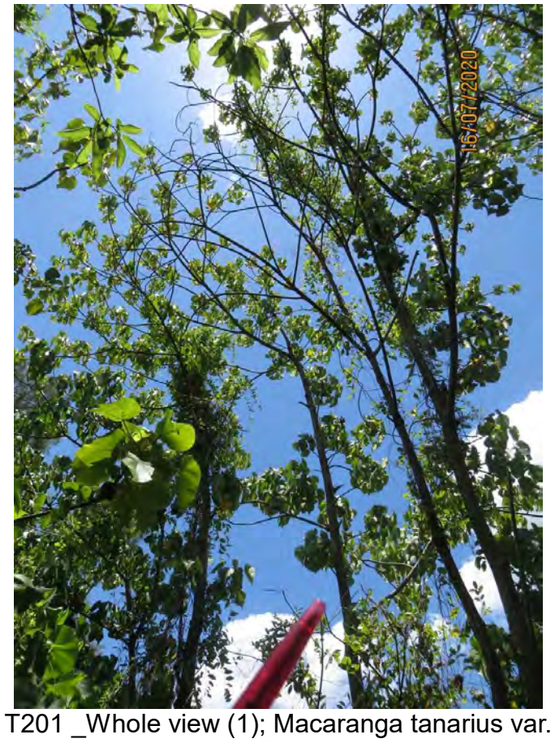
T199_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T199_Whole view (2)



T200_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T201 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T201 _Whole view (2)



T201 _Whole view (3)



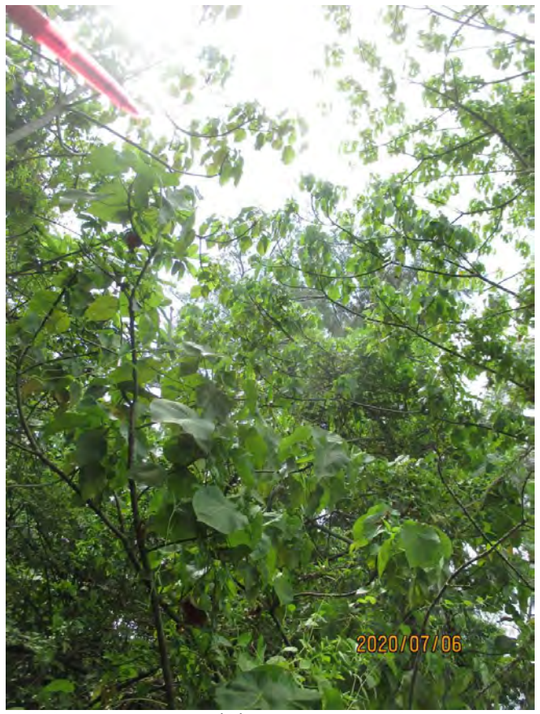
T202 _Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T202 _Whole view (2)



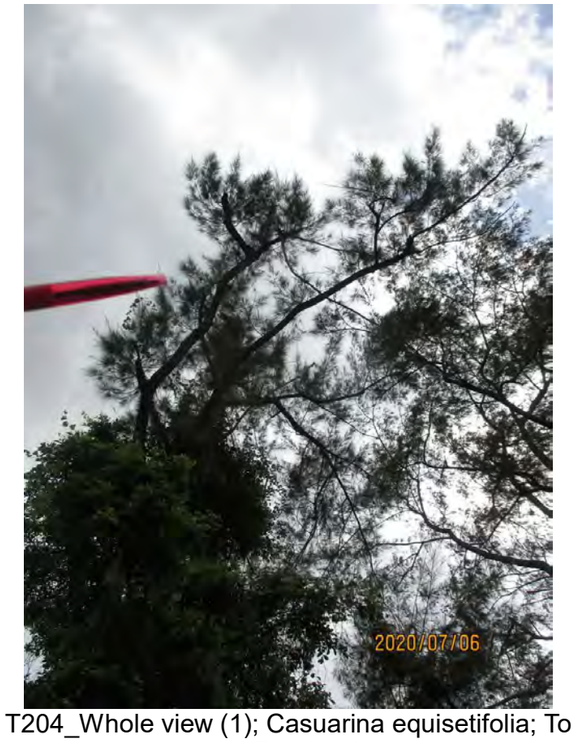
T202 _Whole view (3)



T203_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



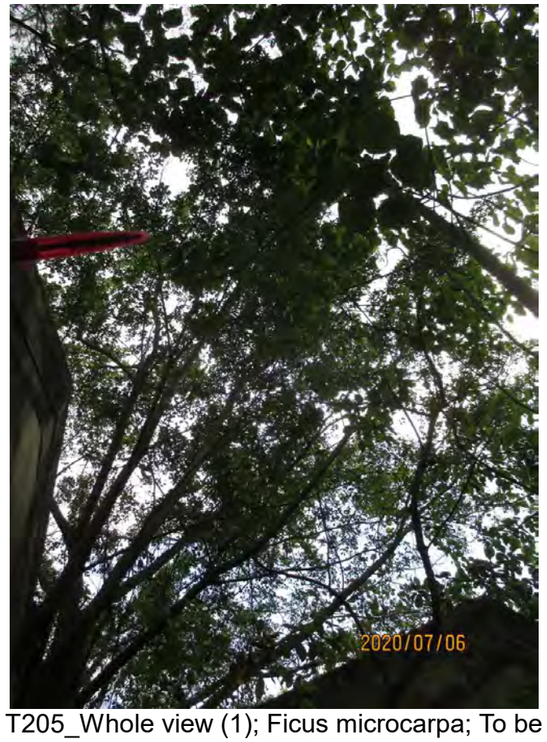
T203_Whole view (2)



T204_Whole view (1); Casuarina equisetifolia; To be Retained



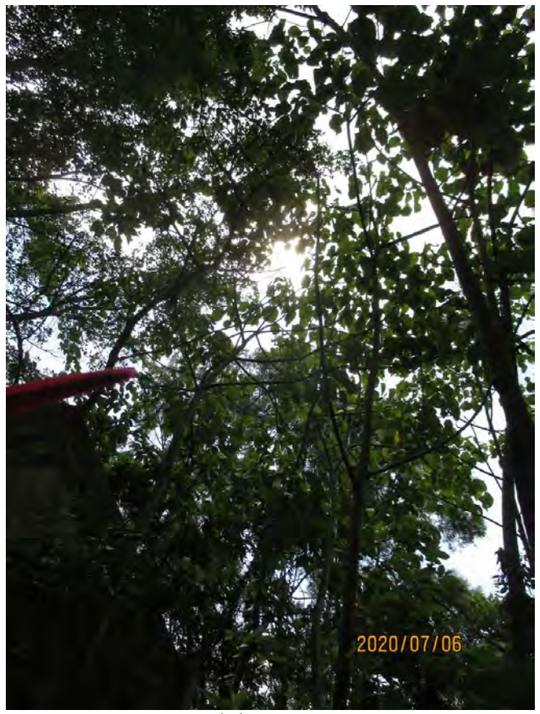
T204_Whole view (2)



T205_Whole view (1); Ficus microcarpa; To be Felled



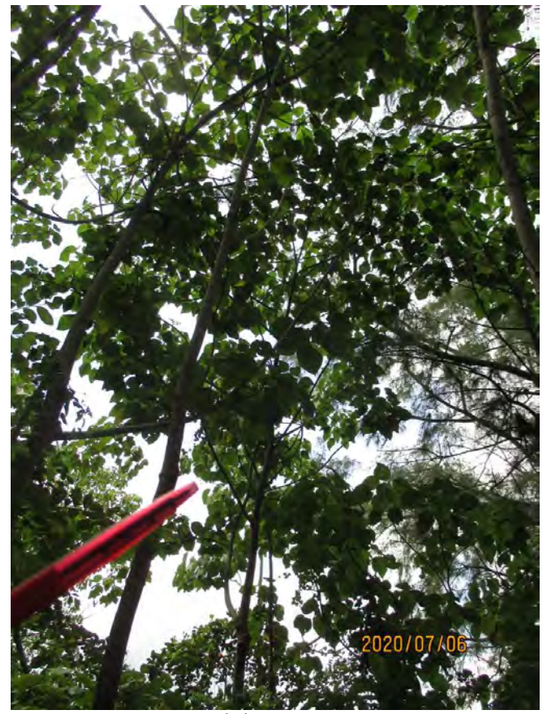
T205_Whole view (2)



T206_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



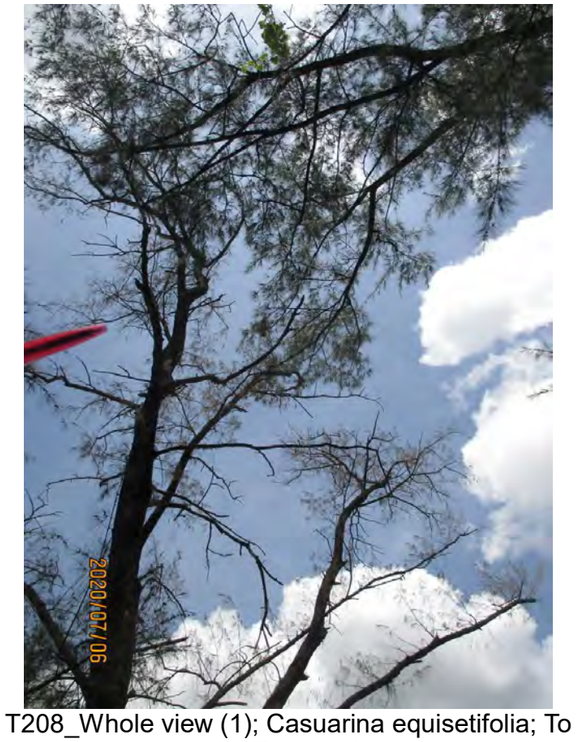
T206_Whole view (2)



T207_Whole view (1); Macaranga tanarius var. tomentosa; To be Retained



T207_Whole view (2)



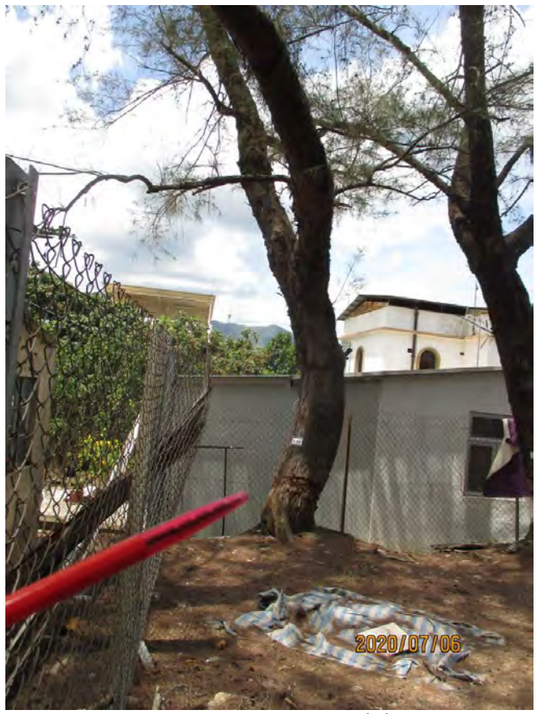
T208_Whole view (1); Casuarina equisetifolia; To be Retained



T208_Whole view (2)



T209_Whole view (1); Casuarina equisetifolia; To be Retained



T209_Whole view (2)



T210 _Whole view (1); Mangifera indica; To be Retained



T210 _Whole view (2)



T210 _Whole view (3)



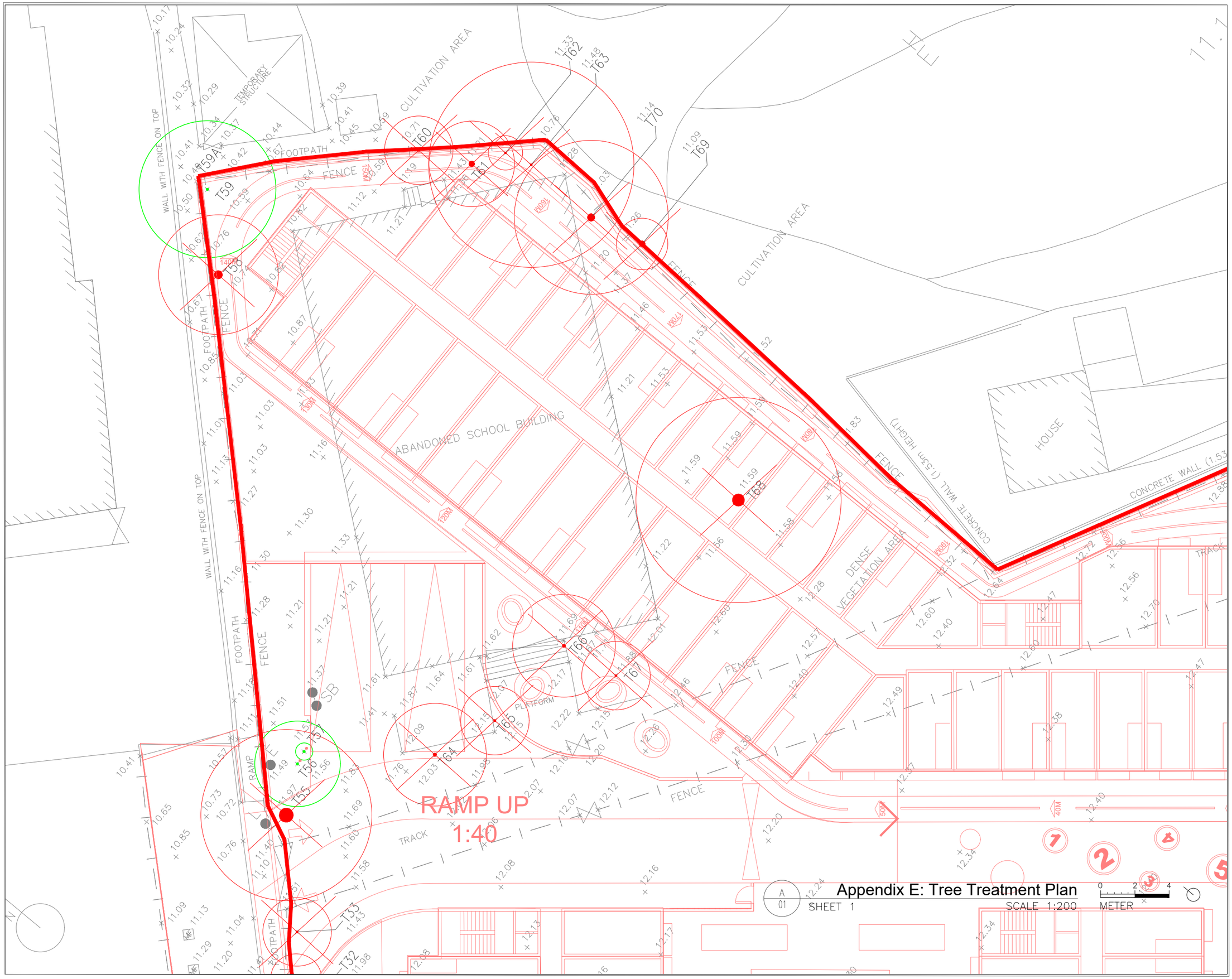
T211 _Whole view (1); Ficus hispida; To be Felled



T211 _Whole view (2)



T211 _Whole view (3)



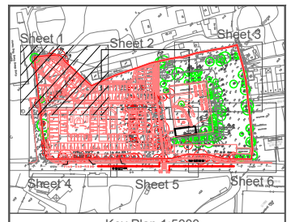
Appendix E: Tree Treatment Plan

SHEET 1

SCALE 1:200

METER

A 01



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
SAN PO KONG KOWLOON, HONG KONG,

Tel: (852) 2893 0270 / 6286 2720
Fax: (852) 2893 3139
WWW.OTHERLAND.COM.HK

CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN (SHEET 1 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-01	REV: 2

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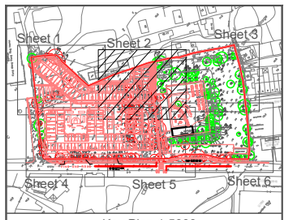
A
01

Appendix E: Tree Treatment Plan

SHEET 2

SCALE 1:200

0 2 4
METER



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
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WWW.OTHERLAND.COM.HK

CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN
(SHEET 2 OF 6)

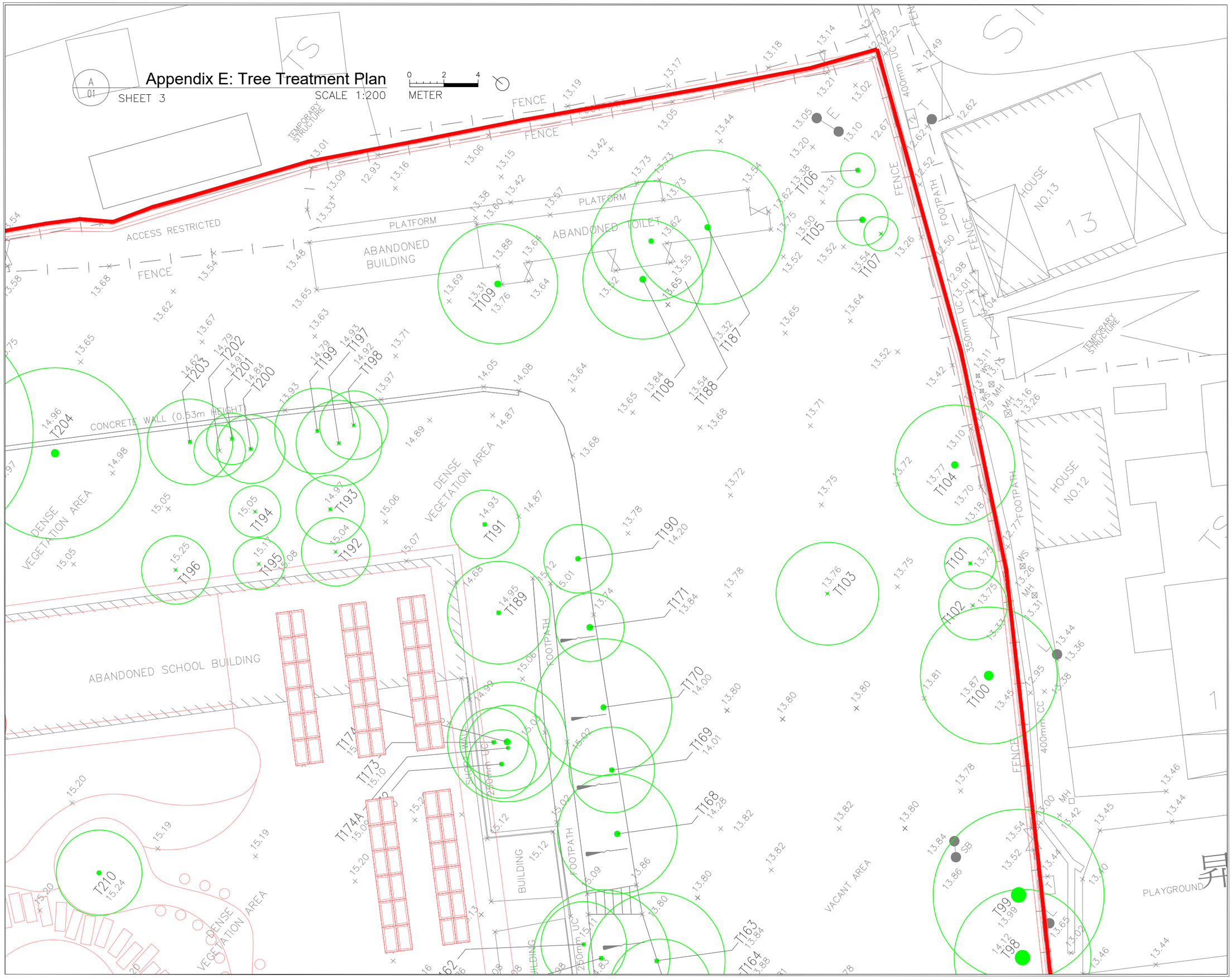
SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-02	REV: 2

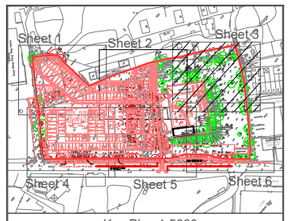
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Appendix E: Tree Treatment Plan

SHEET 3 SCALE 1:200 METER 0 2 4

A 01





Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
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CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN (SHEET 3 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-03	REV: 2

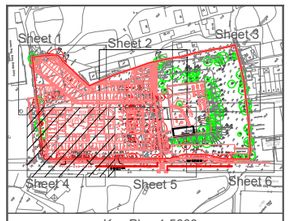
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Appendix E: Tree Treatment Plan

A 01 SHEET 4

SCALE 1:200

0 2 4 METER



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
SAN PO KONG KOWLOON, HONG KONG,

Tel: (852) 2893 0270 / 6286 2720
Fax: (852) 2893 3139
WWW.OTHERLAND.COM.HK

CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN (SHEET 4 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-04	REV: 2

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5.95m HIGH NOISE BARRIER (+18.5mPD)

HATCHED AREA EXTENT OF WIDENED FOOTPATH

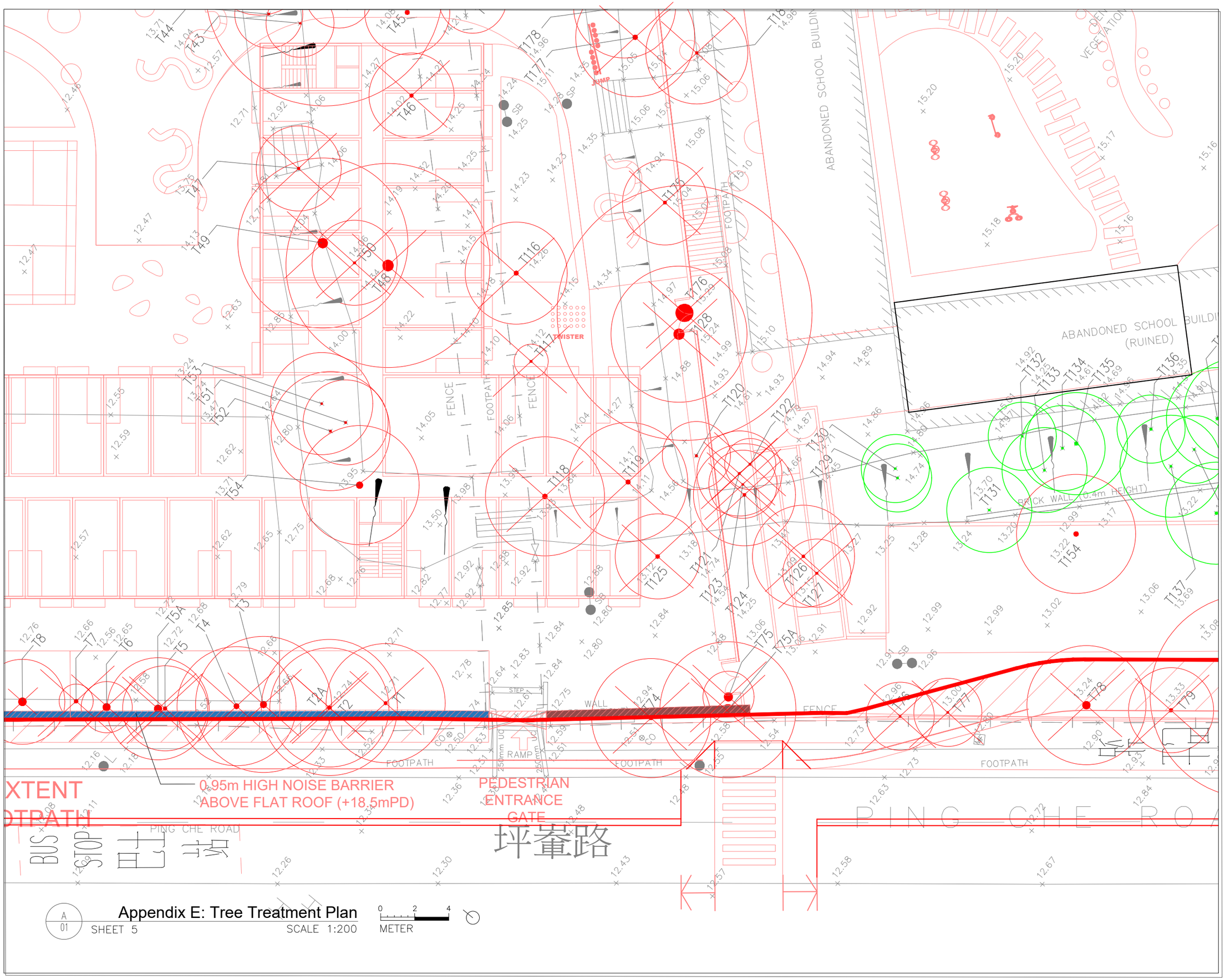
PING CHE ROAD

FOOTPATH

CONCRETE PAVED AREA

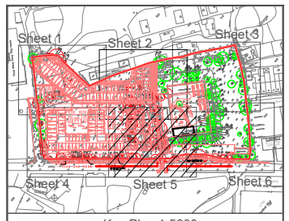
VACANT AREA

BUS STOP



Appendix E: Tree Treatment Plan

A 01 SHEET 5 SCALE 1:200 METER 0 2 4



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

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CLIENT:

Pok Oi Hospital

PROJECT:

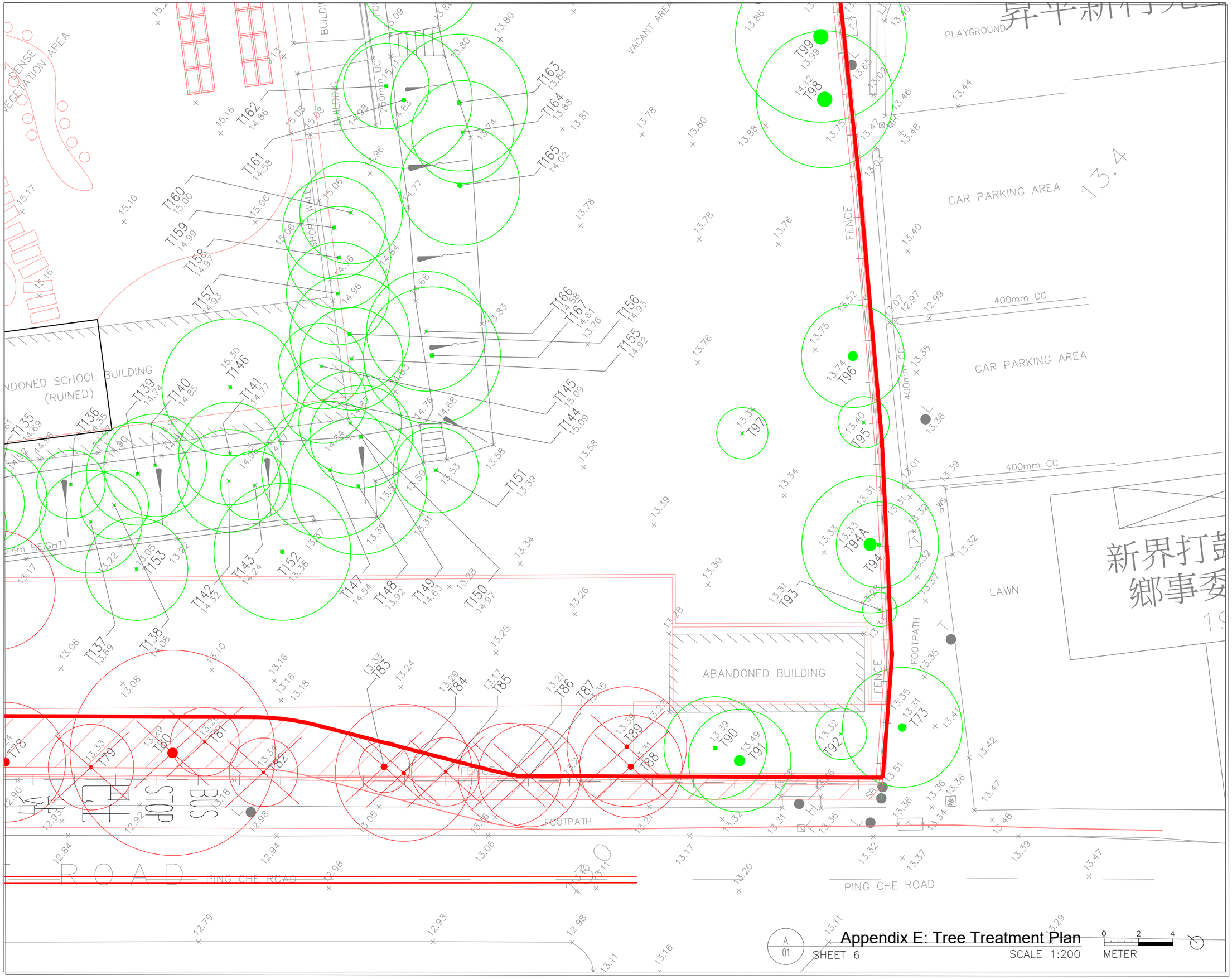
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN (SHEET 5 OF 6)

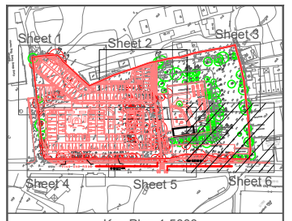
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DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-05	REV: 2

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Appendix E: Tree Treatment Plan

A 01 SHEET 6 SCALE 1:200 METER 0 2 4



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

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CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

TREE TREATMENT PLAN (SHEET 6 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	RT
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-TTP-06	REV: 2

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APPENDIX F: Compensatory Planting Plan

SHEET 1

SCALE 1:200

0 2 4
METER

GAR. SUB.
(4 Nos.)

ILE. ROT.
(7 Nos.)

RAMP UP
1:40

HOUSE

T59A
T59
T57
T56

150M
140M
130M
120M
110M
100M
180M
170M
190M
200M
50M
40M
30M

COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
GAR. SUB.	Garcinia subelliptica	福木	2000	1000	90	2000	Extotic	18
PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Extotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12



Key Plan 1:5000

LEGEND:

T## (+ 10.00) — TREE NUMBER and EXISTING LEVEL
Retained Tree (A total 98 nos.)
Compensatory Tree (A total 50 nos.)
Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

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CLIENT:
Pok Oi Hospital

PROJECT:
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:
Compensatory Planting Plan
(SHEET 1 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-01	REV: 2

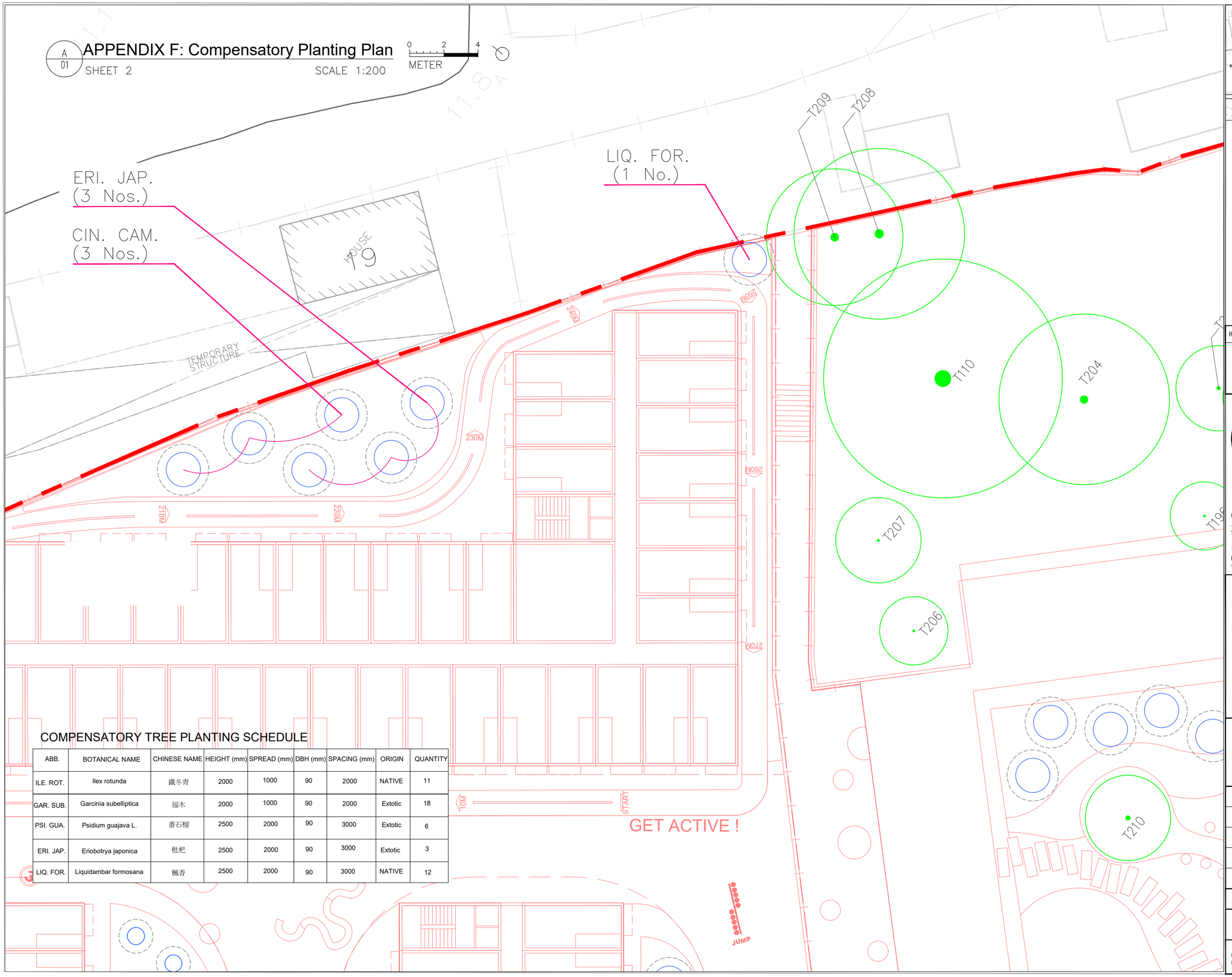
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APPENDIX F: Compensatory Planting Plan

SHEET 2 SCALE 1:200

0 2 4 METER



COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
GAR. SUB.	Garcinia subelliptica	福木	2000	1000	90	2000	Extotic	18
PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Extotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Retained Tree (A total 98 nos.)
	Compensatory Tree (A total 50 nos.)
	Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

otherland

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CLIENT:

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PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

Compensatory Planting Plan (SHEET 2 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-02	REV: 2

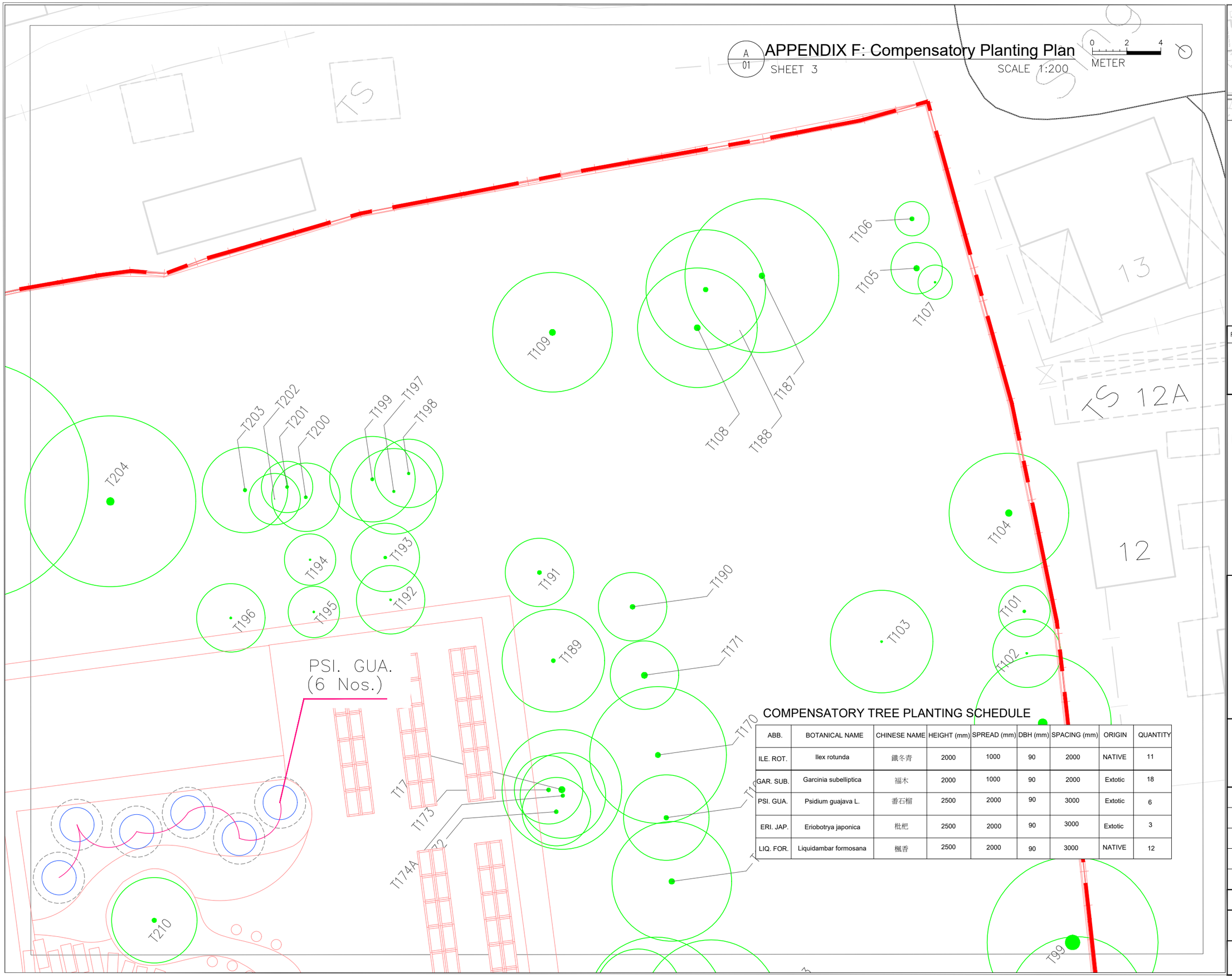
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APPENDIX F: Compensatory Planting Plan

A 01 SHEET 3

SCALE 1:200

0 2 4 METER



COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
GAR. SUB.	Garcinia subelliptica	福木	2000	1000	90	2000	Extotic	18
PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Extotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12



Key Plan 1:5000

LEGEND:

T## (+ 10.00) TREE NUMBER and EXISTING LEVEL

Retained Tree (A total 98 nos.)

Compensatory Tree (A total 50 nos.)

Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

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PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

Compensatory Planting Plan (SHEET 3 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-03	REV: 2

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RAMP UP
1:40

ILE. ROT.
(2 Nos.)

ILE. ROT.
(2 Nos.)

GAR. SUB.
(8 Nos.)

T30

T29

TX

11.75

5.95m HIGH
NOISE BARRIER
(+18.5mPD)

HATCHED AREA EXTENT
OF WIDENED FOOTPATH

PING CHE ROAD

BUS STOP

50M

40M

30M

1

2

4

5

6

COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
GAR. SUB.	Garcinia subelliptica	福木	2000	1000	90	2000	Extotic	18
PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Extotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12

A
01

APPENDIX F: Compensatory Planting Plan
SHEET 4

SCALE 1:200

0 2 4
METER



Key Plan 1:5000

LEGEND:

T##
(+ 10.00)
TREE NUMBER and EXISTING LEVEL

Retained Tree
(A total 98 nos.)

Compensatory Tree
(A total 50 nos.)

Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

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CLIENT:

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PROJECT:

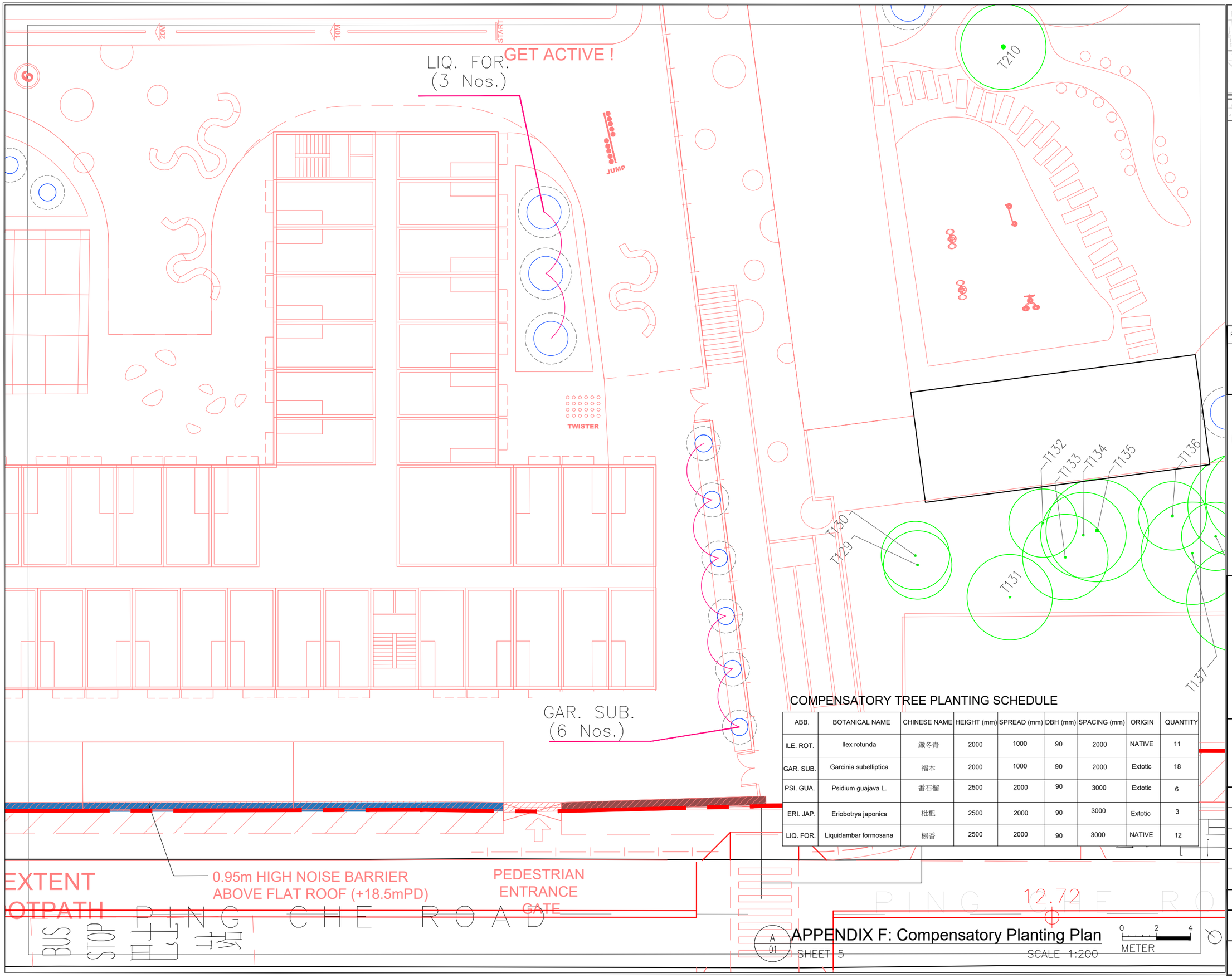
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

Compensatory Planting Plan
(SHEET 4 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-04	REV: 2

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Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Retained Tree (A total 98 nos.)
	Compensatory Tree (A total 50 nos.)
	Application Site Boundary

COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
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ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

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CLIENT:

Pok Oi Hospital

PROJECT:

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TITLE:

Compensatory Planting Plan
(SHEET 5 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-05	REV: 2

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APPENDIX F: Compensatory Planting Plan

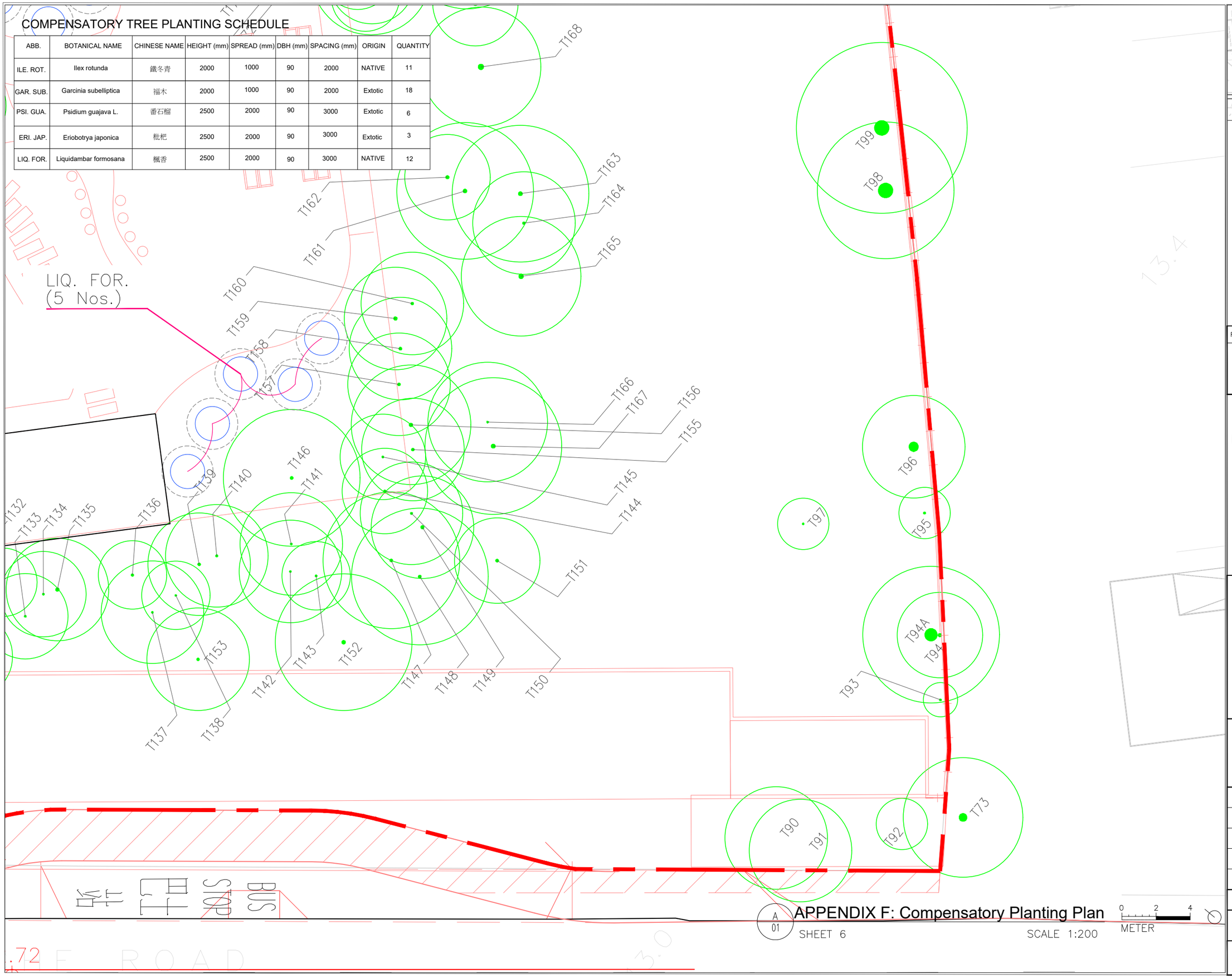
SHEET 5

SCALE 1:200

0 2 4
METER

COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
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PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Extotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Extotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12



APPENDIX F: Compensatory Planting Plan

A 01 SHEET 6

SCALE 1:200

0 2 4 METER



Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Retained Tree (A total 98 nos.)
	Compensatory Tree (A total 50 nos.)
	Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

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CLIENT:

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TITLE:

Compensatory Planting Plan
(SHEET 6 OF 6)

SCALE: 1:200	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	23 NOV 2021
PROJECT No:	POH01
SHEET No: PCR01-20-CCP-06	REV: 2

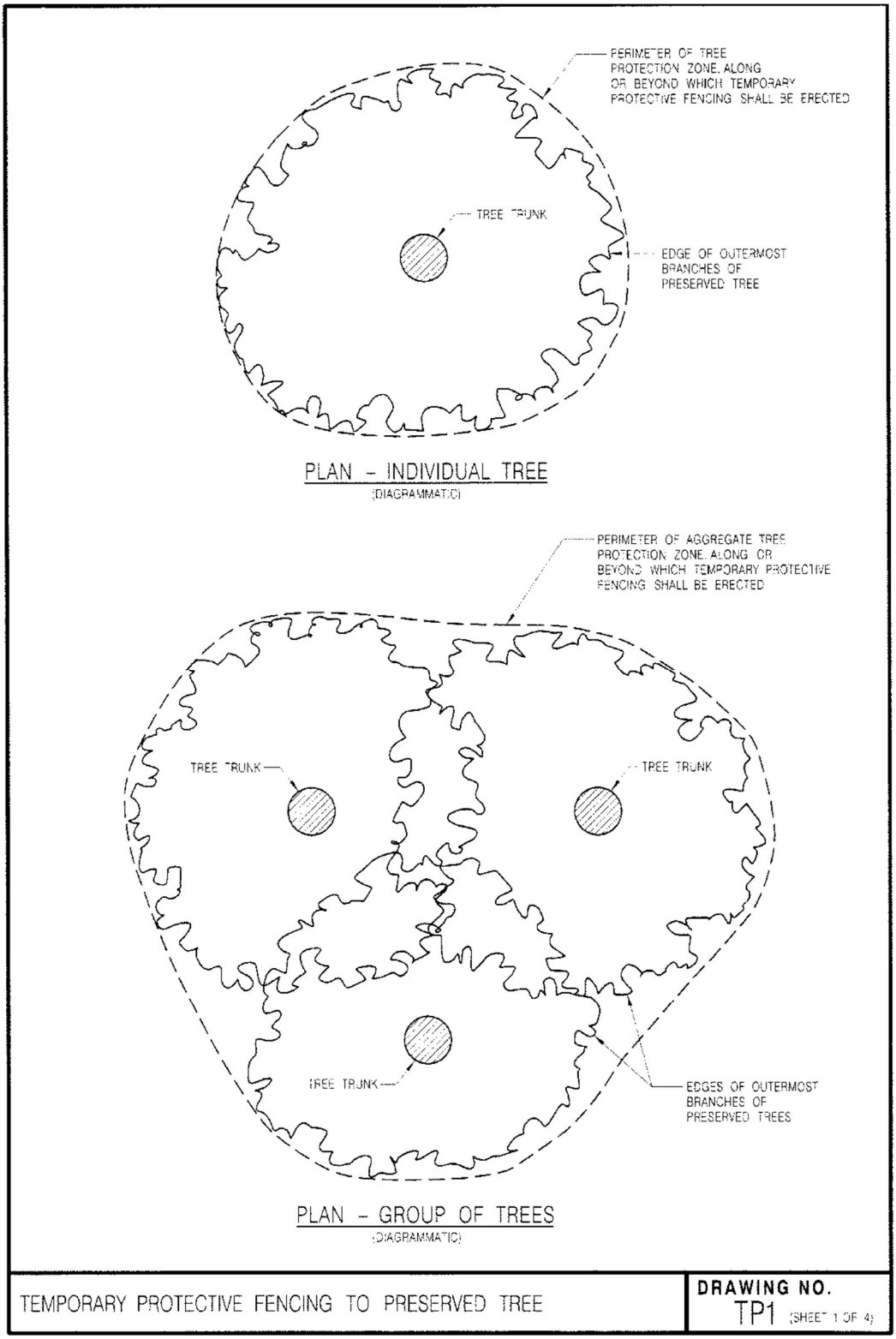
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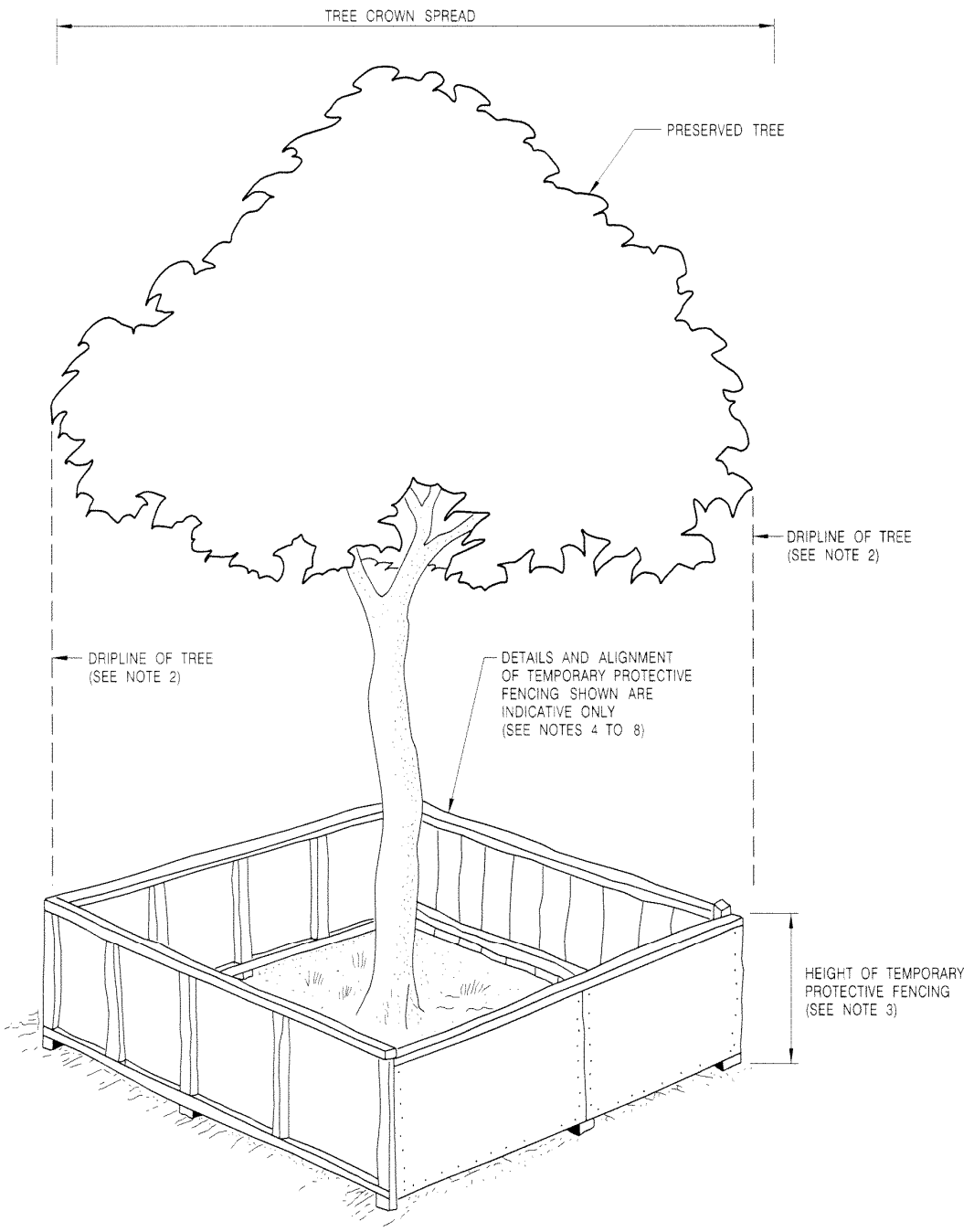
APPENDIX G: METHOD STATEMENT ON TREE PRESERVATION MEASURE

Drawings for Tree Protection Works

- TP1 – Temporary Protective Fencing to Preserved Tree
- TP2 – Temporary Protective Armouring to Preserved Tree
- TP3 – Temporary Protective Mulching to Preserved Tree

DRAWINGS FOR TREE PROTECTION WORKS

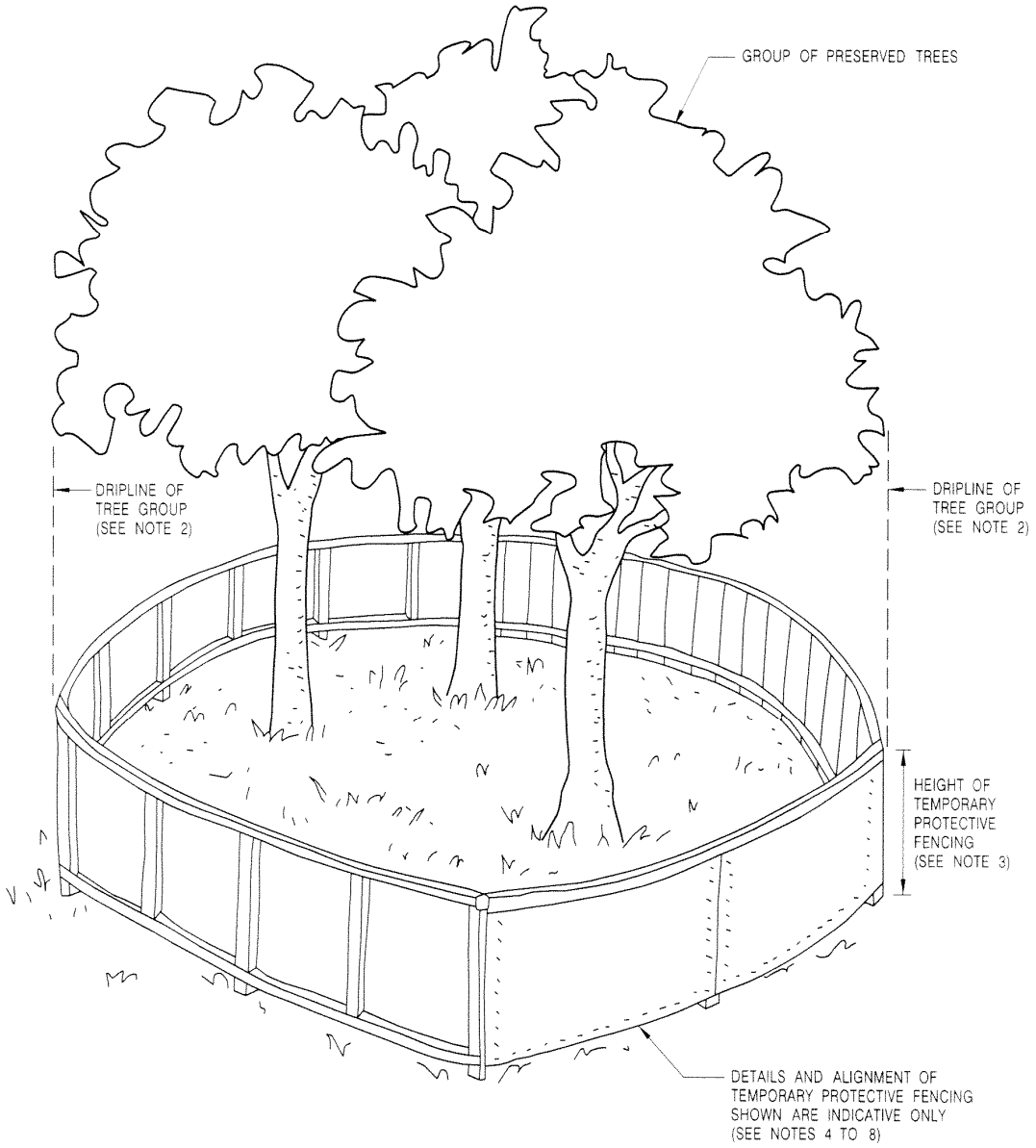




PERSPECTIVE – INDIVIDUAL TREE
(DIAGRAMMATIC)

TEMPORARY PROTECTIVE FENCING TO PRESERVED TREE

DRAWING NO.
TP1 (SHEET 2 OF 4)



PERSPECTIVE - GROUP OF TREES

(DIAGRAMMATIC)

TEMPORARY PROTECTIVE FENCING TO PRESERVED TREE	DRAWING NO. TP1 (SHEET 3 OF 4)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. DRIPLINE OF *TREE / TREE GROUP EXTENDS TO THE OUTERMOST BRANCHES OF THE *TREE / TREE GROUP, DEFINING THE PERIMETER OF THE *TREE PROTECTION ZONE / AGGREGATE TREE PROTECTION ZONE.
3. HEIGHT OF TEMPORARY PROTECTIVE FENCING SHALL BE 1500 MINIMUM, BUT THE REQUIRED HEIGHT SHALL BE DETERMINED BY THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER WHEN APPROVING THE CONSTRUCTION DETAILS OF THE FENCING AS REFERRED TO IN NOTE 8.
4. TEMPORARY PROTECTIVE FENCING SHALL BE STRONG AND APPROPRIATE FOR RESISTING THE IMPACTS OF CONSTRUCTION ACTIVITIES ON THE SITE. IT SHALL BE MADE OF ROBUST MATERIALS AND SHALL COMPRISE A VERTICAL AND HORIZONTAL SCAFFOLDING FRAMEWORK, WELL BRACED AND SUPPORTING **CHAIN LINK FENCING / STEEL SHEET FENCING, OR OTHER FENCING AS APPROVED BY THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER. ONLY IN EXCEPTIONAL CIRCUMSTANCES SHALL PLASTIC WEBBING BE CONSIDERED.
5. THE ALIGNMENT OF TEMPORARY PROTECTIVE FENCING CAN BE IN CIRCULAR, SQUARE, RECTANGULAR OR ANY OTHER SHAPE SO LONG AS THE FENCING INCLUDING ITS FOUNDATIONS DOES NOT ENCROACH INTO THE TREE PROTECTION ZONE.
6. A LOCKABLE GATE SHALL BE PROVIDED TO THE TEMPORARY PROTECTIVE FENCING TO ALLOW ENTRY FOR CARRYING OUT THE NECESSARY ARBORICULTURAL WORKS OR MAINTENANCE WORKS TO THE TREE OR ANY OTHER APPROVED WORKS WITHIN THE TREE PROTECTION ZONE.
7. WARNING NOTICE GUARDING AGAINST UNAUTHORISED OPERATIONS WITHIN FENCED AREA SHALL BE ERECTED ON THE TEMPORARY PROTECTIVE FENCING.
8. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION DETAILS OF THE TEMPORARY PROTECTIVE FENCING TO THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER FOR APPROVAL PRIOR TO ERECTION OF THE FENCING.

* DELETE WHICHEVER IS INAPPROPRIATE.

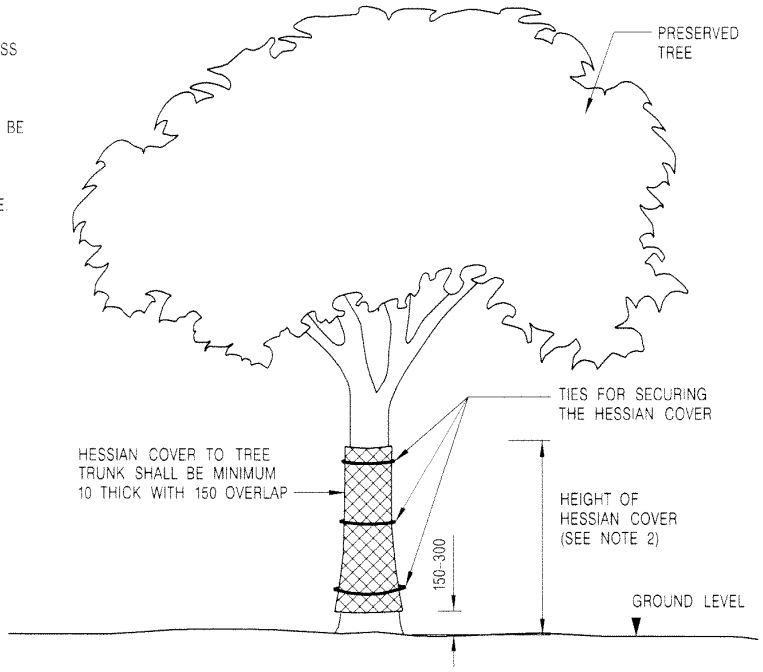
** DELETE WHICHEVER IS INAPPROPRIATE. STEEL SHEET FENCING SHALL BE USED IN CIRCUMSTANCES WHERE THE CONCENTRATION OF CONSTRUCTION ACTIVITY IS PARTICULARLY INTENSE OR THE PRESERVED TREE IS EITHER PARTICULARLY VALUABLE OR PARTICULARLY VULNERABLE.

TEMPORARY PROTECTIVE FENCING TO PRESERVED TREE	**DRAWING NO.** TP1 (SHEET 4 OF 4)

NOTES:

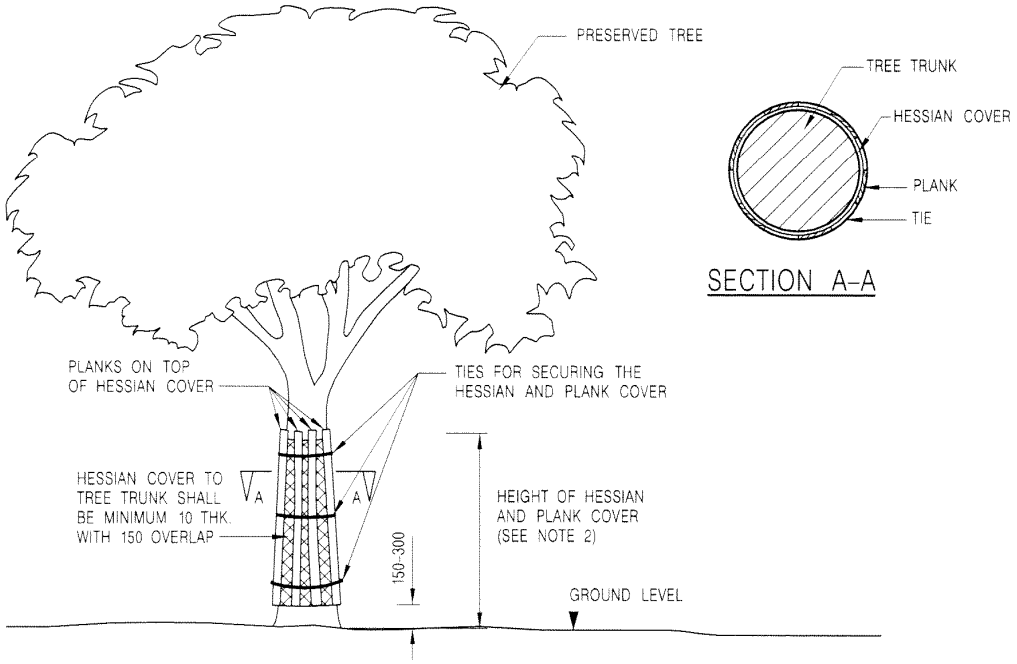
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. HEIGHT OF *HESSIAN COVER / HESSIAN AND PLANK COVER TO THE TRUNK SHALL BE 1500 MIN., BUT THE REQUIRED HEIGHT FOR DIFFERENT INDIVIDUAL TREES SHALL BE DETERMINED BY THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER ON SITE.

* DELETE WHICHEVER IS INAPPROPRIATE



TEMPORARY PROTECTIVE HESSIAN ARMOURING TO PRESERVED TREE

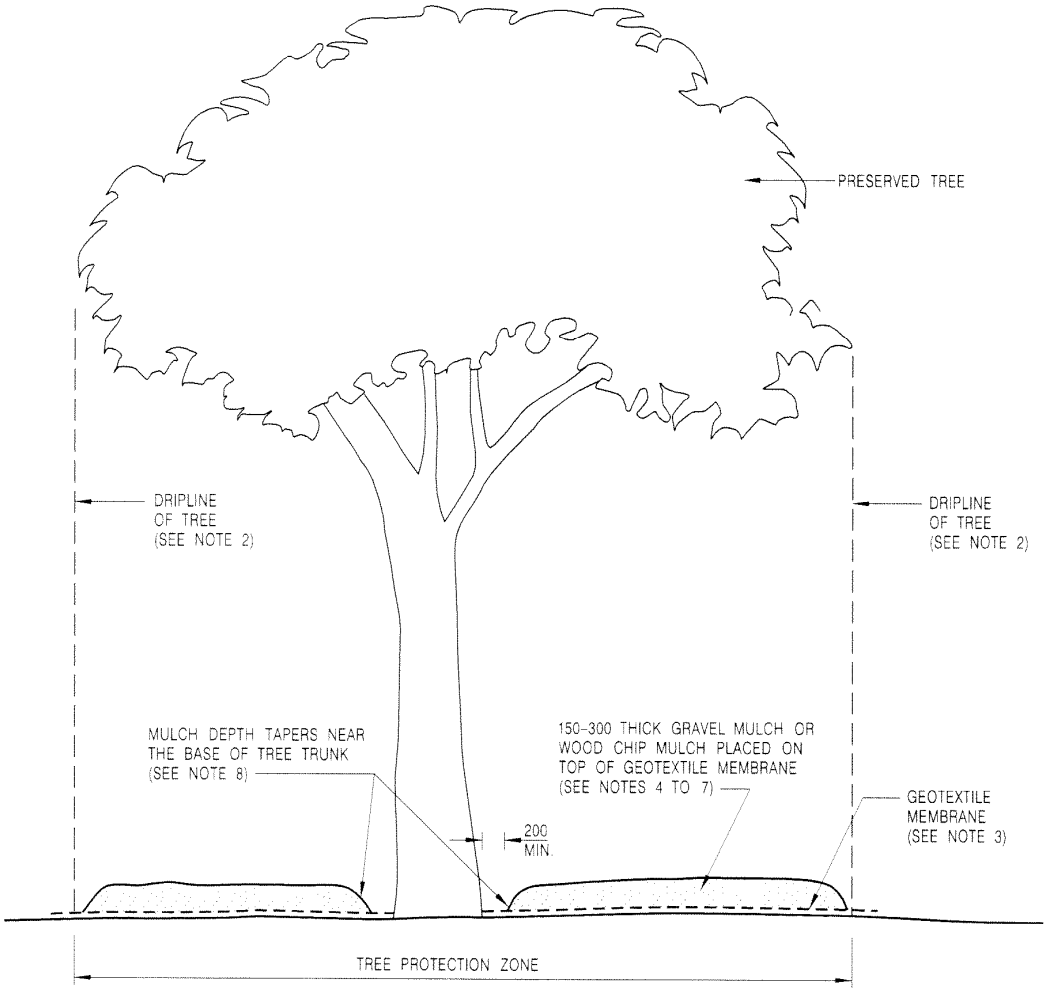
(DIAGRAMMATIC)



TEMPORARY PROTECTIVE HESSIAN AND PLANK ARMOURING TO PRESERVED TREE

(DIAGRAMMATIC)

TEMPORARY PROTECTIVE ARMOURING TO PRESERVED TREE	**DRAWING NO.** TP2



TEMPORARY PROTECTIVE MULCHING
TO PRESERVED TREE
(DIAGRAMMATIC)

TEMPORARY PROTECTIVE MULCHING TO PRESERVED TREE	DRAWING NO. TP3 (SHEET 1 OF 2)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

2. DRIPLINE OF TREE EXTENDS TO THE OUTERMOST BRANCHES OF THE TREE, DEFINING THE PERIMETER OF THE TREE PROTECTION ZONE.

3. THE GROUND BENEATH THE GEOTEXTILE MEMBRANE WITHIN THE TREE PROTECTION ZONE SHALL BE LEFT UNDISTURBED. BUT THE DEBRIS AND THE EXISTING UNDERGROWTH ON THE GROUND SHALL BE CLEARED PRIOR TO APPLYING THE GEOTEXTILE MEMBRANE. THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER'S AGREEMENT SHALL BE OBTAINED PRIOR TO CLEARANCE OF THE EXISTING UNDERGROWTH.

4. WHERE GRAVEL MULCH IS USED, THE NOMINAL SIZE OF GRAVEL SHALL BE OF 20 DIAMETER AND THE GRAVEL SHALL BE OF INERT, LIME-FREE MATERIALS WITH NO FINES.

5. WHERE WOOD CHIP MULCH IS USED, THE NOMINAL PARTICLE SIZE SHALL BE IN THE RANGE 2mm TO 20mm AND THE WOOD CHIPS SHALL BE FREE FROM PERNICIOUS WEEDS, CHEMICAL CONTAMINATION, RUBBISH AND OTHER DELETERIOUS MATERIAL.

6. TEMPORARY PROTECTIVE MULCHING SHALL BE INSPECTED AT MONTHLY INTERVALS AND, IF NECESSARY, SHALL BE REPLENISHED TO THE SPECIFIED THICKNESS.

7. WHERE, IN ADDITION TO PEDESTRIAN LOADS, THE PASSAGE OR PARKING OF VEHICLES OR THE OPERATION OF EQUIPMENT OR MACHINERY WITHIN THE TREE PROTECTION ZONE HAS BEEN AGREED BY THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER, DOUBLE, OVERLAPPING THICK METAL SHEET COVERINGS, OR OTHER MATERIALS OF EQUIVALENT STRENGTH AS AGREED BY THE *ARCHITECT / ENGINEER / SUPERVISING OFFICER, SHALL BE LAID ON TOP OF THE TEMPORARY PROTECTIVE MULCHING TO PROVIDE ADDITIONAL PROTECTION FROM SOIL COMPACTION.

8. MULCH SHALL BE KEPT AWAY FROM THE BASE OF TREE TRUNK TO PREVENT ROOT COLLAR ROT.

9. WHERE THE PRESERVED TREE IS ON SLOPING GROUND, 300 HIGH TIMBER EDGE SHALL BE PEGGED ON DOWNSLOPE SIDE OF THE TREE PROTECTION ZONE TO HOLD THE MULCH.

* DELETE WHICHEVER IS INAPPROPRIATE.

TEMPORARY PROTECTIVE MULCHING TO PRESERVED TREE	**DRAWING NO.** TP3 (SHEET 2 OF 2)

Appendix H: Schedule of Maintenance

	SPRING	SUMMER	AUTUMN	WINTER	REMARKS
Fertilization	As necessary		As necessary		
Watering	B	B	W	W	
Mulch topping up	As necessary				
Pruning	As necessary				
Weeding	M	M	M	M	
Firming up staking	M	M	M	M	Action will also be taken after typhoon or rain storm occurred on site.
Monthly Inspection	M	M	M	M	
Tree Risk Assessment	As necessary				Retain and Compensatory trees will be closely monitor during the establishment period. Tree Risk Assessment will be conducted as necessary.

Legend: D – Daily; W- Weekly; B- Bi-weekly; M – Monthly; O – Once a Year

Appendix 3

VISUAL APPRAISAL

VISUAL APPRAISAL IN SUPPORT OF THE SECTION 16 APPLICATION FOR THE PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TOWNLAND CONSULTANTS LIMITED

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1 INTRODUCTION

1.1 This Visual Appraisal ("**VA**") is prepared for Pok Oi Hospital ("**POH/** the **Applicant**") in respect of the Proposed Transitional Housing Development on a 7-year temporary basis ("**Proposed Transitional Housing"/ "Proposed Development**") at D.D. 82, Ping Che, Ta Kwu Ling ("the **Site"/ "Application Site**").

1.2 The Application Site has an area of approx. 13,310m^2 and is currently zoned "Government, Institution or Community" ("**G/IC**") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("**OZP**") No. S/NE-TKL/14 ("**Approved OZP**"). The Application Site is not subject of any Plot Ratio ("**PR**"), Building Height ("**BH**") or Site Coverage ("**SC**") Restriction (***Figure 1*** refers).

1.3 This VA assesses the anticipated visual impacts of the Proposed Development from four (4) public Viewpoints ("**VP**s"). Based on the assessment, the VA comments on the visual acceptability of the Proposed Development and suggests possible mitigation measures. Reference has been made to the *Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to the Town Planning Board (TPB PG- No. 41)* in preparing this VA.

2 VISUAL CONTEXT AND VISUAL ELEMENTS

2.1 The Application Site, located on Ping Che Road near Sing Ping Village, is predominately rural in character. A vacant school premise (formerly known as Sing Ping School) is located in the eastern portion of the Site. The remaining area of the Site is mainly vegetated with some unauthorised structures.

2.2 Key visual elements surrounding the Site are summarised below (***Figure 1*** refers):

- Neutral Visual Elements:

  To the immediate northwest of the Site is the Caritas Fung Wong Fung Ting Home and Caritas Nursery School - Ta Kwu Ling (2 storeys). To the further north and northeast of Site are a series of active farmlands consisting of several stands of trees and some temporary structures.

  To the immediate northeast and of the Site are low-rise rural settlements of Sing Ping Village (1-3 storeys).

  To the immediate southeast of the Site are the Ta Kwu Ling District Rural Committee Centre and the low-rise rural settlements of Sing Ping Village (1-3 Storeys).

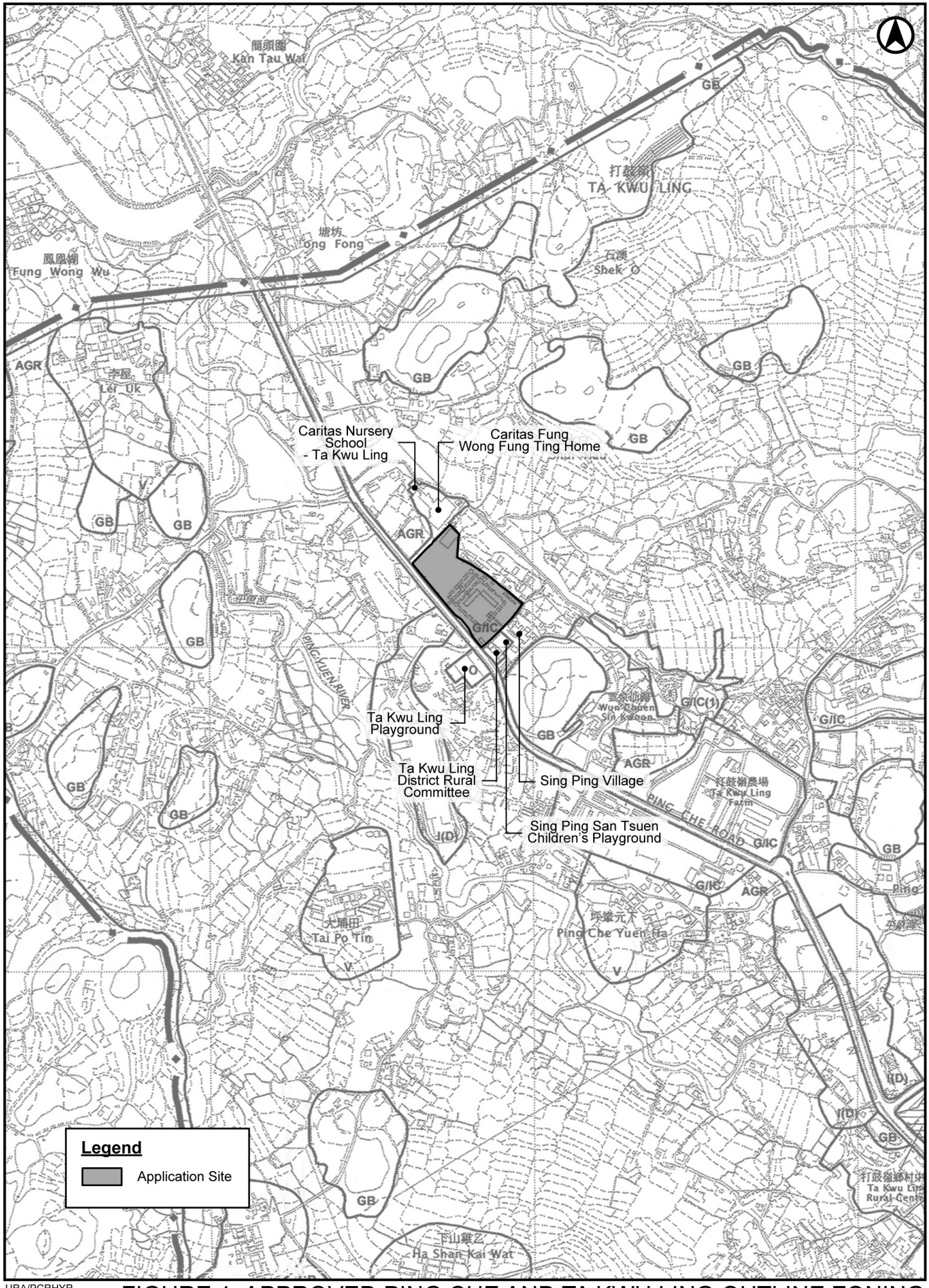
- Positive Visual Elements:

  The Sing Ping San Tsuen's Children Playground is also located to the immediate southeast of the Site.

  The Ta Kwu Ling Playground consisting of a landscaped sitting-out area is located to the south of the Site and across Ping Che Road.

- Negative Visual Elements:

  To the immediate southwest of the Site, across Ping Che Road, is an area occupied by temporary structures for various brownfield uses.



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FIGURE 1 APPROVED PING CHE AND TA KWU LING OUTLINE ZONING PLAN NO. S/NE-TKL/14 (EXTRACT)

SCALE 1 : 7,500

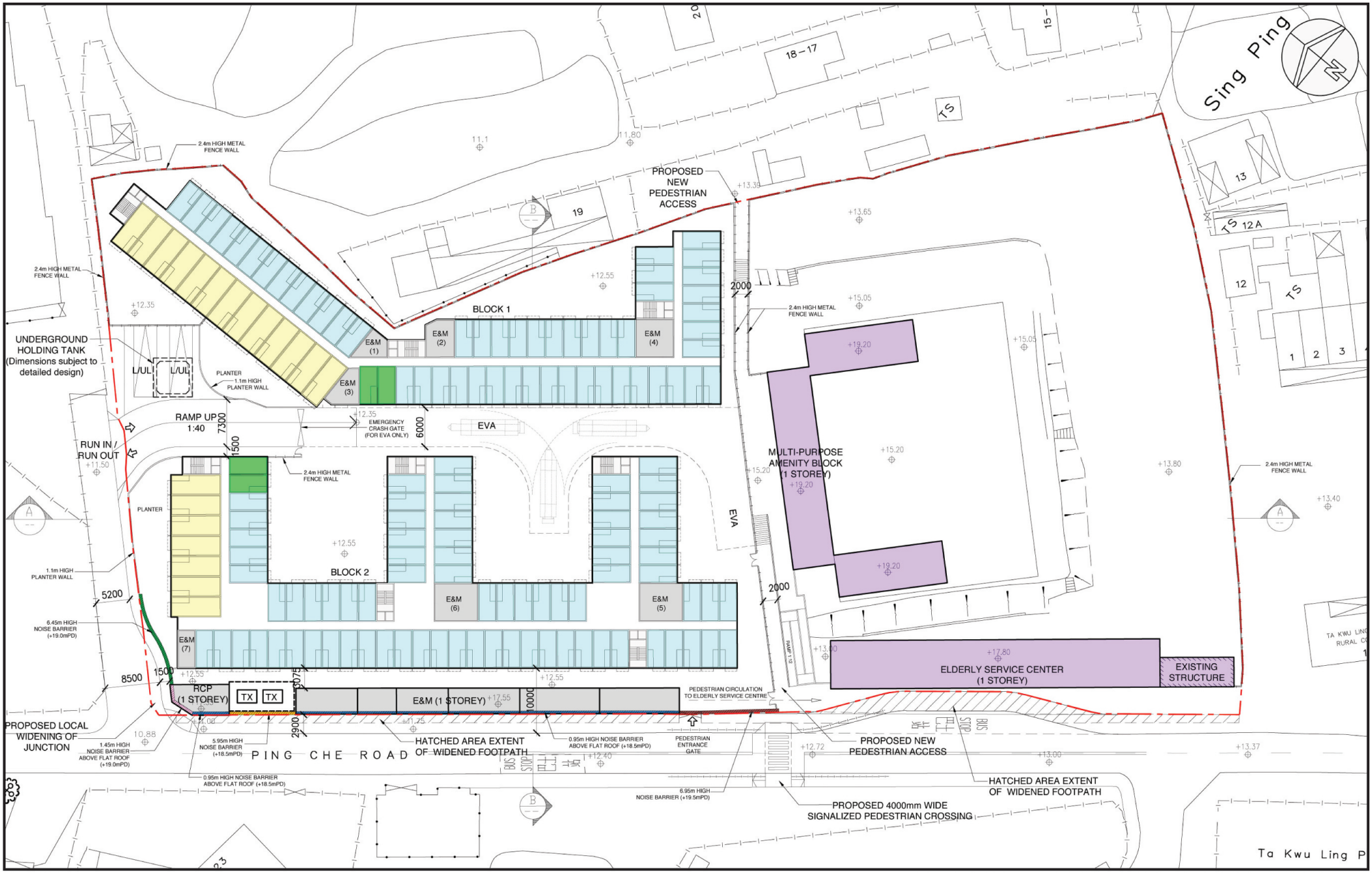
3 THE DEVELOPMENT SCHEME

3.1 The Applicant intends to develop the Application Site for Transitional Housing Development on a 7-years temporary basis, with a plot ratio of approx.. 1.13 or a maximum total GFA of approx. 14,924m^2, of which approx. 1,124m^2 is non-domestic GFA. A total of not more than 596 units will be provided, housing approx. 916 persons. The Proposed Transitional Housing has adopted a Building Height ("**BH**") of not more than 4 storeys. A 1-storey Multi-Purpose Amenity Block and a 1-storey Elderly Service Centre will house additional space for communal activities and shared services, and small shops to serve the local community. The Applicant will also be responsible for the operation and management of the proposed facilities. In addition, a 1-storey E&M Block along Ping Che Road will be provided.

4 IDENTIFICATION OF VIEWPOINTS

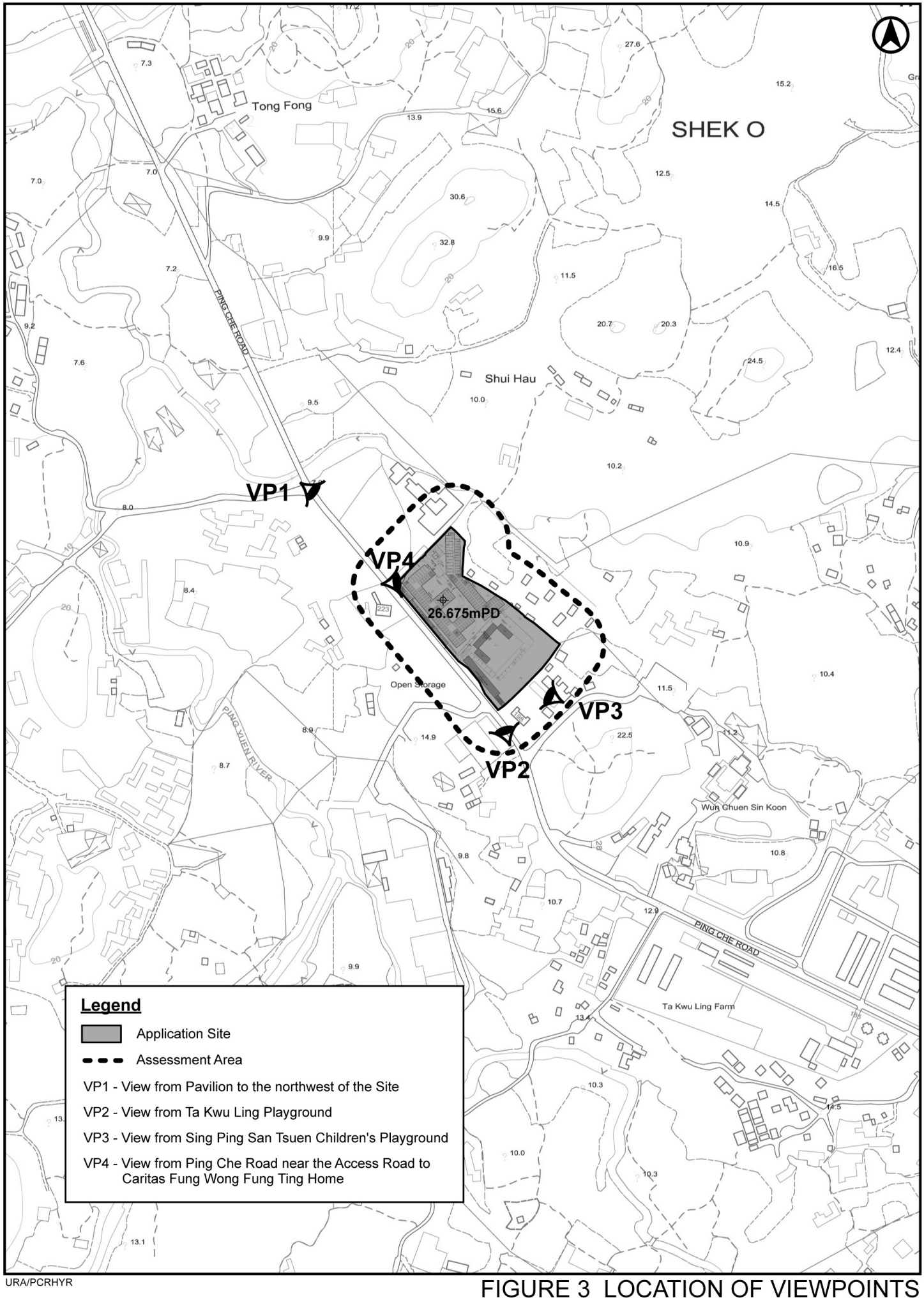
4.1 With reference to para. 4.5 of TPB PG No. 41, the VA is based on public views and local vantage points that are easily accessible and popular to the public, e.g. key pedestrian nodes, public areas for outdoor facilities, recreation, rest, leisure, walking and prominent travel routes which are easily accessible by the public. In this regard, four (4) public VPs were identified in the vicinity of the Site (***Figure 3*** refers).

- **Viewpoint 1 (VP1): View from Pavilion along Ping Che Road –** This is a medium-ranged static VP located approx. 145m to the northeast of the Site along Ping Che Road with a pavilion for resting and sitting-out purposes. The Proposed Development is not visible from this VP (***Figure 4*** refers).
- **Viewpoint 2 (VP2): View from Ta Kwu Ling Playground –** This is a short-ranged static VP located approx. 30m south of the Site, across Ping Che Road. As this VP represents the users of Ta Kwu Ling Playground for resting, sitting-out and leisure purposes it's visual sensitivity is **high**.
- **Viewpoint 3 (VP3): View from Sing Ping San Tsuen Children's Playground –** This is a short-ranged static VP located approx. 25m to the southeast of the Site. This VP represents the users of the Sing Ping San Tsuen Children's Playground for resting, sitting-out and leisure purposes. The visual sensitivity of this VP is considered **high**.
- **Viewpoint 4 (VP4): View from Ping Che Road near the Access Road to Caritas Fung Wong Fung Ting Home –** This is a short-ranged kinetic VP located approx. 15m to the immediate west of the Site. This VP represents pedestrians or drivers/passengers travelling along Ping Che Road. Due to the kinetic nature of this VP, the visual sensitivity is considered **medium**.



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FIGURE 2 PROPOSED DEVELOPMENT



URA/PCRHYR

FIGURE 3 LOCATION OF VIEWPOINTS

SCALE 1 : 5,000

5 ASSESSMENT OF VISUAL IMPACTS

(VP1): View from Pavilion along Ping Che (***Figure 4*** refers)

5.1 As the development is not visible due to screening by existing roadside vegetation, there is **no visual impact**.

VP 2: View from Ta Kwu Ling Playground (***Figure 5*** refers)

5.2 The Proposed Development will remove substantial amount of vegetation on the Site in the background and alter the visual composition. However, the low-rise nature of the Proposed Development remains compatible with the surrounding rural environment in terms of intensity, height and character. The Proposed Elderly Services Centre is visible from this VP, provide some visual connection between the proposed facility and the existing playground, strengthen the community integration of this area.

5.3 The Proposed Development will only be slightly higher than the existing tree line at the Site and the open sky backdrop is preserved.

5.4 There is an existing overgrowth of vegetation on the Site which has been left generally unattended and closed off to the public. Despite the removal of a substantial amount of vegetation within the Site for the Proposed Development which will cause a moderate degree of visual change, the Proposed Development will retain the trees along the eastern boundary and provide new vegetation through compensatory planting proposals. Redevelopment of this disused school site and the provision of an Amenity Block and Elderly Services Centre with active frontages with properly maintained man-made structures, landscaping, and outdoor recreational facilities will create an enjoyable pedestrian environment to mitigate the impact on public viewers at this VP.

5.5 The Proposed Development will transform the pedestrian environment with active street frontage and properly maintained greenery as compared to the current state of neglect. The Proposed Development will inevitable result in a loss of vegetation. Despite the loss of vegetation caused by the Proposed Development , the Site is partially screened by the vegetation in the foreground. As the Proposed Development is considered compatible with rural context in terms of development intensity and building height, the overall visual impact of this VP is considered to be **negligible to slightly adverse**. Proper Façade treatments at the amenity block (e.g. colours, patterns) and active frontages (e.g. windows, shops, pedestrian entrances, etc) should be considered to create visual interest and increase visual permeability.



URA/PCRHYR

FIGURE 4 VIEWPOINT 1 : VIEW FROM PAVILION TO THE NORTHWEST OF THE SITE

EXISTING CONDITION



PROPOSED DEVELOPMENT



URA/PCRHYR

FIGURE 5 VIEWPOINT 2 : VIEW FROM TA KWU LING PLAYGROUND

VP 3: Sing Ping San Tsuen Children's Playground (***Figure 6*** refers)

5.6 Currently, the Sing Ping San Tsuen Children's Playground has limited amenity value due to direct interface with a large open-air car park. Nonetheless, the existing trees within the Application Site provide some visual relief as does the open sky backdrop.

5.7 The Proposed Development will result in a minor change in the visual composition and effect on public viewers from this VP as some of the trees within the Application Site will be removed and replaced by the Proposed Transitional Housing Development. However, the retained trees and compensatory planting at the foreground can provide visual relief to the viewer in the playground and screen-off the transitional housing development at the back. Trees along Ping Che Road at the background are remained visible. The provision of an open area within the Application Site is also a visual amenity to the public viewers. The Proposed Development will provide units that overlook the Playground and the use is not incompatible.

5.8 The Proposed Development is lower than the existing tree line at the Site and the open sky backdrop is preserved. No important views will be affected and the degree of visual obstruction is considered negligible.

5.9 The removal of vegetation on the Site will cause slightly adverse visual changes compared to the existing situation. However, trees in the foreground will be retained, while compensatory planting and an open area will be provided which are positive visual elements. Trees at the background is also remained visible. Given the Site is zoned "G/IC" and there is no presumption against development, the low-rise nature of the Proposed Development is considered acceptable from the visual perspective. Hence, the overall visual impact of this VP is considered to be **negligible**.

VP 4: View from Ping Che Road near the Access Road to Caritas Fung Wong Fung Ting Home (***Figure 7*** refers)

5.10 The Proposed Development will inevitably result in a loss of existing vegetation at the Site. While the existing vegetation is untended, the visual composition of this short-range VP will be significantly altered. Due to the close distance between the Site and this VP, the Proposed Development will inevitably cause significant visual change. From this VP, the 1-storey E&M block with noise barrier that fronts onto Ping Che Road will become a new visual focus and change the character of the streetscape. The E&M block with noise barrier will shield the residents of the Proposed Development from potential noise impacts from Ping Che Road. To reduce the visual barrier resulting from the E&M Block with noise barrier, it is proposed to adopt transparent materials at the noise barrier where practical to allow for light and visual penetration.

5.11 To mitigate the potential wall effect, consideration should be given to façade treatments at the E&M block (e.g. colours, patterns, community murals & artwork, etc) and active frontages (e.g. windows, pedestrian entrances, etc) to create visual interest and increase visual permeability.

5.12 The loss of greenery offered within the site is also considered a negative visual impact, but is mitigated through compensatory planting. Greening along the E/M block and noise barrier through climber plants on wall surface/ fences will be adopted where practical to soften the visual impact and to improve the pedestrian environment for pedestrians. Furthermore, compared to the existing overgrowth on the abandoned Site, the Proposed Development has a widened pedestrian sidewalk with well-kept vegetation.

5.13 Considering the transient nature of this VP and the Proposed Development is not incompatible with existing rural context, the overall visual impact of this VP is considered to be **slightly-to-moderately adverse** with mitigation measures including greenery and façade treatment proposed.

EXISTING CONDITION



PROPOSED DEVELOPMENT



URA/PCRHYR

FIGURE 6 VIEWPOINT 3 : VIEW FROM SING PING SAN TSUEN CHILDREN'S PLAYGROUND

EXISTING CONDITION



PROPOSED DEVELOPMENT



URA/PCRHYR

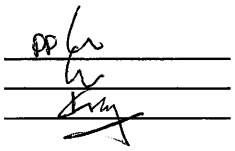
FIGURE 7 VIEWPOINT 4 : VIEW FROM PING CHE ROAD NEAR THE ACCESS ROAD TO CARITAS FUNG WONG FUNG TING HOME

6 Conclusion

6.1 This VA is prepared in support of a Section 16 Planning Application for a Proposed Transitional Housing Development on a 7-year temporary basis at DD 82, Ping Che Road, Ta Kwu Ling. A total of four (4) VPs were identified for assessment although the Proposed Development is only perceivable from three (3) VPs.

6.2 As the Site has become largely overgrown due to years of disuse, the Proposed Development will inevitably cause some adverse visual impacts as a result of removal of vegetation and greenery within the Site. Nonetheless, the Site is development site zoned "G/IC" and there is no PR, BH or SC restriction. The massing, BH and development intensity of the Proposed Development are considered compatible with the surrounding rural settlement and will not form an out-of-context development. Furthermore, the Proposed Development can enhance the existing disused condition of the Subject Site which is largely closed off to the public. To mitigate against adverse visual impact, compensatory planting and landscaping proposals and façade treatment to the amenity block, fence wall and noise barriers should be further explored at the detail design stage.

Edited & Approved by: Cindy Tsang
Prepared by: Vincent Lau
Kelvin Chui



File Ref: URA/PCRHYR
Date: 26 November 2021

Appendix 4

TRAFFIC IMPACT ASSESSMENT

24/11/2021

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES
- TRAFFIC IMPACT ASSESSMENT



SYSTRA MVA

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1. INTRODUCTION

1.1 Background

1.1.1 This Traffic Impact Assessment (TIA) is prepared in support of a Section 16 Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ "Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site"). The Application Site is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

1.1.2 The Application Site Area is approximately 13,207m^2. The Proposed Transitional Housing Development comprises of two 4-storey residential blocks providing a total of 596 units, a 1-storey Elderly Service Centre, and 1-storey Multi-Purpose Amenity Blocks. The location of Application Site is shown in **Figure 1.1**.

1.1.3 The purpose of this study is to review the traffic conditions and assess the traffic impact due to the proposed development on the adjacent local road network and public transport services in support of the Section 16 Planning Application.

1.2 Study Objective

1.2.1 The purpose of this study is to assess the traffic impact of the proposed development in support of the planning permission for the proposed transitional housing as a temporary use. The following tasks were carried out and included in this report:

- review the existing traffic condition and pattern in the adjacent local road network;
- review the proposed development schedule and the internal transport arrangements;
- produce future traffic forecasts on the adjacent local road network with considerations of the planned developments in the vicinity, if necessary; and
- investigate the traffic impact on the adjacent local road network and public transport with the operation of the proposed development in Design Years.

1.3 Report Structure

1.3.1 Following this introductory chapter there are eight further chapters:

- **Chapter 2** – Proposed Development, which presents the proposed development schedule and internal traffic arrangement;
- **Chapter 3** – Existing Traffic Conditions, which describes the existing road network in the vicinity of the Application Site, presents the summary of traffic and pedestrian count surveys, and assesses the existing traffic conditions in the vicinity of the Application Site;
- **Chapter 4** – Traffic Forecasts, which discusses the potential traffic generation and attraction of the proposed development and summarises the methodology for future traffic forecasts;
- **Chapter 5** – Traffic Impact Assessment, which presents the assessment results;
- **Chapter 6** – Assessment of Public Transport Services, which presents the assessment results of traffic impact to the adjacent public transport services;

- **Chapter 7** – Long Term Traffic Forecast for Noise Impact Assessment (NIA), which summarises the methodology and results of NIA traffic forecasts; and
- **Chapter 8** – Summary and Conclusion, which summarises and concludes the study findings.

2. PROPOSED DEVELOPMENT

2.1 Site Condition

2.1.1 The Application Site is currently abandoned school site and located to the west of Sing Ping Village in Ping Che area. The site location is shown in **Figure 1.1**. The site area is approximately 13,207 m^2.

2.1.2 Temporary 4-storey transitional housing blocks with total of 596 units as temporary use is proposed at the Application Site by year 2023.

2.2 Proposed Development Schedule

2.2.1 The proposed development schedule of the Application Site is summarised in **Table 2.1**.

Table 2.1 Proposed Development Schedule of the Application Site

Component		Proposed Development Schedule	
Total Site Area		13,207 m^2	
Domestic GFA		13,800 m^2	
GFA of Elderly Service Centre & Amenity Blocks		1,124 m^2	
No. of Flats	Disabled / 4 person Unit	2 (0.34%)	596 flats
	1-2 person Unit	514 (86.24%)	
	3-4 persons Unit	80 (13.42%)	
	Total	596 (100%)	
Average Flat Size		23 m^2	

2.3 Master Layout Plan

2.3.1 The Master Layout Plan (MLP) of the proposed development, including transitional housing development, Elderly Service Centre, and Amenity Blocks is illustrated in **Figure 2.1**.

2.3.2 The existing vehicular access to the Application Site is provided on the access road to Caritas Fung Wong Fung Ting Care Home. As shown in **Figure 2.1**, a 9.5m wide run-in / run-out is proposed at the existing vehicular access point to facilitate the turning of 12m-long fire engine and HGV. Relevant swept path diagrams are shown in **Appendix A**.

External Traffic Improvements

(i) Local Junction Widening of Ping Che Road / Local Access Road to Caritas Care Home

2.3.3 Minor realignment of road kerb at the junction of Ping Che Road / local access road to Caritas Care Home is proposed to facilitate the ingress of 12m-long fire engine to the Application Site during emergency situation as shown in **Figure 2.1**. Swept path analysis of 12m-long fire engine entering and leaving the Application Site is shown in **Appendix A**.

(ii) Local Widening of Ping Che Road Eastern Footpath

2.3.4 The existing width of eastern footpath on Ping Che Road along the site boundary is about 1.6m to 1.8m only. In order to enhance the pedestrian environment and sufficient waiting area of bus stop at the Ping Che Road eastbound after population intake of the Subject Site, as well as to provide a footpath frontage access to the proposed Elderly Service Centre within the Application Site, the existing 1.2m to 1.8m wide greenery area outside the Application Site is proposed to entirely convert into footpath to achieve total 2.9m to 3.4m wide footpath as shown in **Figure 2.1**.

(iii) Proposed Bus Layby for Ping Che Road Southbound

2.3.5 The section of Ping Che Road outside the Application Site is a 6.2m wide 2-lane carriageway (District Distributor) with on-street bus stops servicing franchised bus 79K and GMB 52K.

Boarding of Bus Passengers (Morning Peak) at on-street Bus Stop on Ping Che Road Southbound (without bus layby)

2.3.6 As discussed in **Chapter 6**, existing southbound franchised bus service 79K is proposed to be enhanced from existing 3 trips per hour to 8 trips per hour to cater for the anticipated demand in design year 2030. With passenger demand of proposed development (Southbound Direction) during morning peak period as shown in **Table 6.6**, the average boarding time of bus during critical morning peak period is estimated to be not more than 3 minutes per bus. During total 8 nos. of boarding activities of KMB 79K per hour at the on-street bus stop, the morning peak southbound bypass traffic as shown in **Figure 4.7** (but excluding bus trips) would be stopped behind the stopped bus on average 24 minutes (i.e. 8 bus x 3 min per bus) in the morning peak hour. The southbound bypass traffic queue length is estimated to be about 97m (323 pcu/hr/60x3x6=97m), which would be longer than the available queuing length (about 63m) to the next junction to the north (with access road to the Application Site and Caritas Care Home). Thus, the traffic queue may block the concerned access road which is not very desirable from traffic viewpoint.

Proposed Bus Layby (Southbound)

2.3.7 In order to facilitate boarding / alighting activities of bus passengers and avoid potential blockage of other bypass traffic during peak period, a bus layby is proposed along Ping Che Road southbound direction outside the Application Site (near proposed Elderly Service Centre) as shown in **Figure 2.1**. The bus layby and reprovision of 3m wide footpath are proposed by setback of lot boundary of the Application Site.

Alighting of Bus Passengers (Evening Peak) at On-street Bus Stop on Ping Che Road Northbound

2.3.8 Similarly, as discussed in **Chapter 6**, existing northbound franchised bus service 79K is proposed to be enhanced from existing 3 trips per hour to 7 trips per hour to cater for the anticipated demand in design year 2030. With less passenger demand of proposed development (Northbound Direction) during critical evening peak as shown in **Table 6.6**, the average alighting time of bus passengers at the on-street bus stop opposite to the Application Site during critical evening peak period is shorter (estimated not more than 1.5 minutes per bus). The evening peak northbound bypass traffic as shown in **Figure 4.7** (but excluding bus trips) would be stopped behind the stopped bus on average 10.5 minutes (i.e. 7 bus x 1.5 min per bus) in the evening peak hour. The northbound bypass traffic queue length (excluding bus) is estimated to be about 37m (247 pcu/hr/60x1.5x6=37m), which would be less than the available queuing length of 77m to the next junction to the south (access road to Ta Kwu Ling Playground). Therefore, as the bus alighting time is relatively short and bypass traffic queue would not be significant without queue back to the next junction, it is proposed to maintain the existing on-street northbound bus stop.

(iv) Proposed Signalised Pedestrian Crossing on Ping Che Road

2.3.9 In order to further enhance the pedestrian safety of public transport passengers (especially the elderly) crossing Ping Che Road after boarding / alighting, 4m wide signalised pedestrian crossing is also proposed near the bus stops as shown in **Figure 2.1**.

2.4 Internal Transport Facilities Provision

2.4.1 In determining the internal transport facilities provision for the proposed development, reference is made to the car parking requirements of subsidised housing development in Hong Kong Planning Standards and Guidelines (HKPSG).

2.4.2 As the proposed transitional housing is provided for temporary use only for low-income families, it is anticipated that these families have no demand for private car parking space, and it is assumed 100% of the residents of transitional housing will rely on public transport. Therefore, it is proposed that no private car parking space would be provided within the Application Site. Besides, the public transport services on Ping Che Road is proposed to be enhanced to cater for the proposed development, which will be discussed in **Chapter 6**.

2.4.3 The required and proposed internal transport facilities provision at the Application Site are summarised in **Table 2.2**.

Table 2.2 Summary of Internal Transport Facilities Provision

Internal Transport Facilities	Use	Development Parameters	HKPSG Requirement		Proposed Provision
			Requirement	Required Provision	
Private Car Parking Space	Transitional Housing	596 flats	1 space per 7.69 – 13.46 flat (1)(2)	7 – 11 (3)	Nil
	Elderly Service Centre & Amenity Blocks	1,124 m^2	N/A		
			Total	**7 – 11**	**Nil**
Visitor Car Parking Space	Transitional Housing	2 blocks	5 spaces per block	10	Nil
LGV and Light Bus Parking Space	Transitional Housing	596 flats	1 LGV/Light Bus space per 260 flats (1)	1 (3)	Nil
L/UL Bay	Transitional Housing	2 blocks	Minimum of 1 loading / unloading bay per block	2	2 HGV (1 per block)
	Elderly Service Centre & Amenity Blocks	1,124 m^2	N/A		
			Total	**1**	**2 HGV**

Remark: (1) Based on HKPSG requirement for subsidised housing development.
(2) Global Parking Standard (GPS, i.e. 1 car space per 4 - 7 flats) x R1 (i.e. 0.52 for all subsidised housing) x R2 (i.e. 1.0 for outside a 500m-radius of rail station).
(3) As per HKPSG requirement guidelines for subsidised housing development, "One person / two persons" flats shall be excluded from the calculation of overall parking provision of car parking spaces and LGV/Light Bus spaces; with reference to **Table 2.1**, total 82 nos. of flats are (3-4 persons units and disabled units) are adopted for calculation of parking provision.

3. EXISTING TRAFFIC CONDITIONS

3.1 Existing Road Network

3.1.1 The existing road network in the vicinity of the Application Site is shown in **Figure 3.1**.

3.1.2 The section of Ping Che Road adjacent to the Application Site is a 6.2m wide single 2-lane District Distributor carriageway running north and south directions. It provides road connection between surrounding villages and rural-based industrial establishments and Sha Tau Kok Road. It also serves as a linkage between Sha Tau Kok Road and Lin Ma Hang Road.

3.2 Identified Junctions for Assessment

3.2.1 A total of four junctions have been identified in the vicinity of the Application Site for junction capacity assessment as listed in **Table 3.1**. The locations of the assessed junctions are shown in **Figure 3.1**.

Table 3.1 Identified Junctions to be Assessed

Ref. (1)	Junction	Method of Control	Figure No.
J1	Ping Che Road / Access road to Lei Uk	Priority	3.2
J2	Ping Che Road / Access to Caritas Care Home	Priority	3.3
J3	Ping Che Road / Access road to Tai Po Tin	Priority	3.4
J4	Ping Che Road / Ping Yuen Road	Priority	3.5

Remark: (1) Refer to **Figure 3.1** for the locations of the identified junctions.

3.2.2 Manual classified traffic count survey was carried out at the identified junctions during the typical commuting morning peak from 7:30am to 9:30am and evening peak from 5:00pm to 7:00pm on a typical weekday in September 2021.

3.2.3 The observed traffic data indicates that the morning peak hour and evening peak hour occurred from 8:00am to 9:00am and 5:15pm to 6:15pm respectively. The observed traffic flows during morning and evening peak hours are shown in **Figure 3.6**.

3.2.4 In order to establish the existing traffic conditions in the vicinity of the Application Site, the operational performance of the identified junctions was assessed based on the observed peak hour traffic flows with their existing junction layouts and methods of control in **Table 3.1**. The existing junction performance are summarised in **Table 3.2**.

Table 3.2 2021 Observed Junction Performance

Ref. (1)	Junction	RFC (2)	
		AM Peak	PM Peak
J1	Ping Che Road / Access road to Lei Uk	0.28	0.25
J2	Ping Che Road / Access to Caritas Care Home	0.03	0.03
J3	Ping Che Road / Access road to Tai Po Tin	0.10	0.06
J4	Ping Che Road / Ping Yuen Road	0.23	0.16

Remark: (1) Refer to **Figure 3.1** for the locations of the identified junctions.
(2) RFC = ratio-of-flow to capacity for priority junction.

3.2.5 The above results have indicated that all identified junctions are operating with ample capacities during the morning and evening peak periods in observed year 2021.

3.3 Identified Road Links for Assessment

3.3.1 Based on the observed traffic flows in **Figure 3.6**, link capacity analysis for identified road links of Ping Che Road in **Figure 3.1** was conducted. The road link capacity analysis was conducted by assessing the Volume-to-Capacity (V/C) ratio with the capacity being determined by road type, road speed, traffic composition, etc. as stipulated in TPDM.

Table 3.3 2021 Observed Road Link Performance

Ref.	Road Link	Road Type	Direction	Road Capacity, C (pcu/hr) (1)	2021 Observed Traffic Flow, V (pcu/hr)(2) - Round to the nearest 5		2021 Observed V/C Ratio (3)	
					AM	PM	AM	PM
RL1	Ping Che Road (between Access Road to Lei Uk and Access Road to Tai Po Tin)	6.2m-wide single 2-lane local road	NB	520	265	170	0.51	0.33
			SB	520	215	175	0.41	0.34
			2-way	1040	480	345	0.46	0.33
RL2	Ping Che Road (between Access Road to Tai Po Tin and Ping Yuen Road)		NB	520	260	190	0.50	0.37
			SB	520	220	175	0.42	0.34
			2-way	1040	480	365	0.46	0.35

Remark:

(1) Directional practical road capacity, "C" (in pcu/hr) = base capacity (in veh/hr) x pcu factor (based on traffic data collected from traffic survey in September 2021) x (1 - reduction of capacity for heavy vehicle in excess of 15%), in accordance with (i) Table 2.4.1.1 for Design flows (veh/hr) in terms of road type as summarized in the following table; and (ii) Table 2.4.1.2 illustrated in Chapter 2 of TPDM Volume 2. Capacity of 800 veh/hr for two-way local road is adopted as the base capacity of the concerned sections of Ping Che Road for road link capacity assessment.

(2) Traffic Flow, "V" (in pcu/hr) is based on the traffic data collected from traffic survey in September 2021.

(3) Please refer to Appendix B for junction calculations.

3.3.2 The assessment results in **Table 3.5** indicate that all the identified road links are operating with capacities during AM peak and PM periods in 2021.

3.4 Pedestrian Facility Assessment

3.4.1 Pedestrian count survey was carried out along the eastern and western footpath of Ping Che Road adjacent to the Application Site during the aforesaid period mentioned in **para. 3.2.2**.

Observed Footpath Performance

3.4.2 The observed pedestrian data indicates that the morning peak hour and evening peak hour occurred from 7:45am to 8:45am and 5:05pm to 6:05pm respectively. The observed peak hour pedestrian flows and the footpath performance are summarised in **Table 3.4**.

Table 3.4 Existing Footpath Performance

Ref.	Actual Width (m)	Total Dead Width (m)	Effective Width [1] (m)	Peak Hourly Pedestrian Flow (ped/hr) – Round to the nearest 5		Peak Pedestrian Flow Rate [2] (ped/min/m)		LOS [3]	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Western Footpath of Ping Che Road across from Application Site	2.0	1.0	1.0	15	10	0.30	0.20	A	A
Eastern Footpath of Ping Che Road outside Application Site	1.6	1.0	0.6	15	10	0.16	0.11	A	A

Remark: (1) Effective width = Actual width – dead width (i.e. total 1m, 0.5m dead width on both sides of footpath)
(2) Peak flow rate = Peak hourly flow x 1.2 peak factor / 60 min / effective width
(3) Refer to Chapter 10.4 of Volume 6 in TPDM for LOS descriptions.

3.4.3 As shown in **Table 3.4**, the assessment results indicate that all identified footpaths are currently operating with LOS A (i.e. with ample capacities) during the morning and evening peak periods.

4. TRAFFIC FORECASTING

4.1 Design Year

4.1.1 The tentative completion year of the proposed development is 2023, therefore, Design Year 2026 (i.e. completion year + 3 years) is adopted as the assessment year for traffic forecast of this TIA study.

4.1.2 Tentatively, the temporary transitional housing is proposed to be operated by NGO for 7 years after completion, thus, an Ultimate Design Year 2030 (i.e. completion year + 7 years) is also adopted as the assessment year of this TIA study.

4.1.3 As shown in **Table 2.1**, the proposed no. of transitional housing units is 596 nos., which is adopted in estimation of development traffic and pedestrian trip generation and traffic forecast / assessment under this traffic study.

4.2 Reference Traffic Forecast

4.2.1 It is anticipated that the future local road network will remain unchanged and there are no committed major road infrastructure works in the vicinity by years 2026 and 2030. Therefore, the reference traffic flows for design years 2026 and 2030 would be derived from the expected growth of traffic in the area with reference to the historical traffic growth trend and public planning data from the Government.

4.3 Growth Factor for Traffic Forecast

4.3.1 To derive 2026 and 2030 reference traffic flows in the local study area, an appropriate growth factor for traffic forecast is determined based on the following public information from the Government:

- Historical traffic data of relevant road links from "Annual Traffic Census" (ATC) published by Transport Department (TD) as shown in **Tables 4.1** and **4.2**;
- Estimated population and employment data extracted from "2016-based Territorial Population and Employment Data Matrix" (TPEDM) by Planning Department (PlanD) as shown in **Table 4.3**;
- Estimated population data of Tertiary Planning Unit (TPU) extracted from "Projections of Population Distribution 2019-2028" by PlanD as shown in **Table 4.4**; and
- Estimated population data of District Council District (DCD) extracted from "Projections of Population Distribution 2019-2028" by PlanD as shown in **Table 4.5**

Historical Trend

4.3.2 Traffic counts of ATC traffic count stations on the adjacent road network of the Application Site are summarised in **Table 4.1**.

4.3.3 Additionally, traffic counts of the new ATC station located on Ping Che Road (between Sha Tau Kok Road and Lin Ma Hang Road) are only available from 2017 onwards in ATC, which are summarised for reference in **Table 4.2**.

Table 4.1 Average Annual Daily Traffic (AADT) Data from ATC (by TD)

ATC Stn. No.(1)	Road	From	To	AADT (veh / day)						Annual Growth Rate (% p.a.)
				2013	2014	2017	2018	2019	2020	2013 - 2018
5660	Sha Tau Kok Rd	On Kui St	Ping Che Rd	27,280*	26,990*	33,050*	33,870*	33,630*	23,740	+3.73%
5860	Sha Tau Kok Rd	Ping Che Rd	Shun Lung St	6,440*	6,370*	6,460	6,620*	6,570*	6,300*	
			Total	**33,720**	**33,360**	**39,510**	**40,490**	**40,200**	**30,040**	

Remark: (*) AADT estimated by growth factor.
(1) Please refer to **Figure 4.1** for location of ATC Station

Table 4.2 Average Annual Daily Traffic (AADT) Data from ATC – Station No. 6653 (by TD)

ATC Stn. No.(1)	Road	From	To	AADT (veh / day)					Annual Growth Rate (% p.a.)
				Before 2017(2)	2017	2018	2019	2020	2017 - 2018
6653	Ping Che Rd	Sha Tau Kok Rd	Lin Ma Hang Rd	(not available)	11,360	11,430	11,820	11,030	+0.62%

Remark: (1) Please refer to **Figure 4.1** for ATC Station Plan.
(2) No data is available for ATC station no. 6653 prior to year 2017.

4.3.4 As illustrated in **Table 4.1**, it is noted that there is a drop of AADT flows of ATC in both 2019 and 2020 due to the occurrence of social events and the outbreak of coronavirus disease (COVID-19) respectively. Hence it is considered that the traffic situations were abnormal in both years, and the historical annual traffic growth rate in the study area from 2013 to 2018 of +3.73% per annum is adopted for calculations of growth rate of ATC AADT flows as shown in **Table 4.1**.

TPEDM Planning Data (2021 – 2026)

4.3.5 As published by Planning Department, the projected population and employment of "Northeast New Territories (Other Area)" (NENT (Other Area)) between year 2021 and 2026 from 2016-based TPEDM are summarised in **Table 4.3**.

Table 4.3 Growth Rates derived from 2016-based TPEDM (by PlanD)

Planning Data Districts	Parameters	Planning Data		Annual Growth Rate (% p.a.)
		2021	2026	2021 – 2026
NENT (Other Area)(1)	Population	137,850	152,900	+2.09%
	Employment	33,350	37,900	+2.59%

Remark: (1) Please refer to **Figure 4.2** for TPEDM Zone Plan.

4.3.6 **Table 4.3** indicates the annual growth rate of population and employment in NENT (Other Area) are +2.09% and +2.59% per annum from year 2021 to 2026 respectively.

Tertiary Planning Unit (TPU) Planning Data (2021 – 2024)

4.3.7 As published by Planning Department, the projected population of Tertiary Planning Unit (TPU) Zone 642 between year 2021 and 2024 from "Projections of Population Distribution 2019-2028" are summarised in **Table 4.4**.

Table 4.4 Growth Rates derived from Tertiary Planning Unit (by PlanD)

TPU Zone No.(1)	Population				Annual Growth Rate (% p.a.)
	2021	2022	2023	2024	2021 - 2024
642 (Application Site)	4,000	4,100	4,100	4,100	+0.83%

Remark: (1) Please refer to **Figure 4.2** for TPU Zone Plan.

4.3.8 **Table 4.4** indicates the annual growth rate of population in TPU Zone 642 is +0.83% per annum from year 2021 to 2024.

District Council District (DCD) Planning Data (2021 – 2029)

4.3.9 As published by Planning Department, the projected population of "North District" District Council District (DCD) between year 2021 and 2029 from "Projections of Population Distribution 2019-2028" are summarised in **Table 4.5**.

Table 4.5 Growth Rates derived from District Council District (by PlanD)

District Council District	Population									Annual Growth Rate (% p.a.)
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2021 - 2029
North District	323,600	357,000	359,800	361,600	366,500	372,400	393,900	417,200	426,900	+3.52%

Remark: (1) Please refer to **Figure 4.2** for District Council District Plan.

4.3.10 **Table 4.5** indicates the annual growth rate of population in North District is +3.52% per annum from year 2021 to 2029.

Adopted Traffic Growth Rates

4.3.11 Based on the information given by AADT historical data and planning data as shown in **Tables 4.1** to **4.5**, the greatest annual traffic growth rates of +3.73% p.a. from ATC is adopted for traffic growth from observed year 2021 to Design Years 2026 and 2030. This is deemed sufficient to allow any unexpected future growth as a result of some changes in land use or redevelopments in the area, if any.

4.4 Proposed Development Traffic Generation

4.4.1 With reference to the proposed development schedule as presented in **Table 2.1**, it is anticipated that trip generation / attraction would be induced by the proposed development, including transitional housing development and ancillary amenity block.

Transitional Housing Development

4.4.2 As mentioned in **Chapter 2**, 100% of residents of transitional housing are assumed to rely on public transport and no car parking space would be provided within the Application Site. Thus, minimal traffic generation of the Proposed Development is expected. However, for conservative approach, the TPDM trip rates (upper limit) of subsidised housing (public rental housing) with average flat size of 30m^2 are adopted for tip generation estimation as shown in **Table 4.6**.

Table 4.6 Adopted Traffic Trip Rates for Transitional Housing Development

Source	No. of Flats / Flat Size	Traffic Trip Rate (pcu/hr/flat)			
		AM Peak		PM Peak	
		Gen	Att	Gen	Att
TPDM Trip Generation Rates					
TPDM Subsidised Housing: Public Rental (Upper limit)	Average Flat Size of 30m^2	0.0413	0.0406	0.0242	0.0262

Elderly Service Centre and Multi-purpose Amenity Blocks

4.4.3 The elderly service centre and multi-purpose amenity blocks consists of local amenity facilities for the residents of the transitional housing and the nearby neighbourhood only. For conservative approach, trip rates (upper limit) of retail use as stipulated in TPDM are adopted for the elderly service centre and multi-purpose amenity blocks and summarised in **Table 4.7**.

Table 4.7 Adopted Traffic Trip Rates for Elderly Service Centre and Multi-purpose Amenity Blocks

Source	Traffic Generation Rate (pcu/hr/100m^2 GFA)			
	AM Peak		PM Peak	
	Gen	Att	Gen	Att
TPDM Retail (Upper limit)	0.3307	0.3342	0.3839	0.4504

4.4.4 Based on the adopted trip rates for transitional housing development, elderly service centre and multi-purpose amenity blocks in **Tables 4.6** and **4.7** respectively, the estimated traffic trip generation are computed and shown in **Table 4.8**.

Table 4.8 Estimated Traffic Trip Generation of the Proposed Development

Development	No. of Flats / GFA (m^2)	Traffic Trip Generation (pcu/hr)			
		AM Peak		PM Peak	
		Gen	Att	Gen	Att
Proposed Development					
(A) Transitional Housing Development	596 flats (Avg. FS = 23m^2)	25	24	14	16
(B) Elderly Service Centre and Multi-purpose Amenity Blocks	1,124m^2	4	4	4	5
Total (A) + (B)		**29**	**28**	**18**	**21**

Proposed Additional Public Transport Services

4.4.5 As discussed in **Chapter 6**, the estimated traffic trip generation of the proposed enhancement of public transport services along Ping Che Road to cater for the public transport demand of the proposed development in design years 2026 and 2030 as summarised in **Table 4.9** below are also considered in the future traffic forecast in design years 2026 and 2030.

Table 4.9 Summary of Traffic Trip Generation of the Proposed Enhancement of Public Transport Services

Public Transport Service	Traffic Trip Generation (pcu/hr) (1)			
	AM Peak		PM Peak	
	Gen	Att	Gen	Att
Design Year 2026				
Proposed Enhancement of Franchised Bus Service 79K	13	3	3	8
Design Year 2031				
Proposed Enhancement of Franchised Bus Service 79K	13	3	5	10

Remark: (1) Refer to **Table 6.6** for the details of the proposed additional public transport services.

4.5 Proposed Development Pedestrian Generation

4.5.1 As mentioned in **Chapter 2**, 100% of residents of transitional housing are assumed to rely on public transport and no car parking space would be provided within the Application Site. Based on the latest development schedule in **Table 2.1**, 86.24% of the total 596 transitional housing units are 1-person (1p) or 2-person (2p) units. For very conservative approach, it is assumed there would be 1.0 pedestrian trip generation per hour per unit for AM peak hour trip generation for 1p or 2p units. For the remaining 3p and 4p transitional housing units (13.76%), pedestrian trip rates of Queen's Hill Public Housing Development as shown in **Table 4.10** are adopted considering their similar nature. The estimated pedestrian trip generation is shown in **Table 4.11**.

Table 4.10 Adopted Pedestrian Trip Generation Rates for 3-person and 4-person Units

Site	Pedestrian Trip Generation (ped/hr)			
	AM Peak		PM Peak	
	Gen	Att	Gen	Att
Queen's Hill Public Housing Development(1)	0.598	0.098	0.246	0.463

Remark: (1) Source: TIA report extracted from Legislative Council Paper No. PWSC110/18-19(01) dated 12th February 2019.

Table 4.11 Estimated Pedestrian Trip Generation of the Proposed Development

Flat Size	No. of Flats	Pedestrian Trip Generation (ped/hr)			
		AM Peak		PM Peak	
		Gen	Att	Gen	Att
1-2 persons Units	514	514	84	211	398
3-4 persons and Disabled Units	82	49	8	20	38
Total	**596**	**563**	**92**	**231**	**436**

4.6 Design Traffic Flows

4.6.1 The traffic trip generation of the proposed development summarised in **Table 4.8** is distributed and assigned on the adjacent road network as shown in **Figure 4.5** with reference to the assumed traffic distribution pattern.

4.6.2 The total development traffic generation and attraction as shown in **Figure 4.5** is then superimposed onto years 2026 and 2030 Reference Traffic Flows (WITHOUT proposed development) as shown in **Figures 4.3** and **4.4** respectively. As a result, years 2026 and 2030 Design Traffic Flows (WITH proposed development) can be produced and shown in **Figures 4.6** and **4.7** respectively.

Year 2026 and 2030 Design Traffic Flows – With Proposed Development

2026 and 2030 Design Traffic Flows (**Figures 4.6** and **4.7**)	=	2026 and 2030 Reference Traffic Flows (**Figures 4.3** and **4.4**) + Development Traffic Flows (i.e. traffic trip generation of the proposed development) **(Figure 4.5**)

5. TRAFFIC IMPACT ASSESSMENT

5.1 Operational Junction Assessment

5.1.1 The operational performance of the identified junctions are assessed with the forecasted peak hour traffic flows under the existing junction layouts and methods of control for design years 2026 and 2030. The assessment results are summarised in **Tables 5.1** and **5.2**.

Table 5.1 Operational Junction Performance in Design Year 2026

Ref [1]	Junction	2026 R.C.[2,4] / RFC [3,4]			
		Reference Scenario		Design Scenario	
		AM Peak	PM Peak	AM Peak	PM Peak
J1	Ping Che Road / Access road to Lei Uk	0.35	0.31	0.35	0.31
J2	Ping Che Road / Access to Caritas Care Home	0.03	0.03	0.12	0.06
J3	Ping Che Road / Access road to Tai Po Tin	0.13	0.08	0.13	0.08
J4	Ping Che Road / Ping Yuen Road	0.29	0.19	0.30	0.19
New J5	Proposed Signalised Pedestrian Crossing Across Ping Che Road Outside Application Site	-	-	>100%	>100%

Remark: (1) Refer to **Figure 3.1** for the locations of the identified junctions.
(2) R.C. = Reserved Capacity for signalised junction
(3) RFC = ratio-of-flow to capacity for priority junction.
(4) Please refer to Appendix B for junction calculations.

Table 5.2 Operational Junction Performance in Ultimate Design Year 2030

Ref [1]	Junction	2030 R.C.[2,4] / RFC [3,4]			
		Reference Scenario		Design Scenario	
		AM Peak	PM Peak	AM Peak	PM Peak
J1	Ping Che Road / Access road to Lei Uk	0.41	0.35	0.41	0.36
J2	Ping Che Road / Access to Caritas Care Home	0.04	0.03	0.12	0.07
J3	Ping Che Road / Access road to Tai Po Tin	0.16	0.09	0.16	0.09
J4	Ping Che Road / Ping Yuen Road	0.34	0.22	0.35	0.23
New J5	Proposed Signalised Pedestrian Crossing Across Ping Che Road Outside Application Site	-	-	>100%	>100%

Remark: (1) Refer to **Figure 3.1** for the locations of the identified junctions.
(2) R.C. = Reserved Capacity for signalised junction
(3) RFC = ratio-of-flow to capacity for priority junction.
(4) Please refer to Appendix B for junction calculations.

5.1.2 The above results have indicated that all identified junctions would operate with ample capacities during both morning peak and evening peak hours in design years 2026 and 2030 under both reference and design scenarios.

5.2 Road Link Capacity Assessment

5.2.1 Based on traffic flows in design years 2026 and 2030, road link capacity assessment for the identified road links of Ping Che Road was conducted as summarised in **Tables 5.3** and **5.4**.

Table 5.3 Road Link Performance of Ping Che Road in Design Year 2026

Ref.	Road Link	Road Type	Dir.	Road Capacity, C (pcu/hr) (1)	2026 Reference Scenario				2026 Design Scenario			
					Traffic Flow, V (pcu/hr)(2) - Round to the nearest 5		V/C Ratio		Traffic Flow, V (pcu/hr)(2) - Round to the nearest 5		V/C Ratio	
					AM	PM	AM	PM	AM	PM	AM	PM
RL1	Ping Che Road (between Access Road to Lei Uk and Access Road to Tai Po Tin)	6.2m-wide single 2-lane local road	NB	520	320	205	0.62	0.39	350	230	0.67	0.44
			SB	520	260	205	0.50	0.39	300	225	0.58	0.43
			2-way	1040	580	410	0.56	0.39	650	455	0.63	0.44
RL2	Ping Che Road (between Access Road to Tai Po Tin and Ping Yuen Road)		NB	520	315	230	0.61	0.44	345	255	0.66	0.49
			SB	520	265	205	0.51	0.39	305	225	0.59	0.43
			2-way	1040	580	435	0.56	0.42	650	480	0.63	0.46

Remark:

(1) Directional practical road capacity, "C" (in pcu/hr) = base capacity (in veh/hr) x pcu factor (based on traffic data collected from traffic survey in September 2021) x (1 - reduction of capacity for heavy vehicle in excess of 15%), in accordance with (i) Table 2.4.1.1 for Design flows (veh/hr) in terms of road type as summarized in the following table; and (ii) Table 2.4.1.2 illustrated in Chapter 2 of TPDM Volume 2. Capacity of 800 veh/hr for two-way local road is adopted as the base capacity of the concerned sections of Ping Che Road for road link capacity assessment.

(2) Traffic Flow, "V" (in pcu/hr) is based on the traffic data collected from traffic survey in September 2021.

Table 5.4 Road Link Performance of Ping Che Road in Design Year 2030

Ref.	Road Link	Road Type	Dir.	Road Capacity, C (pcu/hr) (1)	2030 Reference Scenario				2030 Design Scenario			
					Traffic Flow, V (pcu/hr)(2) - Round to the nearest 5		V/C Ratio		Traffic Flow, V (pcu/hr)(2) - Round to the nearest 5		V/C Ratio	
					AM	PM	AM	PM	AM	PM	AM	PM
RL1	Ping Che Road (between Access Road to Lei Uk and Access Road to Tai Po Tin)	6.2m-wide single 2-lane local road	NB	520	370	240	0.71	0.46	400	270	0.77	0.52
			SB	520	300	245	0.58	0.47	340	265	0.65	0.51
			2-way	1040	670	485	0.64	0.47	740	535	0.71	0.51
RL2	Ping Che Road (between Access Road to Tai Po Tin and Ping Yuen Road)		NB	520	360	265	0.69	0.51	390	295	0.75	0.57
			SB	520	310	245	0.60	0.47	350	265	0.67	0.51
			2-way	1040	670	510	0.64	0.49	740	560	0.71	0.54

Remark:

(1) Directional practical road capacity, "C" (in pcu/hr) = base capacity (in veh/hr) x pcu factor (based on traffic data collected from traffic survey in September 2021) x (1 - reduction of capacity for heavy vehicle in excess of 15%), in accordance with (i) Table 2.4.1.1 for Design flows (veh/hr) in terms of road type as summarized in the following table; and (ii) Table 2.4.1.2 illustrated in Chapter 2 of TPDM Volume 2. Capacity of 800 veh/hr for two-way local road is adopted as the base capacity of the concerned sections of Ping Che Road for road link capacity assessment.

(2) Traffic Flow, "V" (in pcu/hr) is based on the traffic data collected from traffic survey in September 2021.

5.2.2 As shown in **Tables 5.3** and **5.4**, the identified road links would operate within capacities under both 2025 and 2030 reference and design scenarios.

5.3 Pedestrian Facilities Assessment

Footpath Operational Performance

5.3.1 The operational performance of the identified footpaths are assessed with the forecasted pedestrian flows with proposed development for design year 2030. The assessment results are summarised in **Table 5.5**.

Table 5.5 Operational Footpath Performance in Design Year 2030

Ref.	Actual Width (m)	Total Dead Width (m)	Effective Width [1] (m)	2030 Design Peak Hourly Pedestrian Flow (ped/hr) – Round to the nearest 5		Peak Pedestrian Flow Rate [2] (ped/min/m)		LOS [3]	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Western Footpath of Ping Che Road across from Application Site	2.0	1.0	1.0	150	425	3.00	8.50	A	A
Eastern Footpath of Ping Che Road outside Application Site	2.9	1.0	1.9	585	285	6.16	3.00	A	A

Remark: (1) Effective width = Actual width – dead width (i.e. total 1m, 0.5m dead width on both sides of footpath)
(2) Peak flow rate = Peak hourly flow x 1.2 peak factor / 60 min / effective width
(3) Refer to Chapter 10.4 of Volume 6 in TPDM for LOS descriptions.

5.3.2 As shown in **Table 5.5**, the assessment results indicate that all identified footpaths would be operating with LOS A (i.e. with ample capacities) during the morning and evening peak periods in design year 2030 with the proposed development.

Waiting Space Assessment at Proposed Bus Layby

5.3.3 An estimated 510 (210) pax/hr of PT demand is generated by the Application Site to the proposed southbound bus layby (towards Fanling) during AM (PM) peak periods as shown in **Table 6.6**. The assessment of waiting space at the proposed southbound bus layby is summarised in **Table 5.6** below.

Table 5.6 Waiting Space Assessment at Proposed Bus Layby

Peak Period	PT Demand of Proposed Development [1] (pax/hr)	Total Peak Hourly Franchised Bus Trips (with proposed enhancement) (veh/hr)	Average No. of Waiting Passengers During Peak Hour (pax)	Required Waiting Space (m^2) [2]	Available Waiting Space (m^2) [3]	Sufficiency of Waiting Space
AM	510	8	64	16	42	OK
PM	210	4	53	14	42	OK

Remark: (1) Please refer to **Table 6.5** for estimated pedestrian trip generation of the proposed development. For conservative approach, 100% of pedestrian trip generation taking public transport would be catered by the additional public transport services.
(2) Assumed crush capacity of 0.25 m^2 per person.
(3) Available waiting space = length of bus layby x width of footpath = 14 x 3 = 42m^2.

5.3.4 As shown in **Table 5.6**, the assessment results indicate that there is sufficient waiting space for waiting passengers at the proposed bus layby.

6. ASSESSMENT OF PUBLIC TRANSPORT SERVICES

6.1 Existing Public Transport Conditions

Existing Public Transport Services

6.1.1 The existing public transport services on Ping Che Road in the vicinity of the Application Site are summarised in **Tables 6.1** and **6.2** and illustrated in **Figure 6.1**.

Table 6.1 Existing Franchised Bus Route along Ping Che Road

Route No.	Origin – Destination	Peak Frequency (min)
Franchised Bus Route		
79K	Sheung Shui Bus Terminus – Ta Kwu Ling (Tsung Yuen Ha)	15 – 30

Table 6.2 Existing GMB Route along Ping Che Road

Route No.	Origin – Destination	Peak Frequency (min)
GMB Route		
52K	Fanling Station – Ping Che	4 – 10

Existing Public Transport Utilisation

6.1.2 Public transport utilisation survey was undertaken at the bus stop and GMB stop at Hung Leng Village near the junction of Ping Che Road / Sha Tau Kok Road on a normal weekday in September 2021 to assess the peak utilisation of public transport services along Ping Che Road. The surveyed peak hour public transport utilisation rates are summarised in **Table 6.3**.

Table 6.3 2021 Observed Public Transport Services Utilization in the Vicinity

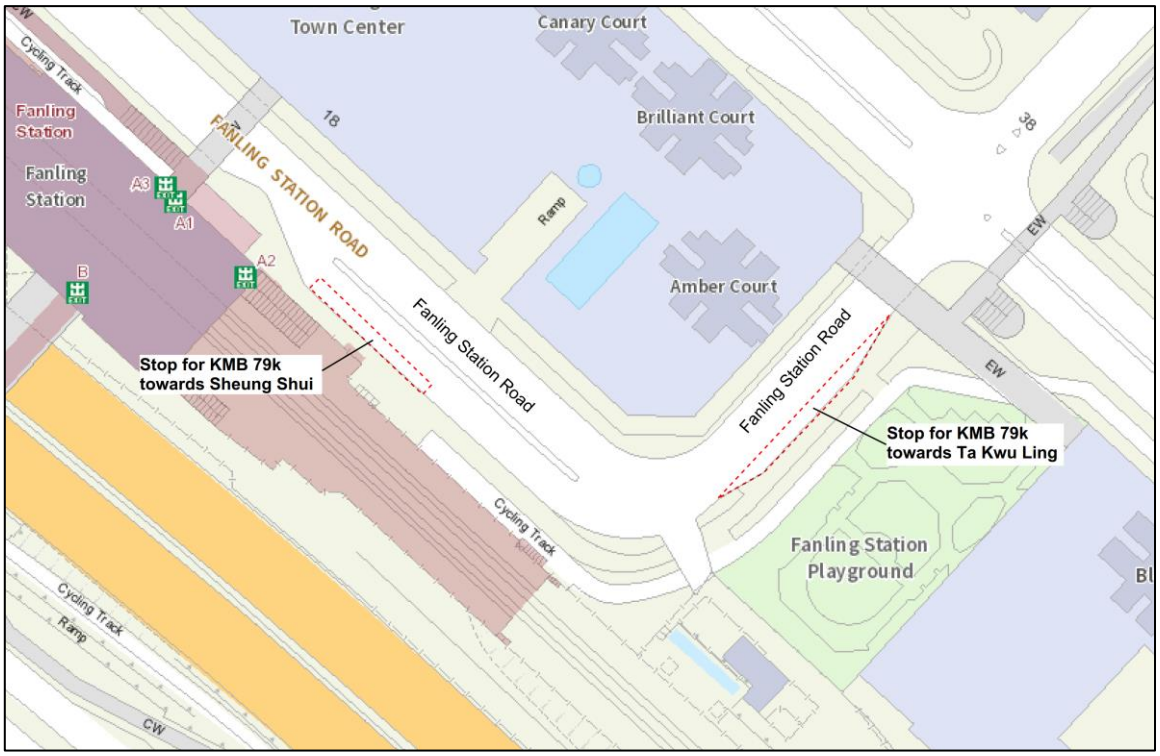
AM Peak						
Public Transport Services	**Direction**	**Destination**	**Observed Trips (veh/hr)**	**Observed Capacity (1,2) (pax/hr)**	**Observed Peak Hour Demand(3) (pax/hr)**	**Peak Hour Utilization (%)**
GMB 52K	NB	Ping Che	30	495	295	60%
	SB	Fanling Station	13	230	205	89%
KMB 79K	NB	Ta Kwu Ling (Tsung Yuen Ha)	2	240	145	60%
	SB	Sheung Shui Bus Terminus	3	360	195	54%
PM Peak						
Public Transport Services	**Direction**	**Destination**	**Observed Trips (veh/hr)**	**Observed Capacity (1,2) (pax/hr)**	**Observed Peak Hour Demand(3) (pax/hr)**	**Peak Hour Utilization (%)**
GMB 52K	NB	Ping Che	21	360	245	68%
	SB	Fanling Station	13	220	215	98%
KMB 79K	NB	Ta Kwu Ling (Tsung Yuen Ha)	3	360	150	42%
	SB	Sheung Shui Bus Terminus	2	240	75	31%

Remark: (1) The capacity of franchised bus is assumed to be 120 pax/veh.
(2) Capacity rounded down to nearest 5 pax/hr.
(3) PT Demand rounded up to nearest 5 pax/hr.

6.1.3 The above results indicate that all surveyed public transport services along Ping Che Road are currently operating with ample capacities during the morning and evening peak periods.

Existing Kerbside Utilisation at Fanling Station Road

6.1.4 Kerbside utilisation survey was also undertaken at the 2 existing bus stops on Fanling Station Road on a normal weekday in September 2021 as shown in the drawing below. The surveyed peak hour kerbside utilisation rates are summarised in **Table 6.4**.



Insert: Location plan of surveyed bus stops near Fanling MTR Station

Table 6.4 2021 Observed Kerbside Utilisation at Existing Bus Stops on Fanling Station Road

Location	Length of Layby (m) (1)	Kerbside Capacity of Bus Layby (m-min) (2)	2021 Observed Peak Kerbside Utilisation Rate (%)	
			AM Peak	PM Peak
Fanling Station Road near Fanling MTR Station (stop for KMB 79K towards Sheung Shui)	31	1,860	51.9%	28.1%
Fanling Station Road near Fanling Station Playground (stop for KMB 79K towards Ta Kwu Ling)	28	1,680	5.0%	6.8%

Remark: (1) Temporary traffic management was observed during the survey period.
(2) Kerbside capacity (m-min) = Length of layby (m) x 60 min/hr

6.1.5 As shown in **Table 6.4**, the identified bus stops operate with sufficient kerbside capacity.

6.2 Future Public Transport Conditions

Demand for Public Transport Services of Proposed Development

6.2.1 As discussed in **Section 4.5**, the development pedestrian trips derived in **Table 4.11** are shown in **Table 6.5** below.

Table 6.5 Estimated Pedestrian Trip Generation of the Proposed Development

Development	No. of Flats	Pedestrian Trip Generation (ped/hr)			
		AM Peak		PM Peak	
		Gen	Att	Gen	Att
Proposed Development	596 flats	563	92	231	436

6.2.2 As mentioned in **Chapter 2**, the proposed transitional housing is provided for low-income families, it is anticipated that these families have no demand for private car parking space. Therefore, it is expected that all residents of the proposed development would rely on the road-based public transport services on Ping Che Road. For conservative approach, it is assumed that the modal split of development pedestrian trips would be 100% public transport services.

Public Transport Utilization with Proposed Development

6.2.3 In order to cater to the PT demand from the proposed development, enhancement of the existing franchised bus service 79K are proposed as shown in **Table 6.6**.

6.2.4 It is proposed to increase the trips of 79K by 5 trips/hr in AM Peak and 4 trips/hr in PM peak, for a total of 8 trips per hour via Fanling MTR Station during AM peak-hour (i.e. headway of about 7.5 minutes) and 7 trips per hour towards Ta Kwu Ling (Tsung Yuen Ha) during PM peak-hour period (i.e. headway of about 8.5 minutes) in design year 2030. The exact additional public transport arrangement would be subject to further liaison with TD at later stage.

Table 6.6 2026 & 2030 Public Transport Utilization with Proposed Development

Design Year 2026									
Public Transport Service	**Peak Period**	**Direction**	**2026 Reference Peak Franchised Bus Demand (without Proposed Development) [1,2] (pax/hr)**	**PT Demand of Proposed Development [2,3] (pax/hr)**	**2026 Total Peak Franchised Bus Demand (pax/hr)**	**Proposed Additional Peak Hourly Franchised Bus Trips (veh/hr)**	**Total Peak Hourly Franchised Bus Trips (with proposed enhancement) (veh/hr)**	**Total Franchised Bus Capacity (with proposed enhancement) (pax/hr) [4]**	**2026 Peak Hour Occupancy (with proposed enhancement) (%)**
KMB 79K	AM	NB	180	85	265	+1	3	360	74%
		SB	240	510	750	+5	8	960	78%
	PM	NB	185	395	580	+3	6	720	81%
		SB	95	210	305	+1	3	360	85%
Design Year 2030									
Public Transport Service	**Peak Period**	**Direction**	**2030 Reference Peak Franchised Bus Demand (without Proposed Development) [1,2] (pax/hr)**	**PT Demand of Proposed Development [2,3] (pax/hr)**	**2030 Total Peak Franchised Bus Demand (pax/hr)**	**Proposed Additional Peak Hourly Franchised Bus Trips (veh/hr)**	**Total Peak Hourly Franchised Bus Trips (with proposed enhancement) (veh/hr)**	**Total Franchised Bus Capacity (with proposed enhancement) (pax/hr) [4]**	**2030 Peak Hour Occupancy (with proposed enhancement) (%)**
KMB 79K	AM	NB	210	85	295	+1	3	360	82%
		SB	280	510	790	+5	8	960	82%
	PM	NB	215	395	610	+4	7	840	73%
		SB	110	210	320	+2	4	480	67%

Remark: (1) Demand in Design Years 2026 and 2030 estimated based on population growth rate of +3.52% p.a. (from 2021 to 2026 and from 2026 to 2030) of "North District" District Council District extracted from "Projections of Population Distribution 2019-2028" by PlanD in **Table 4.5** for conservative approach.

(2) PT Demand rounded up to nearest 5 pax/hr.

(3) Please refer to **Table 6.5** for estimated pedestrian trip generation of the proposed development. For conservative approach, 100% of pedestrian trip generation taking public transport would be catered by the additional public transport services.

(4) The capacity of franchised bus is assumed to be 120 pax/veh.

Traffic Generation of Proposed Additional Public Transport Services

6.2.5 Based on **Table 6.6**, the traffic generation of the proposed enhancement of public transport services are summarised in **Table 6.7** below.

Table 6.7 Estimated Traffic Trip Generation of the Proposed Additional Public Transport Services

Enhancement		Proposed Trip per hour (veh/hr)		Traffic Trip Generation (pcu/hr)			
				AM Peak		PM Peak	
		AM	PM	Gen	Att	Gen	Att
2026 Enhancement of Public Transport Services							
Increased frequency of existing bus route 79K between Ping Che and Fanling	NB	1	3	0	3	0	8
	SB	5	1	13	0	3	0
			Total	**13**	**3**	**3**	**8**
2030 Enhancement of Public Transport Services							
Increased frequency of existing bus route 79K between Ping Che and Fanling	NB	1	4	0	3	0	10
	SB	5	2	13	0	5	0
			Total	**13**	**3**	**5**	**10**

Remark: The proposed additional public transport services would be subject to further liaison with TD at later stage.

2030 Kerbside Utilisation at Fanling Station Road

6.2.6 The peak hour kerbside utilisation rates of bus layby at Fanling Station Road near Fanling Station in design year 2030 with the proposed enhancement of public transport services are summarised in **Table 6.8**.

Table 6.8 2030 Kerbside Utilisation at Existing Bus Stops on Fanling Station Road (with Proposed PT Enhancement)

Location	Length of Layby (m)	Kerbside Capacity of Bus Layby (m-min) (1)	Additional Kerbside Demand due to Proposed Franchised Bus Enhancement (m-min)		Kerbside Utilisation Rate (with Proposed PT Enhancement) (%)	
			AM Peak	PM Peak	AM Peak	PM Peak
Fanling Station Road near Fanling MTR Station (stop for KMB 79K towards Sheung Shui)	31	1,860	98	39	57.2%	30.2%
Fanling Station Road near Fanling Station Playground (stop for KMB 79K towards Ta Kwu Ling)	28	1,680	39	156	7.3%	16.1%

Remark: (1) Kerbside capacity (m-min) = Length of layby (m) x 60 min/hr.

6.2.7 As shown in **Table 6.8**, the identified bus laybys operate with sufficient kerbside capacity with the proposed enhancement of public transport services.

7. LONG-TERM TRAFFIC FORECAST FOR NOISE IMPACT ASSESSMENT (NIA)

7.1 Methodology of Long-Term Traffic Forecast of NIA for Endorsement

7.1.1 A set of long-term traffic forecast has been derived for the environmental consultant for purpose of Noise Impact Assessment (NIA) of the Section 16 Planning Application. The methodology will be elaborated and the results of the long-term traffic forecast for NIA will be summarised for TD's consideration and endorsement.

7.1.2 The tentative completion year of the proposed development is 2023 and the temporary transitional housing is proposed to be operated by NGO for 7 years after completion. Therefore, design year 2030 (i.e. completion year + 7 years) is adopted as the assessment year for vehicular traffic forecast for NIA.

Year 2030 Traffic Forecast for NIA and Vehicle Composition

7.1.3 To derive 2030 future traffic forecast data for NIA purpose, 2030 design flow as derived in **Chapter 4** of this TIA report have been used as basis. Then, 2030 design flow were directly converted from PCU to vehicles based on the PCU conversion factors derived from traffic survey data.

7.1.4 The Heavy Vehicle (HV) percentage (i.e. vehicles with unladen weight > 1525 kg) was summarised based on the surveyed vehicle distribution. The 2030 AM and PM peak hour traffic forecast and vehicle composition breakdown as presented in **Appendix C** have been adopted for NIA purposes. The index plan of identified road sections for NIA is shown in **Figure 7.1**.

8. SUMMARY AND CONCLUSION

8.1 Summary of Findings

8.1.1 The Application Site Area is approximately 13,207m^2. The Proposed Transitional Housing Development comprises of two 4-storey residential blocks, a 1-storey Elderly Service Centre, and 1-storey Multi-Purpose Amenity Blocks providing a total of 596 units.

8.1.2 It is anticipated that these families have no demand for private car parking space, and it is assumed 100% of the residents of transitional housing will rely on public transport. Therefore, it is proposed that no private car parking space and 2 loading / unloading laybys for heavy goods vehicles would be provided within the Application Site.

8.1.3 A bus layby is proposed along Ping Che Road southbound direction outside the Application Site to facilitate boarding / alighting of public transport passengers and to avoid potential blockage of other bypass traffic. In addition, in order to further enhance the pedestrian safety of public transport passengers (especially the elderly) crossing Ping Che Road, signalised pedestrian crossing is also proposed near the bus stops outside the Application Site.

8.1.4 Traffic and pedestrian count surveys were carried out from 7:30am to 9:30am and from 5:00pm to 7:00pm on a typical weekday. The assessment results revealed that all identified junctions and footpaths are currently operating with ample capacities.

8.1.5 The tentative completion year of the proposed development is 2023, therefore, Design Year 2026 (i.e. completion year + 3 years) is adopted. In addition, the temporary transitional housing is proposed to be operated by NGO for 7 years after completion, thus, an Ultimate Design Year 2030 (i.e. completion year + 7 years) is also adopted.

8.1.6 The annual traffic growth rates of +3.73% p.a. from year 2020 to 2030 is adopted to produce a conservative 2026 and 2030 traffic forecast. This is deemed sufficient to allow any unexpected future growth as a result of some changes in land use or redevelopments in the area, if any.

8.1.7 For the traffic trip generation of the proposed development, it is estimated that it will generate max. 29 pcus and attract a max. 28 pcus in AM peak hour and will generate a max. 18 pcus and attract a max. 21 pcus in PM hour.

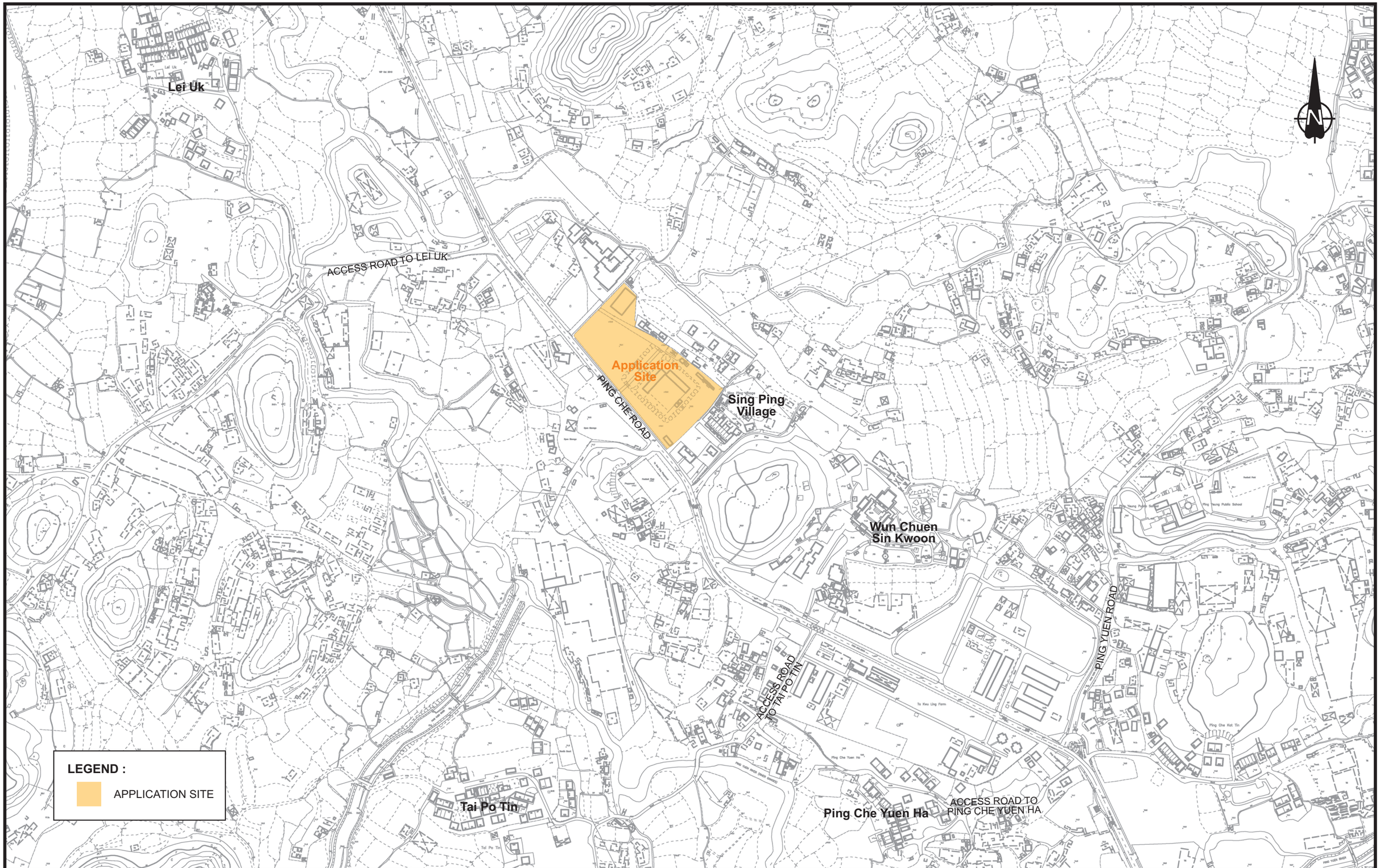
8.1.8 The results of junction performance assessment revealed that all identified junctions would operate with ample capacities under reference and design scenarios in design years 2026 and 2030; the results of footpath performance assessment revealed that all identified footpaths would be operating with ample capacities during the morning and evening peak periods in design year 2030 with the proposed development.

8.1.9 Survey on public transport services on Ping Che Road was conducted in the vicinity of the Application Site during the above said period. The results revealed that all surveyed public transport services are currently operating with ample capacities in the vicinity of the Application Site. For conservative approach, all pedestrian trip generation taking public transport would be catered by the enhanced public transport services (i.e. increase frequency of existing bus route 79K), subject to further liaison with TD at later stage.

8.2 Conclusion

8.2.1 In conclusion, the traffic impact assessment demonstrated that the proposed transitional housing development with 596 nos. of housing units has no adverse traffic impact to the adjacent road network with the proposed enhanced public transport services which is considered acceptable in traffic engineering point of view.

FIGURES



Rev.	Description	Checked	Date
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Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

SITE LOCATION PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	1.1	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F11.CDR/LLH/27OCT21

Original Size : A3

LEGEND:

- APPLICATION SITE BOUNDARY
- VEHICULAR ACCESS TO APPLICATION SITE
- EXISTING GREENERY AREA TO BE CONVERTED TO FOOTPATH
- EXISTING SITE AREA TO BE CONVERTED TO FOOTPATH AND BUS LAYBY
- PEDESTRIAN ACCESS TO APPLICATION SITE
- PRIMARY SIGNAL WITH PUSH BUTTON & AUDIBLE UNIT FOR SIGNALISED PEDESTRIAN CROSSING
- SECONDARY SIGNAL FOR SIGNALISED PEDESTRIAN CROSSING

2.4m HIGH METAL FENCE WALL

HGV L/UL

HGV L/UL

EVA 7.3m WIDE (DRIVEWAY)

7.3m

9.5m

EMERGENCY CRASH GATE (FOR EVA ONLY)

6m

EVA (HARD-PAVED)

5.2m

8.5m

1.5m

RCP (1 STOREY)

TX

TX

3.1m

E&M (1 STOREY)

2m WIDE PEDESTRIAN CONNECTION TO BE REPROVIDED FOR LOCAL VILLAGE

MULTI-PURPOSE AMENITY BLOCKS (1 STOREY)

PEDESTRIAN ENTRANCE GATE

ELDERLY SERVICE CENTER (1 STOREY)

EXISTING STRUCTURE

PEDESTRIAN CIRCULATION TO ELDERLY SERVICE CENTRE

2.9m - 3.4m WIDE FOOTPATH (AFTER WIDENING)

PING CHE ROAD

BUS STOP

BS

15m

14m

15m

52m

PROPOSED NOISE BARRIER

PROPOSED LOCAL WIDENING OF ACCESS ROAD TO FACILITATE INGRESS OF 12m-LONG FIRE ENGINE TO APPLICATION SITE (PLEASE REFER TO SWEPT PATH ANALYSIS IN APPENDIX A)

PROPOSED CONVERSION OF EXISTING 1.3m WIDE GREENERY AREA FOR FOOTPATH WIDENING (FROM 1.6m TO 3.3m)

PEDESTRIAN ENTRANCE GATE

PROPOSED 4m WIDE SIGNALIZED PEDESTRIAN CROSSING

Rev.	Description	Checked	Date
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Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES - TRAFFIC IMPACT ASSESSMENT

Drawing Title

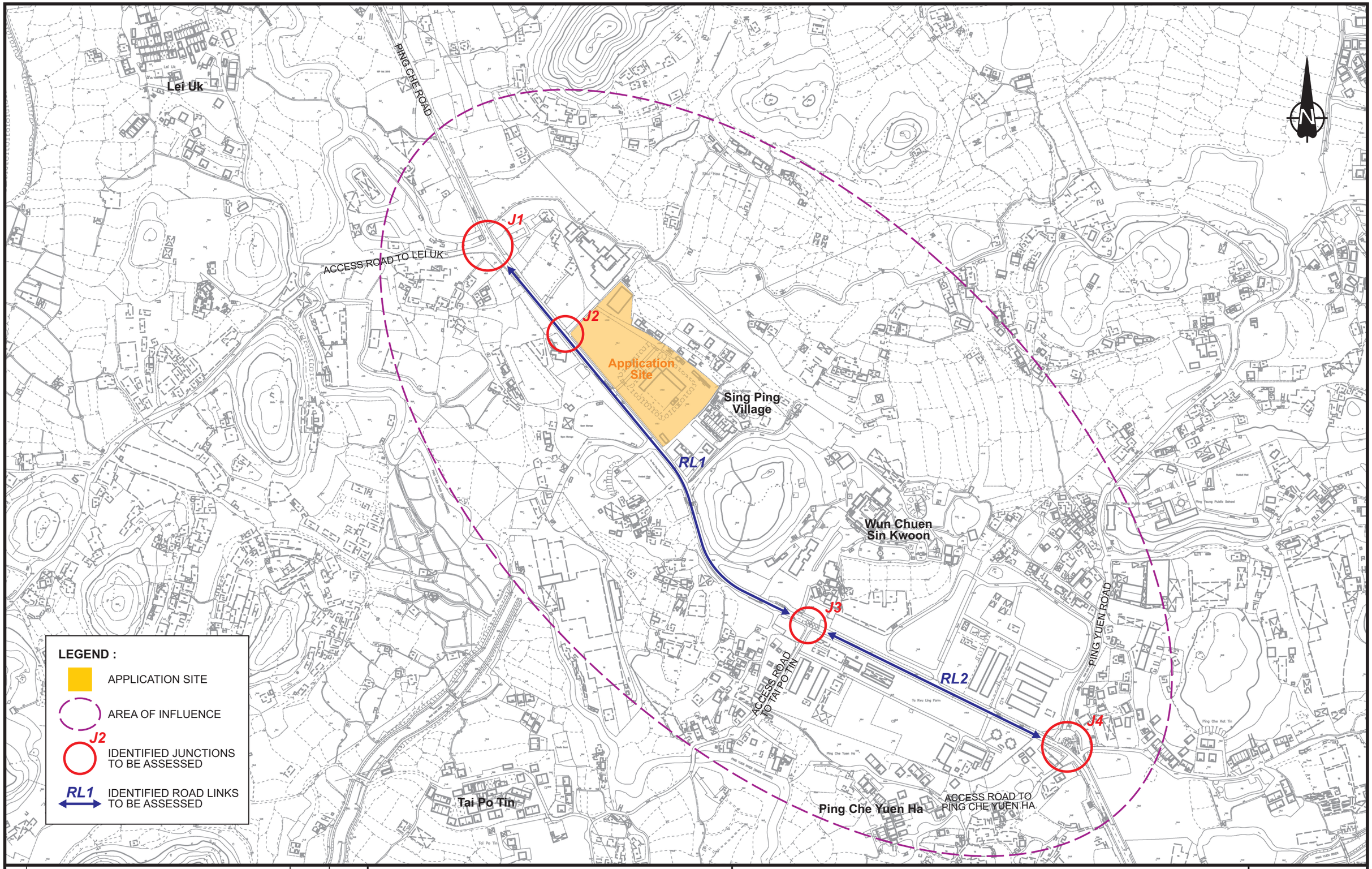
MASTER LAYOUT PLAN & VEHICULAR ACCESS ARRANGEMENT

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WCH	KFM	1:500(A3)	NOV 2021	2.1	-

SYSTRA MVA

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Original Size : A3



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Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

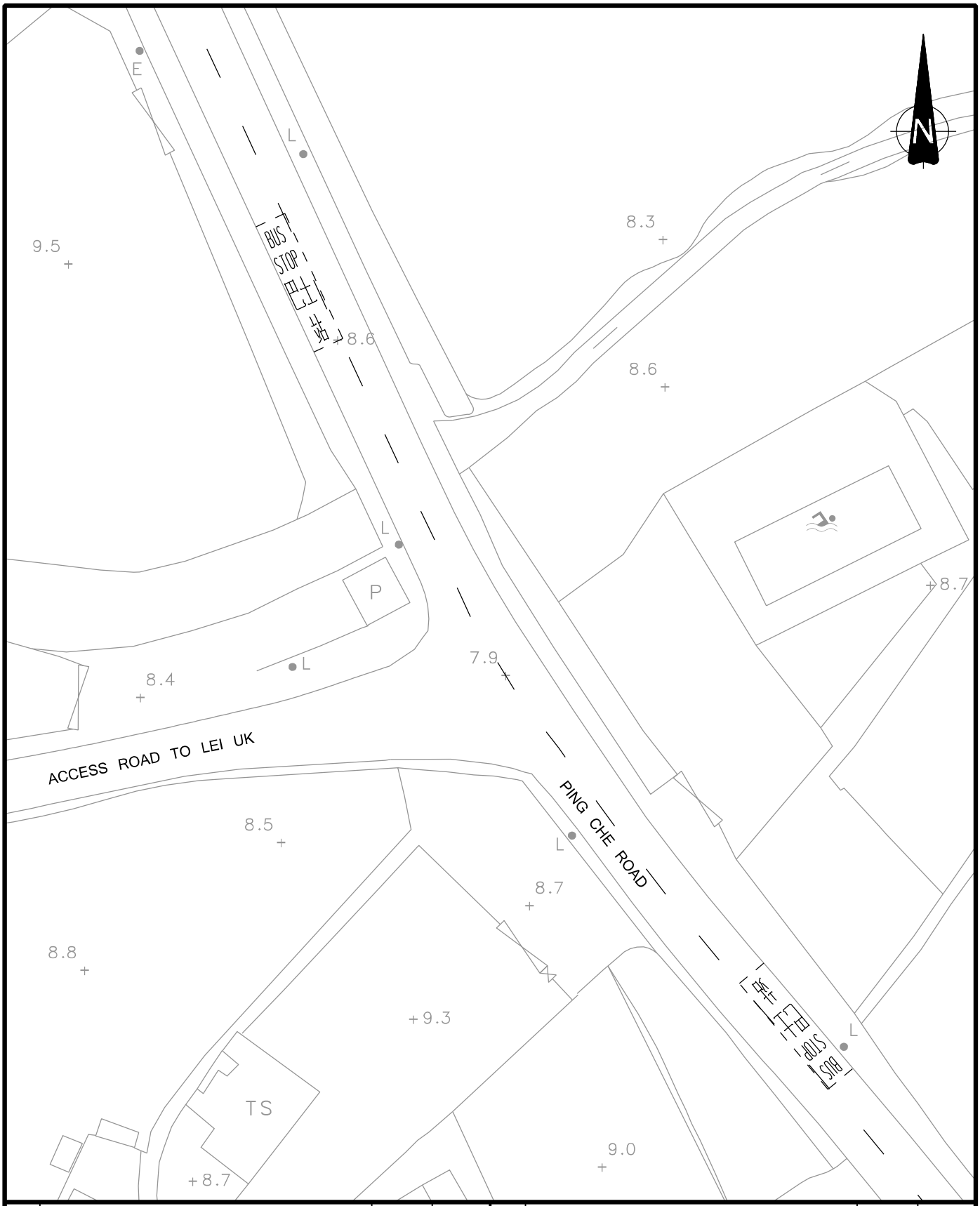
IDENTIFIED JUNCTIONS AND ROAD LINKS IN THE VICINITY

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SYSTRA MVA

CHK50520110/PCR/TIA1/F31.CDR/LLH/28OCT21

Original Size : A3



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Rev.	Description	Checked	Date	Rev.	Description	Checked	Date

Project Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES - TRAFFIC IMPACT ASSESSMENT

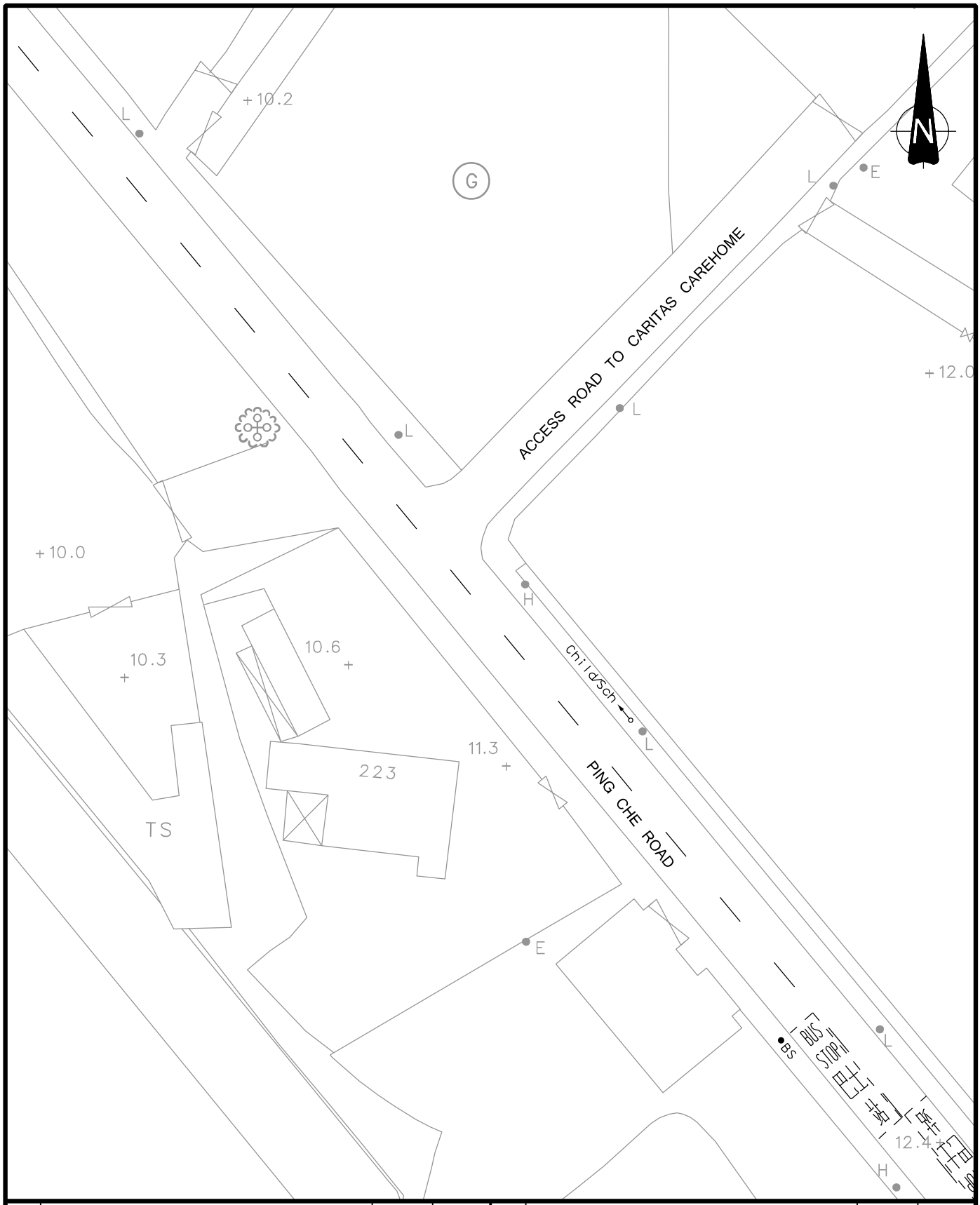
Drawing Title

EXISTING JUNCTION LAYOUT OF PING CHE ROAD / ACCESS ROAD TO LEI UK (J1)

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CHK50520110/PCR/TIA1/F32.DGN/CKC/28OCT21

Original Size : A4



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Rev.	Description	Checked	Date	Rev.	Description	Checked	Date

Project Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES - TRAFFIC IMPACT ASSESSMENT

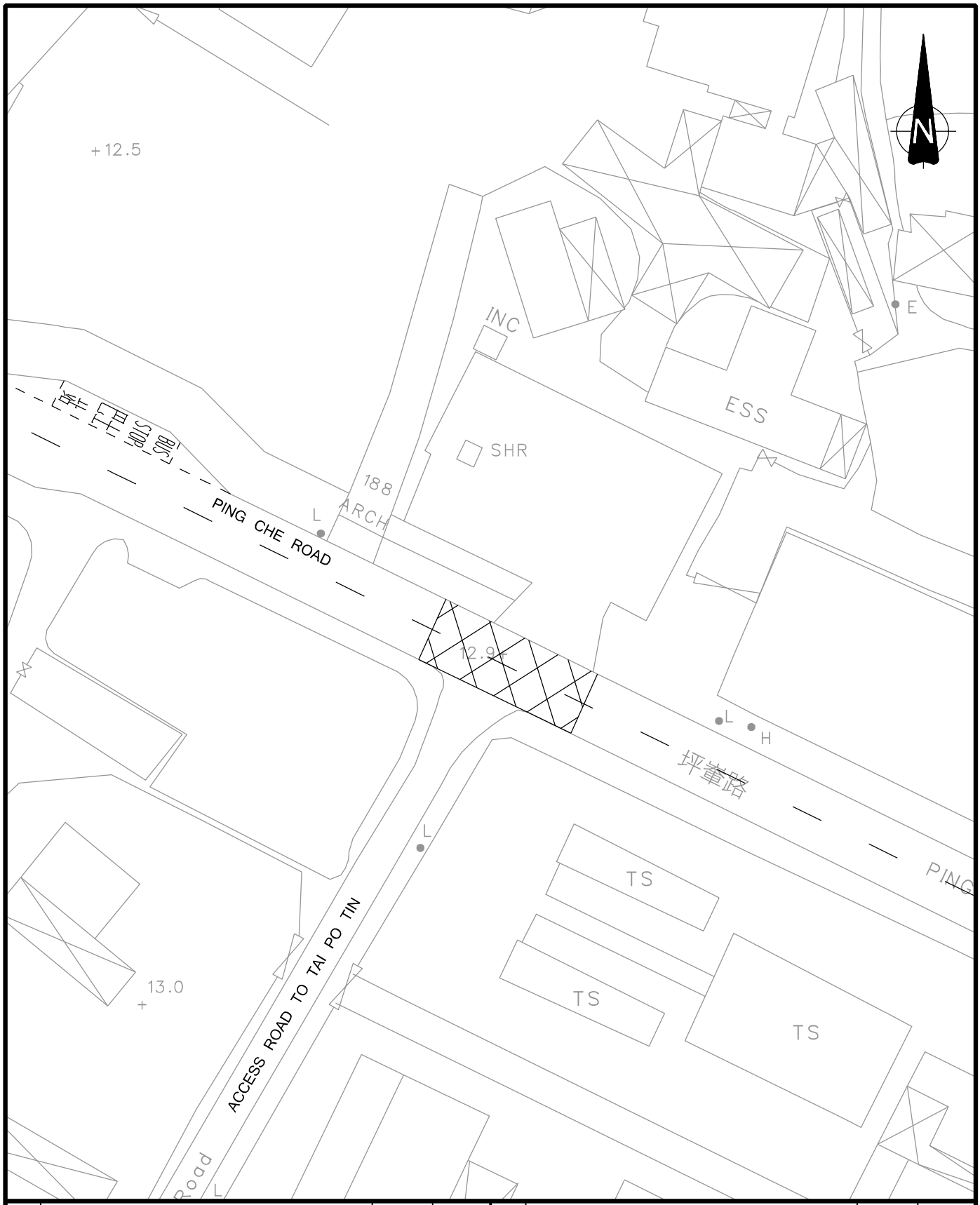
Drawing Title

EXISTING JUNCTION LAYOUT OF PING CHE ROAD / ACCESS ROAD TO APPLICATION SITE (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	1:500(A4)	OCT 2021	3.3	-

CHK50520110/PCR/TIA1/F33.DGN/CKC/28OCT21

Original Size : A4



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-	-	-	-	-	-	-	-
Rev.	Description	Checked	Date	Rev.	Description	Checked	Date

Project Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES - TRAFFIC IMPACT ASSESSMENT

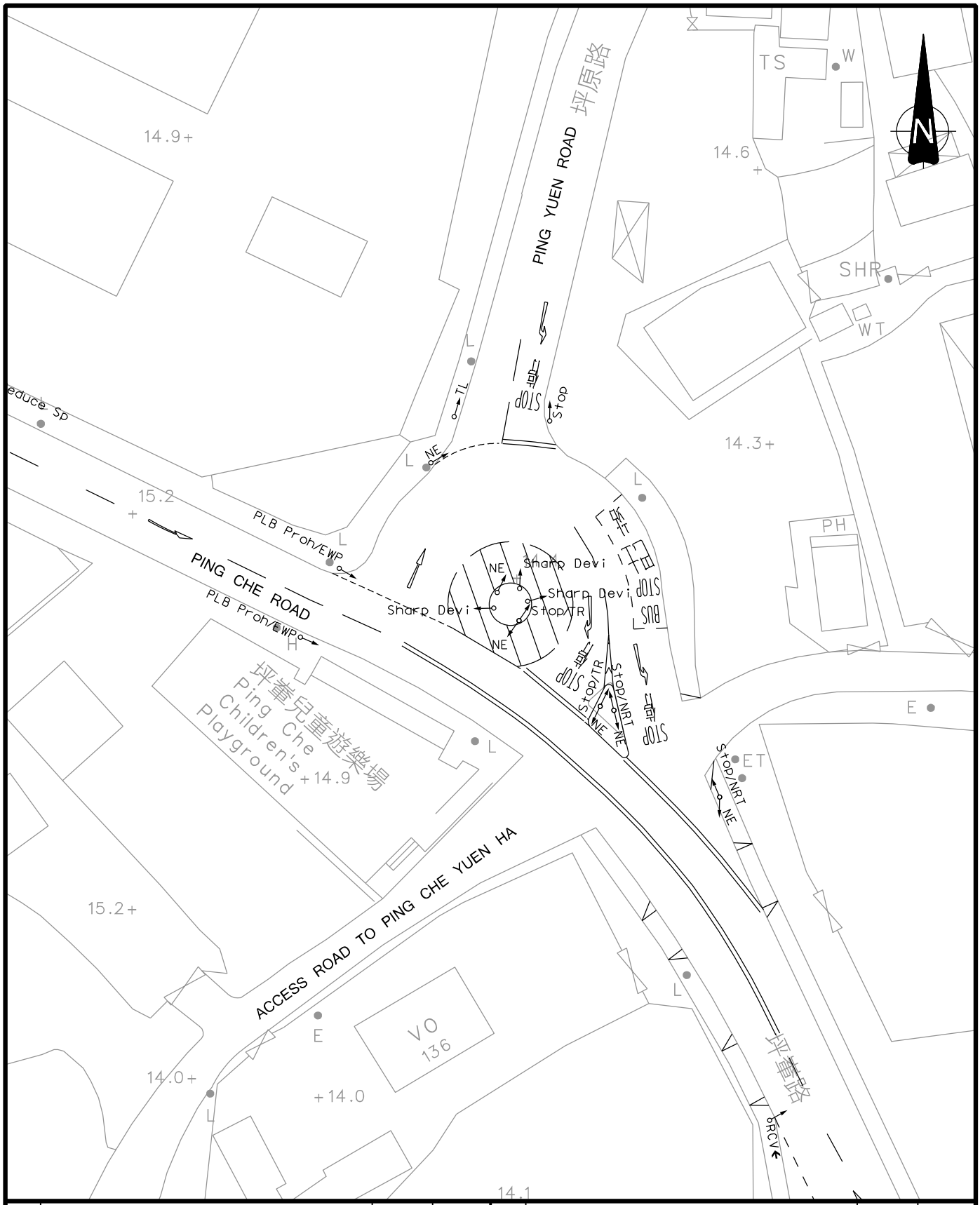
Drawing Title

EXISTING JUNCTION LAYOUT OF PING CHE ROAD / ACCESS ROAD TO TAI PO TIN (J3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	1:500(A4)	OCT 2021	3.4	-

CHK50520110/PCR/TIA1/F34.DGN/CKC/28OCT21

Original Size : A4



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-	-	-	-	-	-	-	-
Rev.	Description	Checked	Date	Rev.	Description	Checked	Date

Project Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES - TRAFFIC IMPACT ASSESSMENT

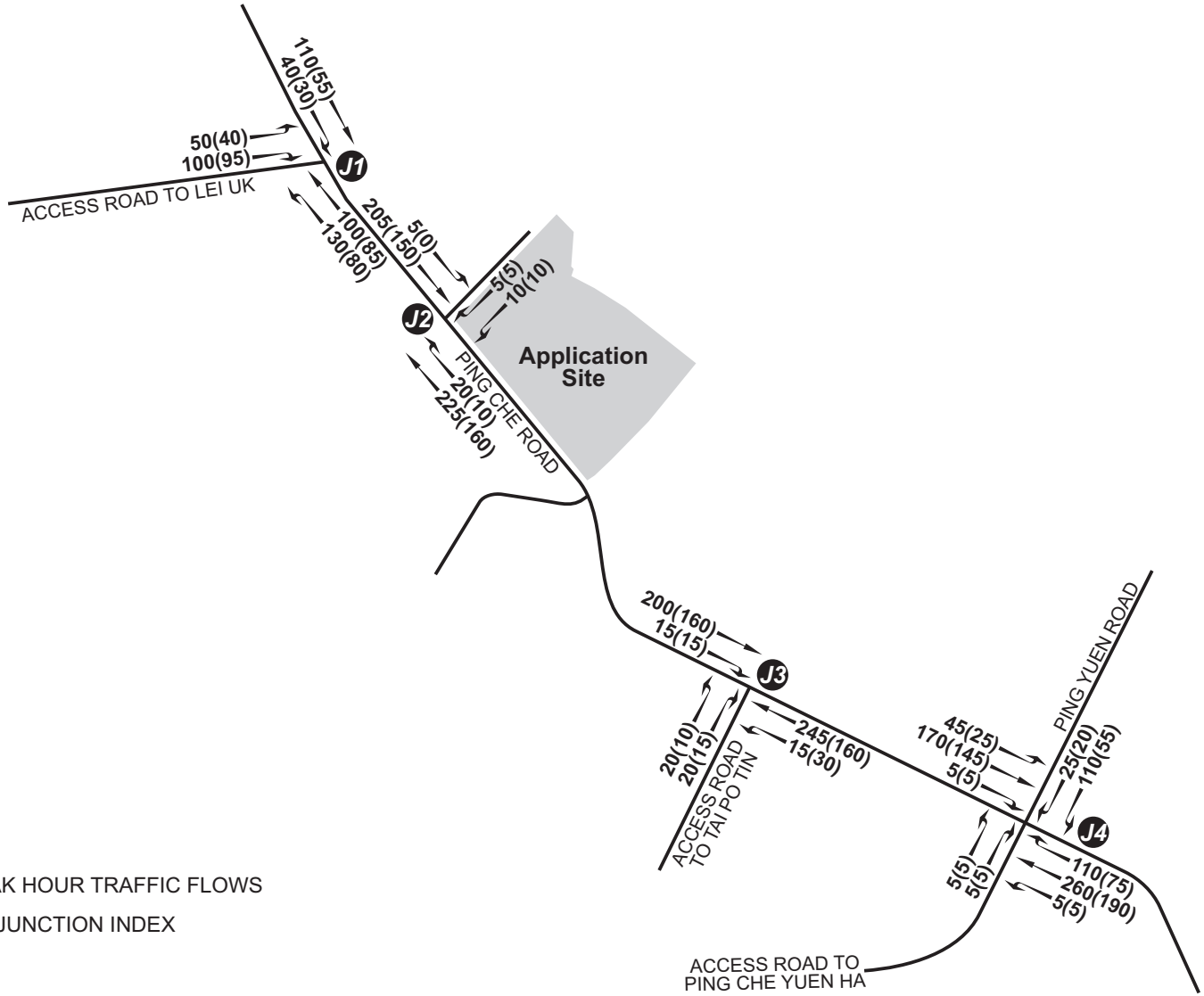
Drawing Title

EXISTING JUNCTION LAYOUT OF PING CHE ROAD / PING YUEN ROAD (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	1:500(A4)	OCT 2021	3.5	-

CHK50520110/PCR/TIA1/F35.DGN/CKC/28OCT21

Original Size : A4



LEGEND :

260(190) AM(PM) PEAK HOUR TRAFFIC FLOWS

J1 ASSESSED JUNCTION INDEX

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

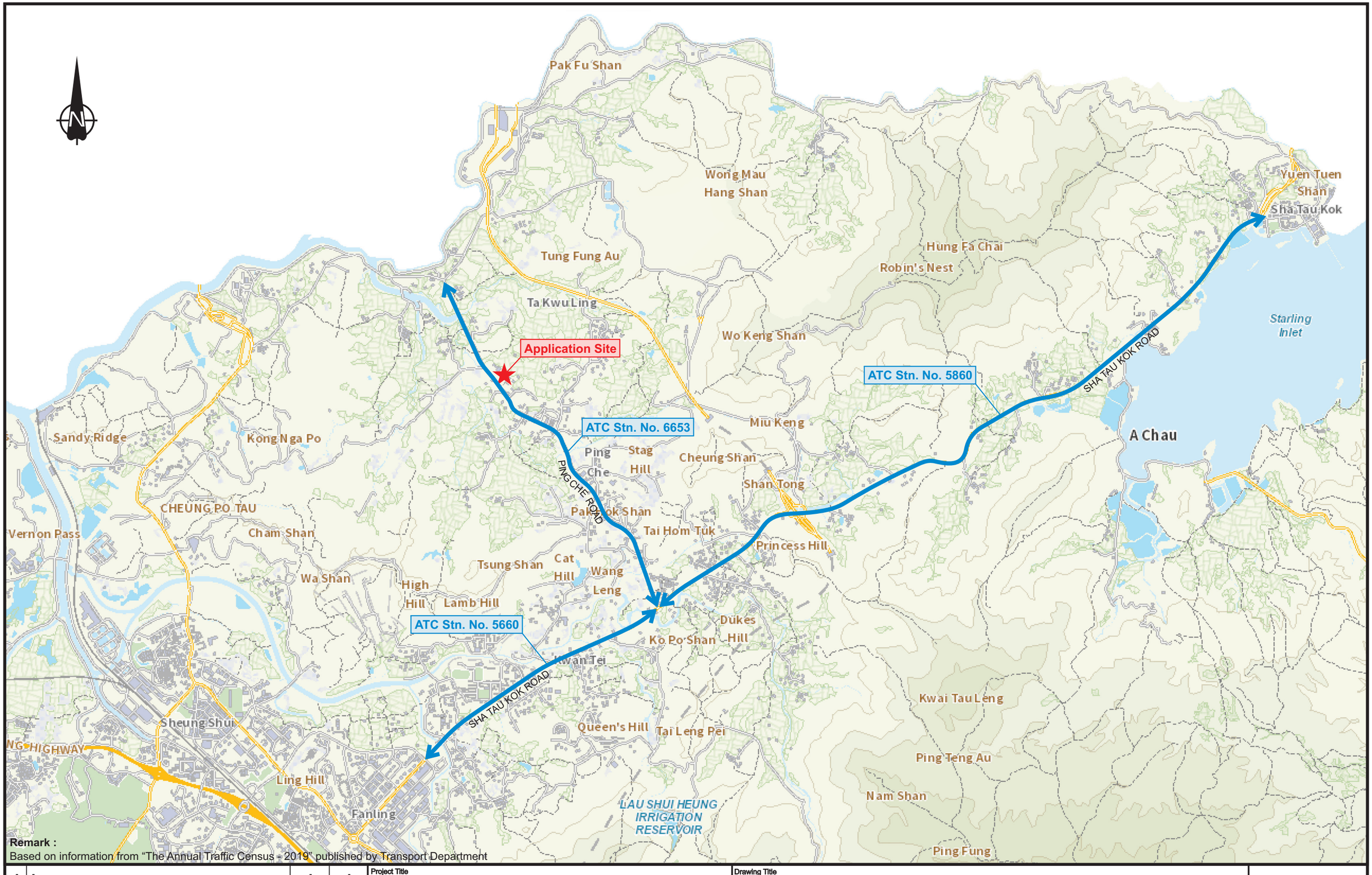
SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

2021 OBSERVED TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	3.6	-

SYSTRA MVA



Remark :
Based on information from "The Annual Traffic Census - 2019" published by Transport Department

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT
AT GOVERNMENT LAND IN DD82, PING CHE,
TA KWU LING, NEW TERRITORIES
TRAFFIC IMPACT ASSESSMENT

Drawing Title

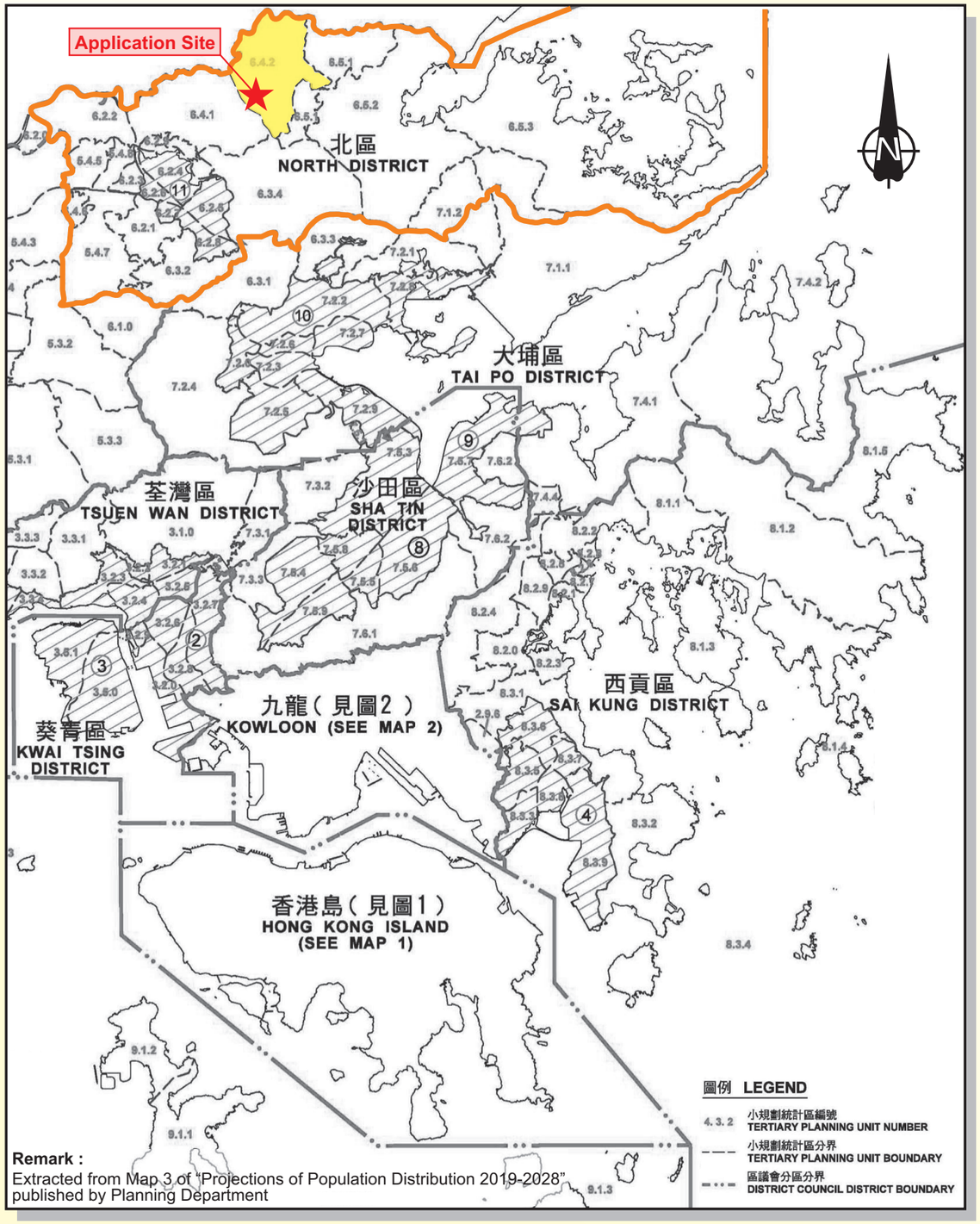
ANNUAL TRAFFIC CENSUS (ATC) COUNTING STATIONS LOCATION PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	4.1	-

SYSTRA MVA

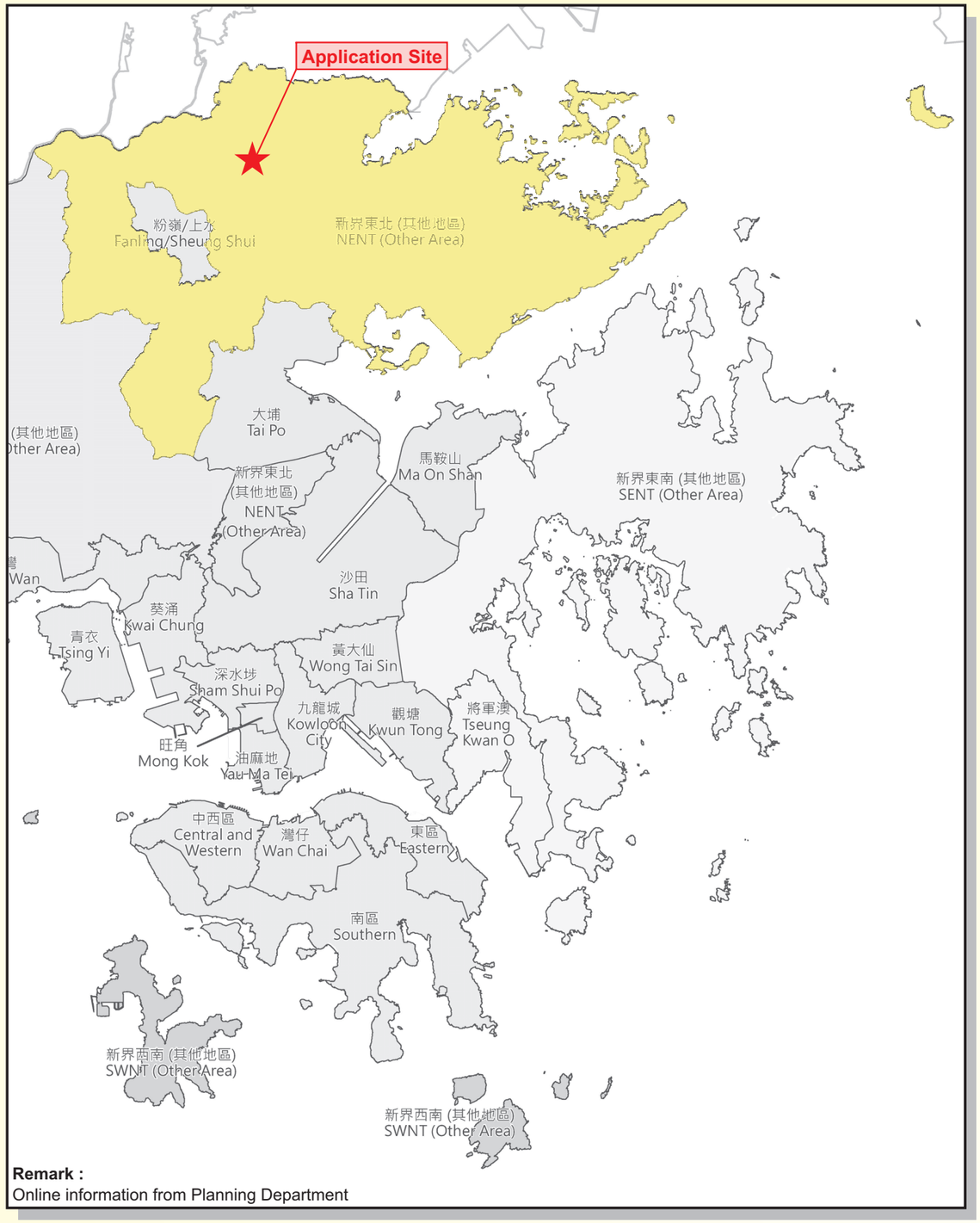
CHK50520110/PCR/TIA1/F41.CDR/LLH/27OCT21

Original Size : A3



Remark :
Extracted from Map 3 of "Projections of Population Distribution 2019-2028" published by Planning Department

District Council District (DCD) and Tertiary Planning Unit (TPU) Zone Plan



Remark :
Online information from Planning Department

2016-based Territorial Population and Employment Data matrix (TPEDM) Zone Plan

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

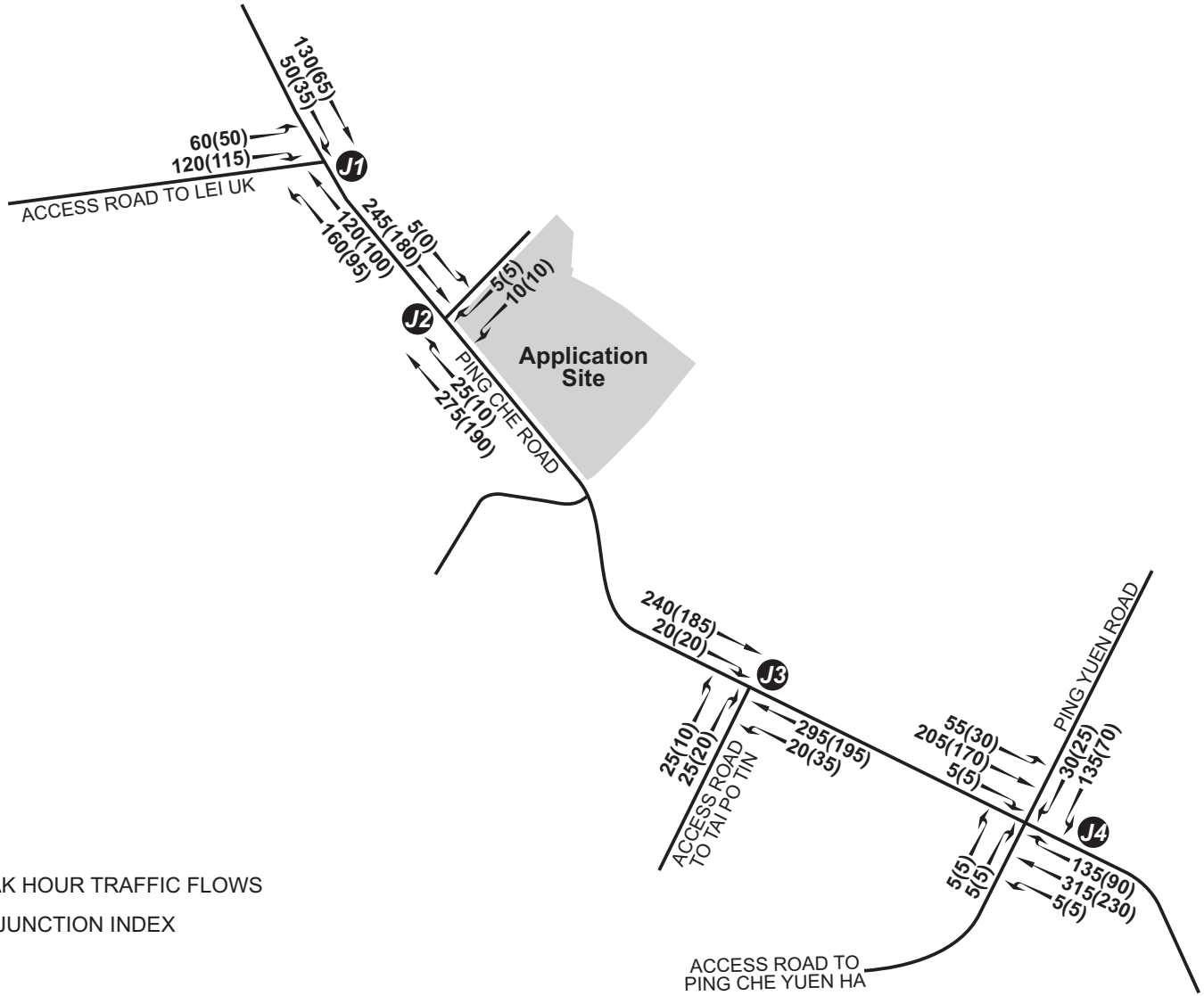
DISTRICT COUNCIL DISTRICT (DCD), TERTIARY PLANNING UNIT (TPU) AND 2016-BASED TPEDM ZONE PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	4.2	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F42.CDR/LLH/28OCT21

Original Size : A3



LEGEND :

315(230) AM(PM) PEAK HOUR TRAFFIC FLOWS

J1 ASSESSED JUNCTION INDEX

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

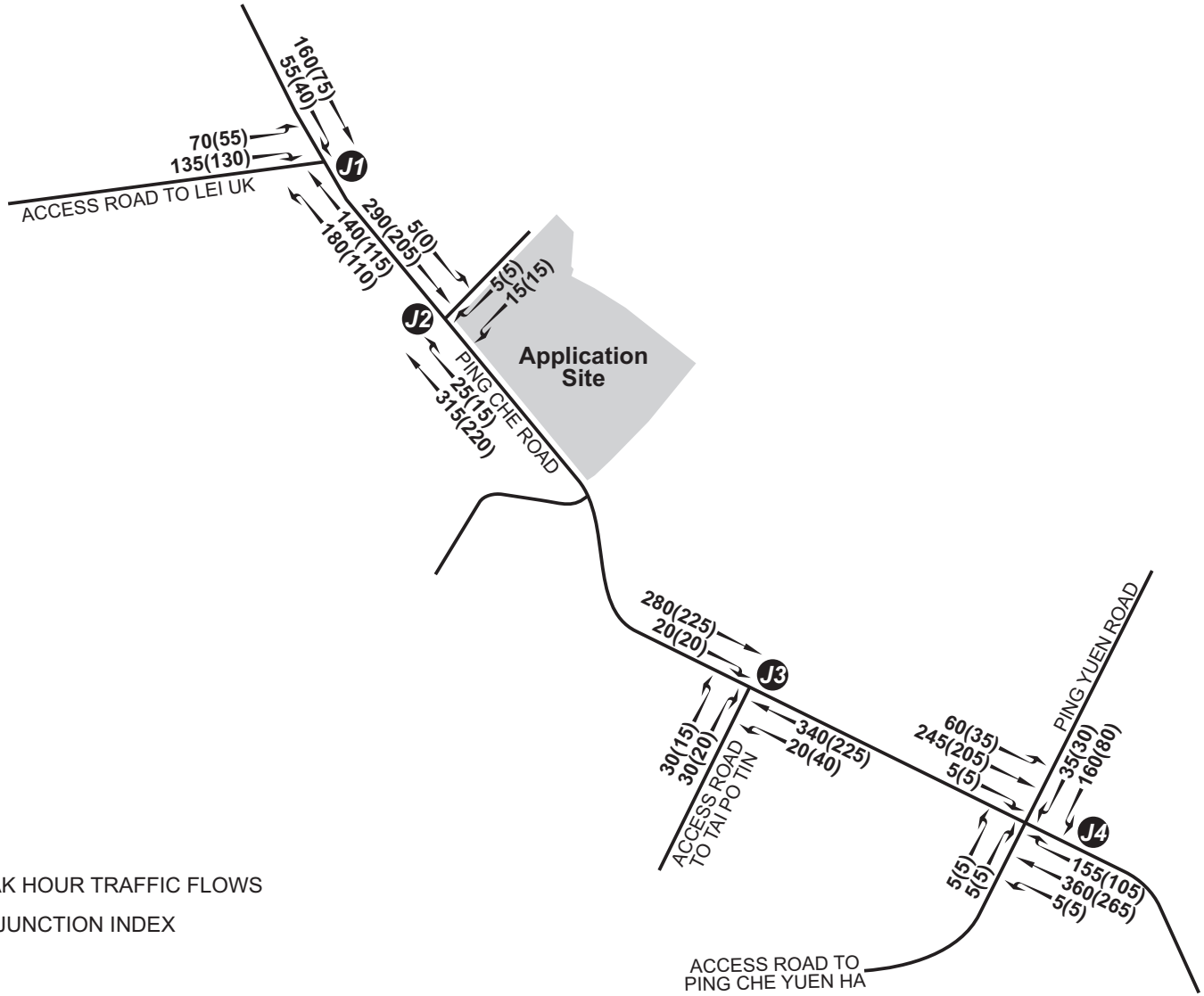
2026 REFERENCE TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	4.3	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F43.CDR/LLH/28OCT21

Original Size : A4



LEGEND :

360(265) AM(PM) PEAK HOUR TRAFFIC FLOWS

J1 ASSESSED JUNCTION INDEX

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

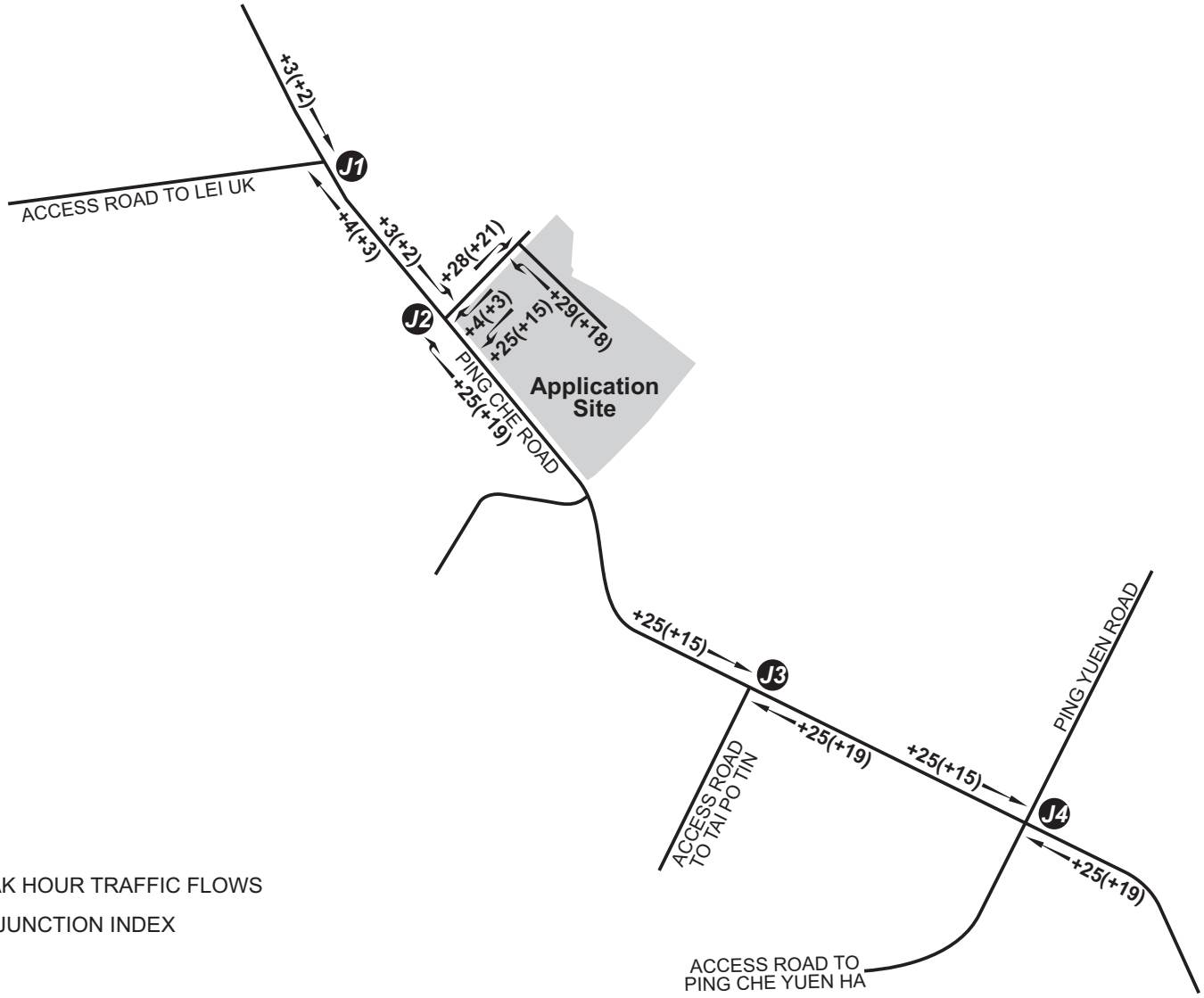
SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

2030 REFERENCE TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	4.4	-

SYSTRA MVA



LEGEND :

+25(+19) AM(PM) PEAK HOUR TRAFFIC FLOWS

J1 ASSESSED JUNCTION INDEX

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

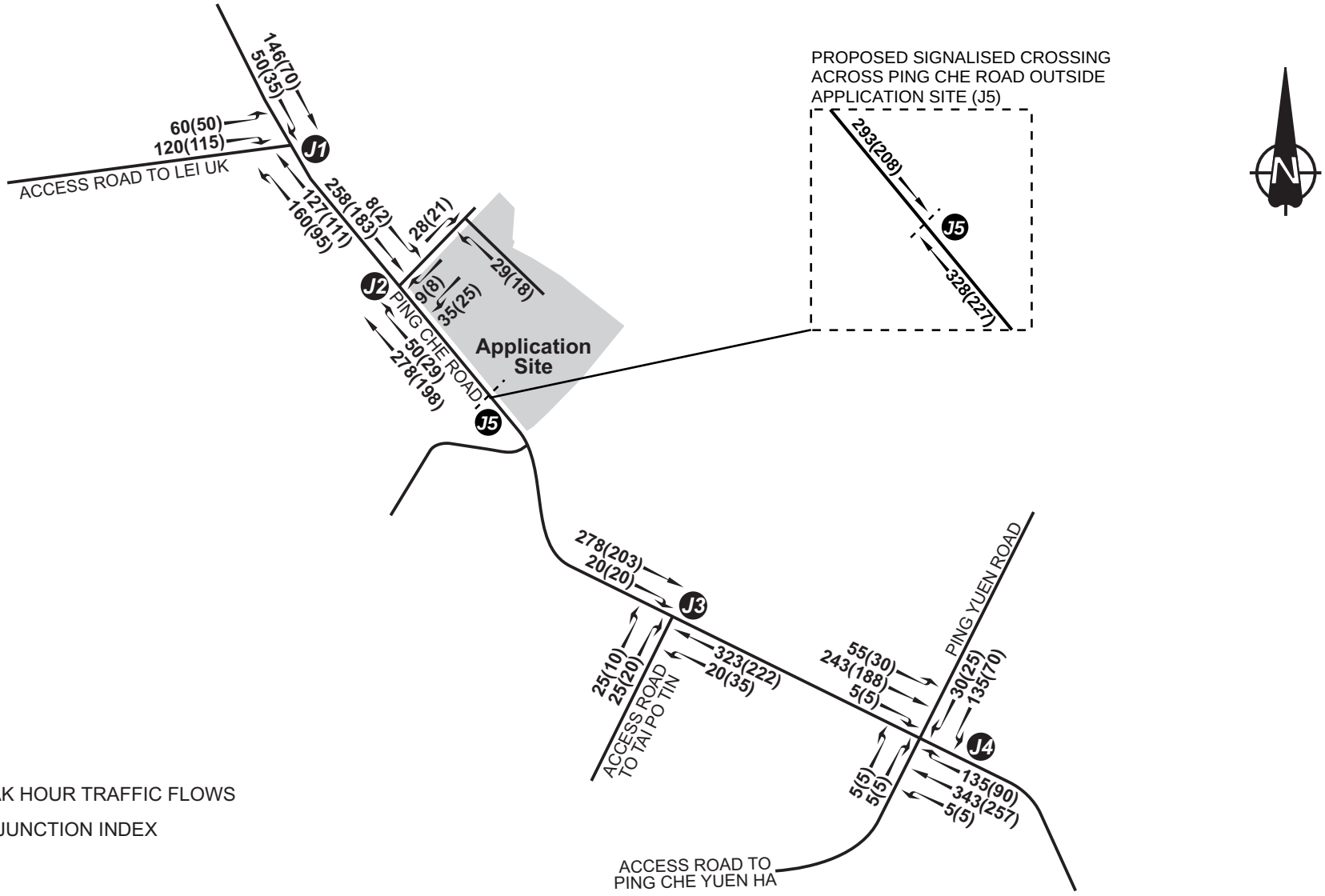
DEVELOPMENT TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	NOV 2021	4.5	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F45.CDR/LLH/3NOV21

Original Size : A4



Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

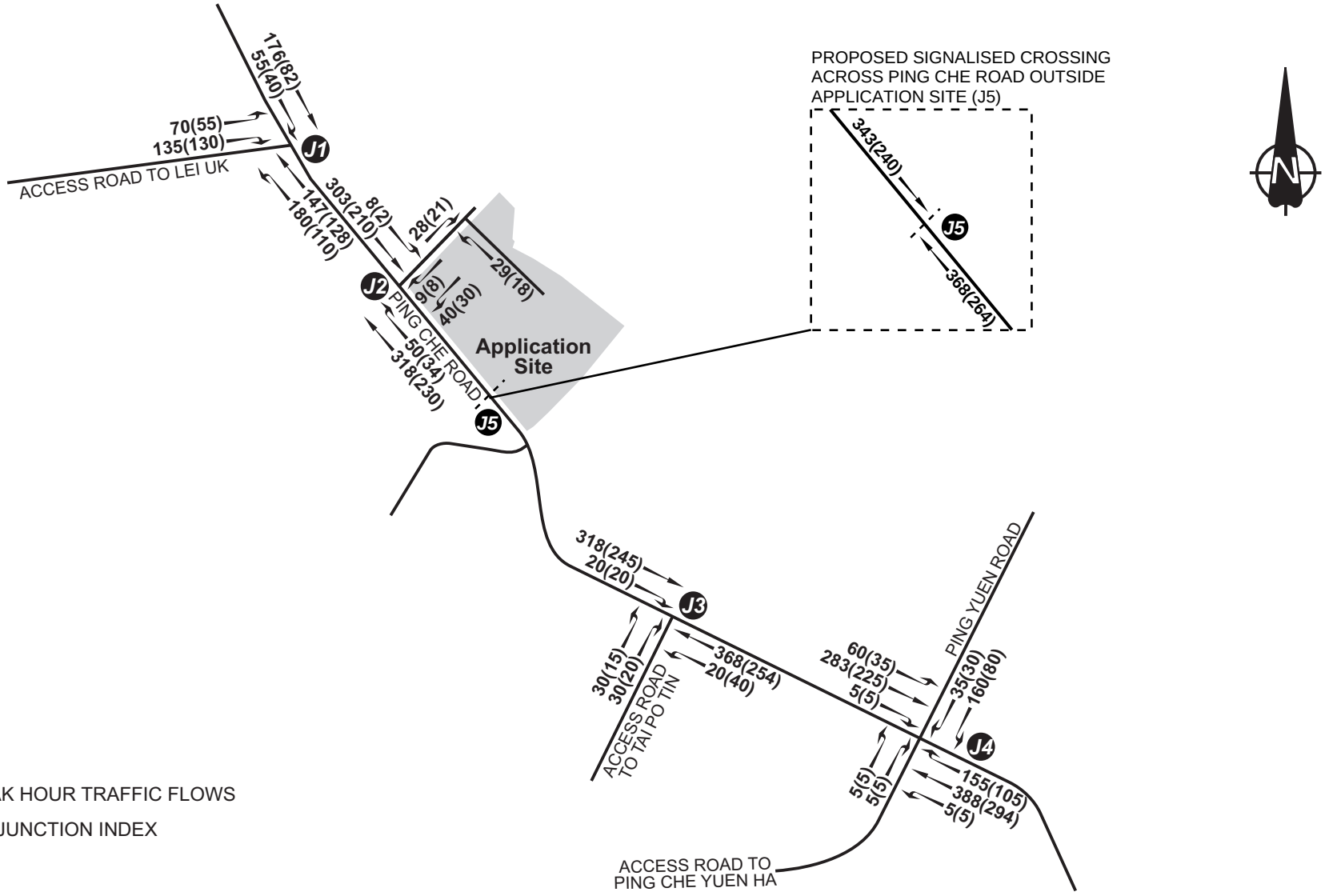
2026 DESIGN TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	NOV 2021	4.6	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F46.CDR/LLH/3NOV21

Original Size : A4



LEGEND :

388(294) AM(PM) PEAK HOUR TRAFFIC FLOWS

J1 ASSESSED JUNCTION INDEX

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Rev.	Description	Checked	Date
-	-	-	-

Project Title

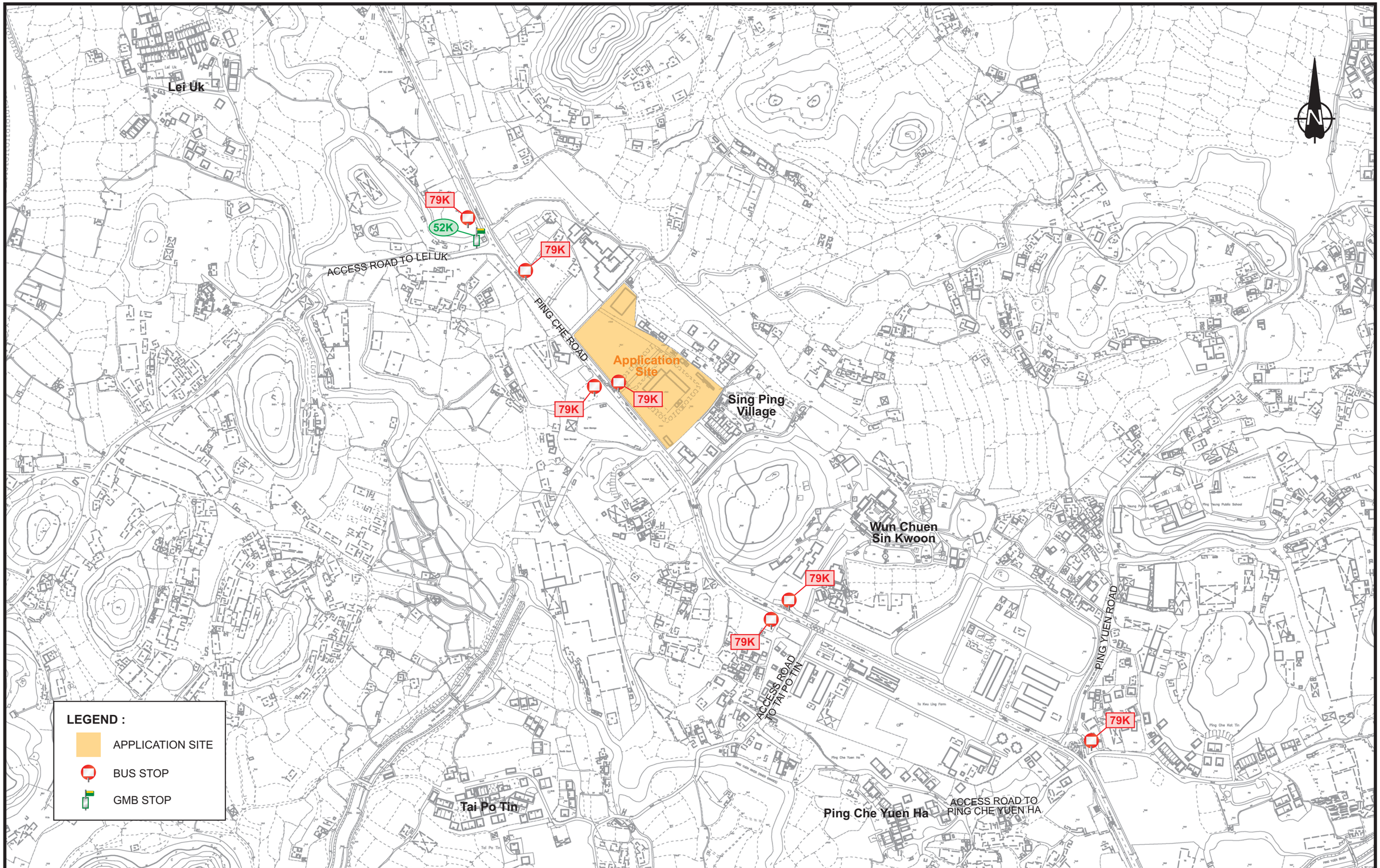
SECTION 16 PLANNING APPLICATION FOR PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES TRAFFIC IMPACT ASSESSMENT

Drawing Title

2030 DESIGN TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	NOV 2021	4.7	-

SYSTRA MVA



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT
AT GOVERNMENT LAND IN DD82, PING CHE,
TA KWU LING, NEW TERRITORIES
TRAFFIC IMPACT ASSESSMENT

Drawing Title

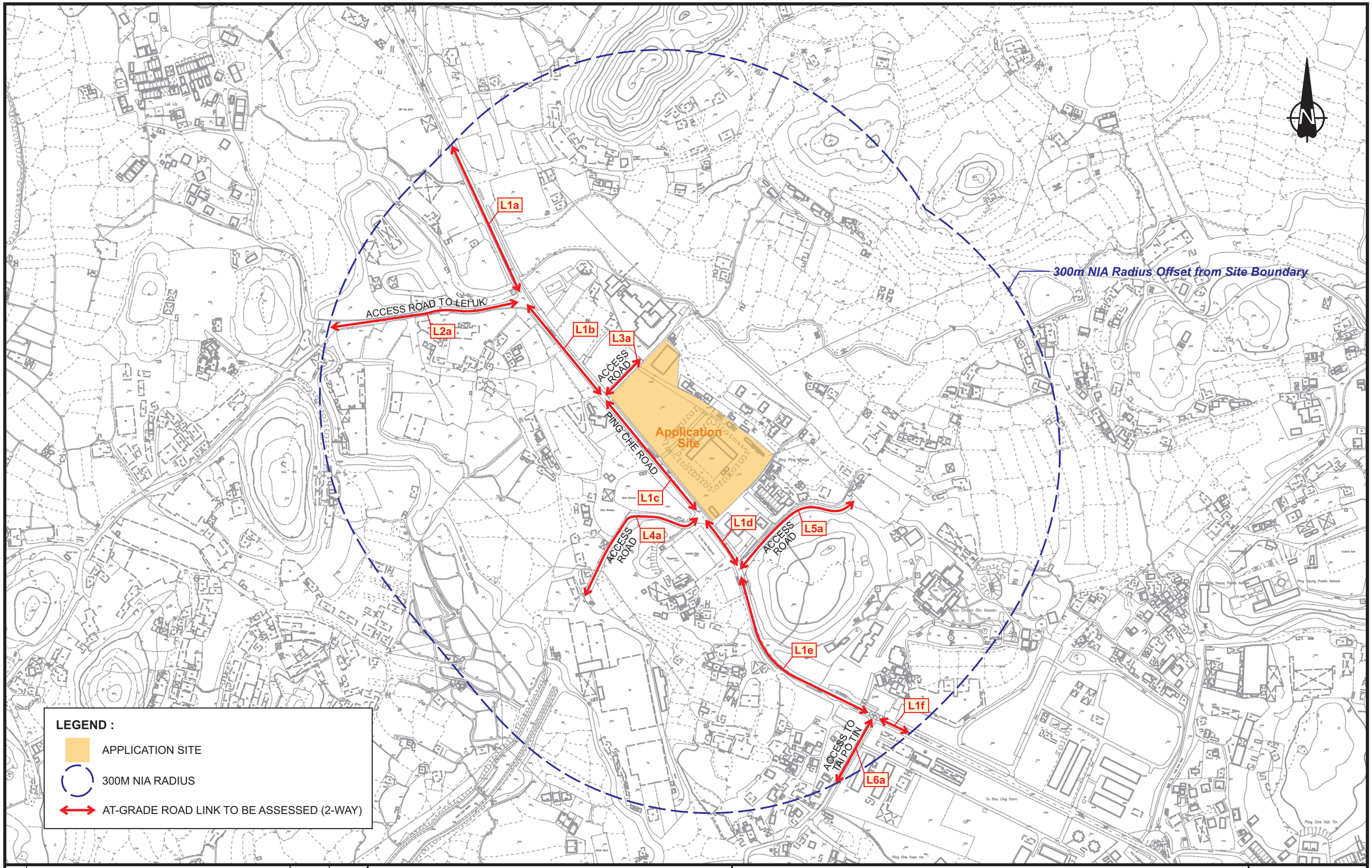
EXISTING PUBLIC TRANSPORT SERVICES IN THE VICINITY

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	6.1	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F61.CDR/LLH/28OCT21

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED TRANSITIONAL HOUSING DEVELOPMENT
AT GOVERNMENT LAND IN DD82, PING CHE,
TA KWU LING, NEW TERRITORIES
TRAFFIC IMPACT ASSESSMENT

Drawing Title

INDEX PLAN OF IDENTIFIED ROAD LINKS FOR NIA

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	OCT 2021	7.1	-

SYSTRA MVA

CHK50520110/PCR/TIA1/F71.CDR/LLH/28OCT21

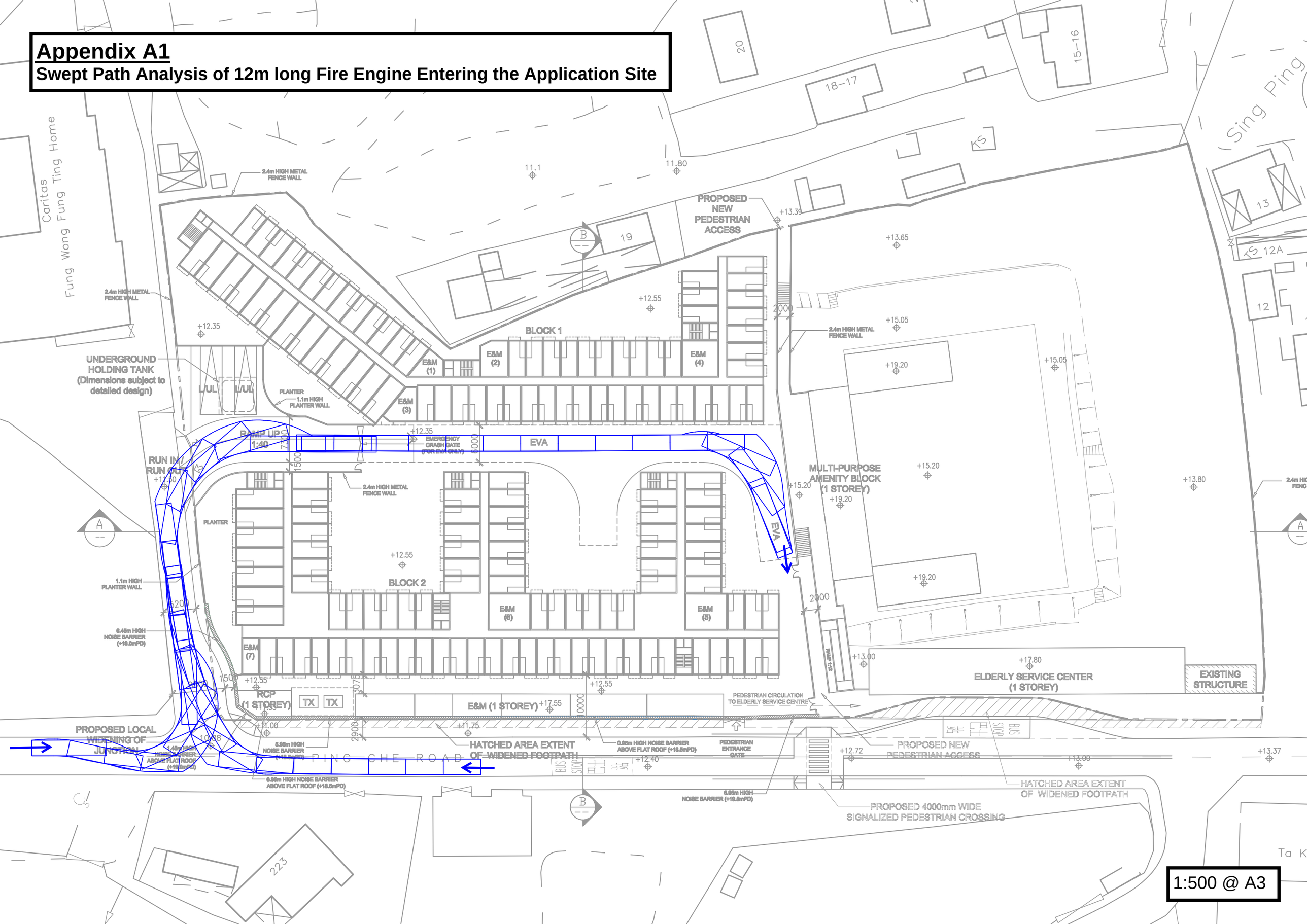
Original Size : A3

APPENDIX A

SWEPT PATH ANALYSIS OF 12M LONG FIRE ENGINE ENTERING AND LEAVING THE APPLICATION SITE

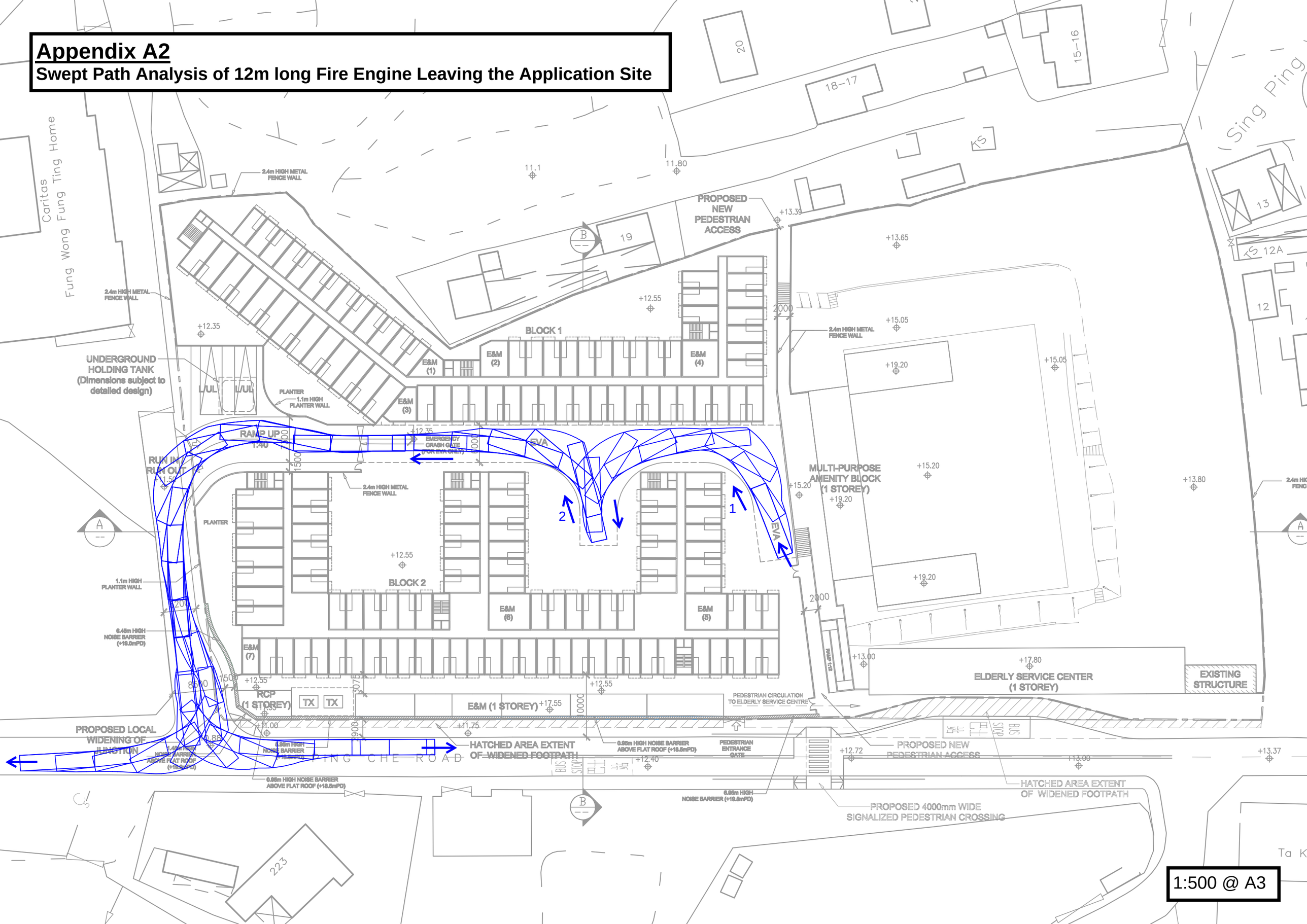
Appendix A1

Swept Path Analysis of 12m long Fire Engine Entering the Application Site



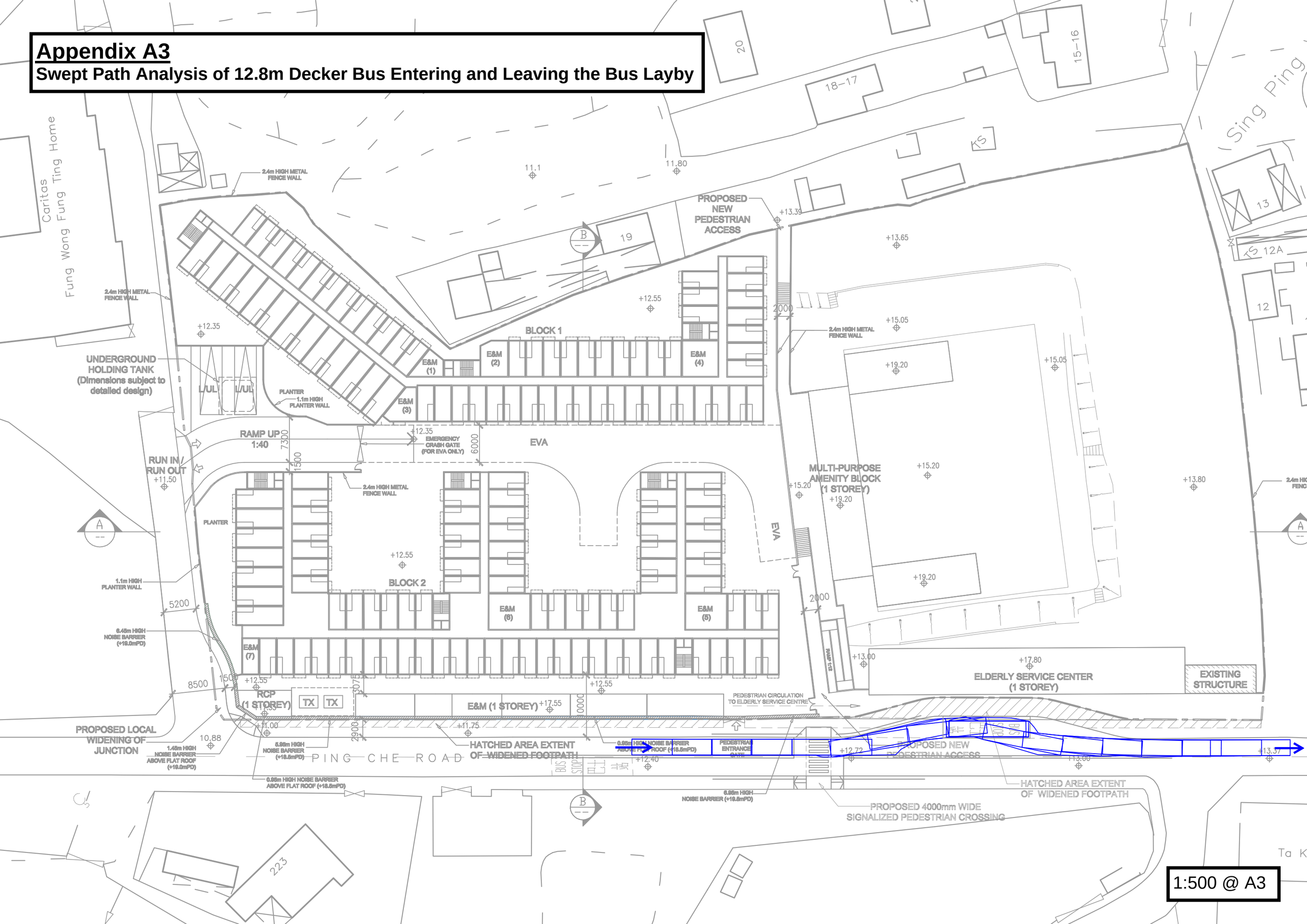
Appendix A2

Swept Path Analysis of 12m long Fire Engine Leaving the Application Site



Appendix A3

Swept Path Analysis of 12.8m Decker Bus Entering and Leaving the Bus Layby



1:500 @ A3

APPENDIX B

JUNCTION CALCULATIONS

2021 Observed Traffic Flow Junction Calculations

TRANSPORT RESEARCH LABORATORY

(C) COPYRIGHT 1998

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
BY PERMISSION OF THE CONTROLLER OF HMSO

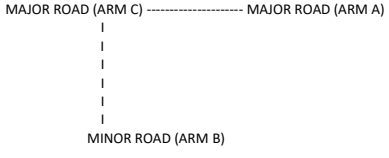
THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J1 Lei Uk Tsuen AM.vpi" at 11:56:15 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2021 Obs AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.88	4.31	2.88
ARM B	15.00	45.00	75.00	1.88	2.81	1.88
ARM C	15.00	45.00	75.00	1.88	2.81	1.88

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
08.00 - 09.30				
	ARM A	0.000	0.565	0.435
		0.0	130.0	100.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.667	0.000	0.333
		100.0	0.0	50.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.733	0.267	0.000
		110.0	40.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	1.88	10.09	0.186		0.0	0.2	3.3	
C-AB	0.57	10.75	0.053		0.0	0.1	1.0	
C-A	1.30							
A-B	1.63							
A-C	1.25							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                    I
I  B-AC     2.24    9.92   0.226            0.2   0.3      4.2              I
I  C-AB     0.70   10.80   0.065            0.1   0.1      1.3              I
I  C-A      1.54                                              I
I  A-B      1.94                                              I
I  A-C      1.49                                              I
I                                                         I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                    I
I  B-AC     2.74    9.67   0.284            0.3   0.4      5.7              I
I  C-AB     0.89   10.87   0.082            0.1   0.1      1.7              I
I  C-A      1.85                                              I
I  A-B      2.38                                              I
I  A-C      1.83                                              I
I                                                         I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                    I
I  B-AC     2.74    9.67   0.284            0.4   0.4      5.9              I
I  C-AB     0.89   10.87   0.082            0.1   0.1      1.7              I
I  C-A      1.85                                              I
I  A-B      2.38                                              I
I  A-C      1.83                                              I
I                                                         I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                    I
I  B-AC     2.24    9.91   0.226            0.4   0.3      4.5              I
I  C-AB     0.70   10.80   0.065            0.1   0.1      1.3              I
I  C-A      1.54                                              I
I  A-B      1.94                                              I
I  A-C      1.49                                              I
I                                                         I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                    I
I  B-AC     1.88   10.09   0.186            0.3   0.2      3.5              I
I  C-AB     0.57   10.75   0.053            0.1   0.1      1.0              I
I  C-A      1.30                                              I
I  A-B      1.63                                              I
I  A-C      1.25                                              I
I                                                         I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
  08.15         0.2
  08.30         0.3
  08.45         0.4
  09.00         0.4
  09.15         0.3
  09.30         0.2
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
  08.15         0.1
  08.30         0.1
  08.45         0.1
  09.00         0.1
  09.15         0.1
  09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------
I  B-AC  I  205.7 I  137.1 I   27.2 I   0.13  I     27.2 I   0.13  I
I  C-AB  I   65.1 I   43.4 I    8.1 I   0.12  I      8.1 I   0.12  I
I  C-A   I  140.6 I   93.7 I       I         I         I         I
I  A-B   I  178.3 I  118.8 I       I         I         I         I
I  A-C   I  137.1 I   91.4 I       I         I         I         I
-------------------------------------------------------------------
I  ALL   I  726.7 I  484.5 I   35.2 I   0.05  I     35.2 I   0.05  I
-------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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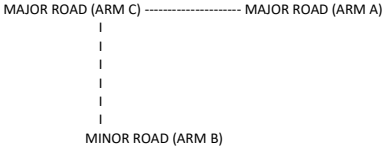
THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J1 Lei Uk Tsuen PM.vpi" at 11:56:19 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2021 Obs PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.06	3.09	2.06
ARM B	15.00	45.00	75.00	1.69	2.53	1.69
ARM C	15.00	45.00	75.00	1.06	1.59	1.06

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.485	0.515
		0.0	80.0	85.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.704	0.000	0.296
		95.0	0.0	40.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.647	0.353	0.000
		55.0	30.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	START QUEUE	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15									
B-AC	1.69	10.25	0.165		0.0	0.2	2.8		
C-AB	0.40	10.48	0.038		0.0	0.0	0.7		
C-A	0.66								
A-B	1.00								
A-C	1.06								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                 I
I  B-AC     2.02   10.13   0.199           0.2   0.2      3.6              I
I  C-AB     0.49   10.48   0.046           0.0   0.1      0.8              I
I  C-A      0.78                                          I
I  A-B      1.19                                          I
I  A-C      1.27                                          I
I                                                      I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                 I
I  B-AC     2.47    9.95   0.248           0.2   0.3      4.8              I
I  C-AB     0.61   10.47   0.058           0.1   0.1      1.1              I
I  C-A      0.95                                          I
I  A-B      1.46                                          I
I  A-C      1.55                                          I
I                                                      I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                 I
I  B-AC     2.47    9.95   0.248           0.3   0.3      4.9              I
I  C-AB     0.61   10.47   0.058           0.1   0.1      1.1              I
I  C-A      0.95                                          I
I  A-B      1.46                                          I
I  A-C      1.55                                          I
I                                                      I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                 I
I  B-AC     2.02   10.13   0.199           0.3   0.3      3.9              I
I  C-AB     0.49   10.48   0.046           0.1   0.1      0.8              I
I  C-A      0.78                                          I
I  A-B      1.19                                          I
I  A-C      1.27                                          I
I                                                      I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                 I
I  B-AC     1.69   10.25   0.165           0.3   0.2      3.0              I
I  C-AB     0.40   10.48   0.038           0.1   0.0      0.7              I
I  C-A      0.66                                          I
I  A-B      1.00                                          I
I  A-C      1.06                                          I
I                                                      I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.2
 08.30         0.2
 08.45         0.3
 09.00         0.3
 09.15         0.3
 09.30         0.2
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I B-AC  I  185.1 I  123.4 I    23.0 I   0.12  I     23.0 I   0.12  I
I C-AB  I   44.8 I   29.9 I     5.1 I   0.11  I      5.1 I   0.11  I
I C-A   I   71.8 I   47.8 I       I       I         I       I
I A-B   I  109.7 I   73.1 I       I       I         I       I
I A-C   I  116.6 I   77.7 I       I       I         I       I
-------------------------------------------------------------------------
I ALL   I  527.9 I  351.9 I    28.1 I   0.05  I     28.1 I   0.05  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J2 Subject Site AM.vpi" at 11:56:24 on Thursday, 21 October 2021

RUN TITLE
****
J2 Subject Site 2021 Obs AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.63	3.94	2.63
ARM B	15.00	45.00	75.00	0.19	0.28	0.19
ARM C	15.00	45.00	75.00	3.06	4.59	3.06

.

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
08.00 - 09.30				
	ARM A	0.000	0.024	0.976
		0.0	5.0	205.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.333	0.000	0.667
		5.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.918	0.082	0.000
		225.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.19	10.90	0.017		0.0	0.0	0.3	
C-AB	0.33	11.76	0.028		0.0	0.0	0.5	
C-A	2.74							
A-B	0.06							
A-C	2.56							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                           I
I  B-AC     0.22   10.69   0.021          0.0   0.0     0.3             I
I  C-AB     0.41   12.00   0.034          0.0   0.0     0.7             I
I  C-A      3.25                                        I
I  A-B      0.07                                        I
I  A-C      3.06                                        I
I                                                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                           I
I  B-AC     0.27   10.39   0.026          0.0   0.0     0.4             I
I  C-AB     0.54   12.34   0.043          0.0   0.1     0.9             I
I  C-A      3.94                                        I
I  A-B      0.09                                        I
I  A-C      3.75                                        I
I                                                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                           I
I  B-AC     0.27   10.39   0.026          0.0   0.0     0.4             I
I  C-AB     0.54   12.34   0.043          0.1   0.1     0.9             I
I  C-A      3.94                                        I
I  A-B      0.09                                        I
I  A-C      3.75                                        I
I                                                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                           I
I  B-AC     0.22   10.69   0.021          0.0   0.0     0.3             I
I  C-AB     0.41   12.00   0.034          0.1   0.0     0.7             I
I  C-A      3.25                                        I
I  A-B      0.07                                        I
I  A-C      3.06                                        I
I                                                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                           I
I  B-AC     0.19   10.90   0.017          0.0   0.0     0.3             I
I  C-AB     0.33   11.76   0.028          0.0   0.0     0.5             I
I  C-A      2.74                                        I
I  A-B      0.06                                        I
I  A-C      2.56                                        I
I                                                   I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I             I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   20.6 I   13.7 I    2.0 I   0.10  I     2.0 I   0.10  I
I  C-AB  I   38.1 I   25.4 I    4.3 I   0.11  I     4.3 I   0.11  I
I  C-A   I  297.8 I  198.6 I      I       I       I       I       I
I  A-B   I    6.9 I    4.6 I      I       I       I       I       I
I  A-C   I  281.1 I  187.4 I      I       I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  644.5 I  429.6 I    6.3 I   0.01  I     6.3 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J2 Subject Site PM.vpi" at 11:56:39 on Thursday, 21 October 2021

RUN TITLE
****
J2 Subject Site 2021 Obs PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	1.88	2.81	1.88
ARM B	15.00	45.00	75.00	0.19	0.28	0.19
ARM C	15.00	45.00	75.00	2.13	3.19	2.13

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.000	1.000
		0.0	0.0	150.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.333	0.000	0.667
		5.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.941	0.059	0.000
		160.0	10.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	QUEUE (VEHS)	START QUEUE	END TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/
08.00-08.15									
B-AC	0.19	11.21	0.017		0.0	0.0	0.2		
C-AB	0.15	11.40	0.013		0.0	0.0	0.2		
C-A	1.97								
A-B	0.00								
A-C	1.88								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                 I
I  B-AC     0.22   11.06   0.020           0.0   0.0      0.3             I
I  C-AB     0.19   11.57   0.016           0.0   0.0      0.3             I
I  C-A      2.35                                            I
I  A-B      0.00                                            I
I  A-C      2.24                                            I
I                                                       I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                 I
I  B-AC     0.27   10.85   0.025           0.0   0.0      0.4             I
I  C-AB     0.24   11.81   0.020           0.0   0.0      0.4             I
I  C-A      2.87                                            I
I  A-B      0.00                                            I
I  A-C      2.74                                            I
I                                                       I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                 I
I  B-AC     0.27   10.85   0.025           0.0   0.0      0.4             I
I  C-AB     0.24   11.81   0.020           0.0   0.0      0.4             I
I  C-A      2.87                                            I
I  A-B      0.00                                            I
I  A-C      2.74                                            I
I                                                       I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                 I
I  B-AC     0.22   11.06   0.020           0.0   0.0      0.3             I
I  C-AB     0.19   11.57   0.016           0.0   0.0      0.3             I
I  C-A      2.35                                            I
I  A-B      0.00                                            I
I  A-C      2.24                                            I
I                                                       I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                 I
I  B-AC     0.19   11.21   0.017           0.0   0.0      0.3             I
I  C-AB     0.15   11.40   0.013           0.0   0.0      0.2             I
I  C-A      1.97                                            I
I  A-B      0.00                                            I
I  A-C      1.88                                            I
I                                                       I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   20.6 I   13.7 I    1.9 I   0.09  I     1.9 I   0.09  I
I  C-AB  I   17.4 I   11.6 I    1.8 I   0.10  I     1.8 I   0.10  I
I  C-A   I  215.8 I  143.8 I       I       I         I       I
I  A-B   I    0.0 I    0.0 I       I       I         I       I
I  A-C   I  205.7 I  137.1 I       I       I         I       I
-------------------------------------------------------------------------
I  ALL   I  459.4 I  306.2 I    3.6 I   0.01  I     3.6 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
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Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J3 Tai Po Tin AM.vpi" at 11:56:43 on Thursday, 21 October 2021

RUN TITLE
****
J3 Tai Po Tin 2021 Obs AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.25	4.88	3.25
ARM B	15.00	45.00	75.00	0.50	0.75	0.50
ARM C	15.00	45.00	75.00	2.69	4.03	2.69

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.058	0.942
		0.0	15.0	245.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500
		20.0	0.0	20.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.930	0.070	0.000
		200.0	15.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.50	8.07	0.062		0.0	0.1	0.9	
C-AB	0.24	11.41	0.021		0.0	0.0	0.4	
C-A	2.45							
A-B	0.19							
A-C	3.06							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.60    7.87   0.076            0.1   0.1      1.2              I
I  C-AB     0.30   11.60   0.026            0.0   0.0      0.5              I
I  C-A      2.91                                                       I
I  A-B      0.22                                                       I
I  A-C      3.66                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.73    7.59   0.096            0.1   0.1      1.5              I
I  C-AB     0.39   11.85   0.033            0.0   0.0      0.7              I
I  C-A      3.54                                                       I
I  A-B      0.27                                                       I
I  A-C      4.48                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.73    7.59   0.096            0.1   0.1      1.6              I
I  C-AB     0.39   11.85   0.033            0.0   0.0      0.7              I
I  C-A      3.54                                                       I
I  A-B      0.27                                                       I
I  A-C      4.48                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.60    7.87   0.076            0.1   0.1      1.3              I
I  C-AB     0.30   11.60   0.026            0.0   0.0      0.5              I
I  C-A      2.91                                                       I
I  A-B      0.22                                                       I
I  A-C      3.66                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.50    8.07   0.062            0.1   0.1      1.0              I
I  C-AB     0.24   11.41   0.021            0.0   0.0      0.4              I
I  C-A      2.45                                                       I
I  A-B      0.19                                                       I
I  A-C      3.06                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   54.8 I  36.6 I    7.6 I   0.14  I     7.6 I   0.14  I
I  C-AB  I   27.8 I  18.5 I    3.1 I   0.11  I     3.1 I   0.11  I
I  C-A   I  267.0 I 178.0 I      I       I       I       I
I  A-B   I   20.6 I  13.7 I      I       I       I       I
I  A-C   I  335.9 I 224.0 I      I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  706.2 I 470.8 I   10.6 I   0.02  I    10.6 I   0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J3 Tai Po Tin PM.vpi" at 11:56:48 on Thursday, 21 October 2021

RUN TITLE
****
J3 Tai Po Tin 2021 Obs AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.38	3.56	2.38
ARM B	15.00	45.00	75.00	0.31	0.47	0.31
ARM C	15.00	45.00	75.00	2.19	3.28	2.19

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.158	0.842
		0.0	30.0	160.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.600	0.000	0.400
		15.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.914	0.086	0.000
		160.0	15.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.31	8.10	0.039		0.0	0.0	0.6	
C-AB	0.23	11.28	0.020		0.0	0.0	0.4	
C-A	1.96							
A-B	0.38							
A-C	2.00							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                        I
I  B-AC     0.37    7.95   0.047            0.0   0.0      0.7              I
I  C-AB     0.28   11.43   0.025            0.0   0.0      0.5              I
I  C-A      2.33                                                     I
I  A-B      0.45                                                     I
I  A-C      2.39                                                     I
I                                                                 I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                        I
I  B-AC     0.46    7.75   0.059            0.0   0.1      0.9              I
I  C-AB     0.36   11.65   0.031            0.0   0.0      0.6              I
I  C-A      2.84                                                     I
I  A-B      0.55                                                     I
I  A-C      2.92                                                     I
I                                                                 I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                        I
I  B-AC     0.46    7.75   0.059            0.1   0.1      0.9              I
I  C-AB     0.36   11.65   0.031            0.0   0.0      0.6              I
I  C-A      2.84                                                     I
I  A-B      0.55                                                     I
I  A-C      2.92                                                     I
I                                                                 I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                        I
I  B-AC     0.37    7.95   0.047            0.1   0.0      0.8              I
I  C-AB     0.28   11.43   0.025            0.0   0.0      0.5              I
I  C-A      2.33                                                     I
I  A-B      0.45                                                     I
I  A-C      2.39                                                     I
I                                                                 I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                        I
I  B-AC     0.31    8.10   0.039            0.0   0.0      0.6              I
I  C-AB     0.23   11.28   0.020            0.0   0.0      0.4              I
I  C-A      1.96                                                     I
I  A-B      0.38                                                     I
I  A-C      2.00                                                     I
I                                                                 I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   34.3 I   22.9 I    4.5 I   0.13  I     4.5 I   0.13  I
I  C-AB  I   26.1 I   17.4 I    2.9 I   0.11  I     2.9 I   0.11  I
I  C-A   I  213.8 I  142.6 I      I       I       I       I       I
I  A-B   I   41.1 I   27.4 I      I       I       I       I       I
I  A-C   I  219.4 I  146.3 I      I       I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  534.8 I  356.5 I    7.4 I   0.01  I     7.4 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2021 Obs\2021 Obs - J4 Ping Yuen Rd AM.vpi" at 09:40:54 on Friday, 22 October 2021

RUN TITLE
****
J4 Ping Yuen Rd 2021 Obs AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
I
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MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.69	7.03	4.69
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	2.75	4.13	2.75
ARM D	15.00	45.00	75.00	1.69	2.53	1.69

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.013	0.693	0.293
		0.0	5.0	260.0	110.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.773	0.023	0.000	0.205
		170.0	5.0	0.0	45.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.815	0.000	0.185	0.000
		110.0	0.0	25.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.13	8.18	0.015	0.0	0.0	0.2
A-B	0.06					
A-C	3.25					
A-D	1.38	8.96	0.153	0.0	0.2	2.6
D-AB	1.38	12.29	0.112	0.0	0.1	1.8
D-BC	0.31	8.38	0.037	0.0	0.0	0.6
C-D	0.56					
C-A	2.13					
C-B	0.06	9.26	0.007	0.0	0.0	0.1

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M) / TO RIGHT (M)
B-ACD	0.097	0.005	0.013	0.004 / 0.007
C-B	0.101	0.006	0.008	
D-AB	0.102	0.003	0.000	0.000 / 0.012
D-BC	0.070	0.008	0.023	0.005 / 0.008
A-D	0.097	0.003	0.009	

TIME	DEMAND (VEH/MIN) (RFC)	CAPACITY (VEH/MIN) (PEDS/MIN)	DEMAND/ FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START QUEUE TIME SEGMENT)	END (VEH.MIN/ TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI
08.15-08.30								
B-ACD	0.15	7.88	0.019		0.0	0.0	0.3	
A-B	0.07							
A-C	3.88							
A-D	1.64	8.84	0.186		0.2	0.2	3.3	
D-AB	1.64	12.13	0.135		0.1	0.2	2.3	
D-BC	0.37	8.02	0.047		0.0	0.0	0.7	
C-D	0.67							
C-A	2.54							
C-B	0.07	9.01	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M) / TO RIGHT (M)
B-ACD	0.092	0.006	0.013	0.004 / 0.006
C-B	0.098	0.007	0.008	
D-AB	0.101	0.004	0.000	0.000 / 0.012
D-BC	0.067	0.009	0.023	0.005 / 0.008
A-D	0.096	0.003	0.009	

TIME	DEMAND (VEH/MIN) (RFC)	CAPACITY (VEH/MIN) (PEDS/MIN)	DEMAND/ FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START QUEUE TIME SEGMENT)	END (VEH.MIN/ TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI
08.30-08.45								
B-ACD	0.18	7.45	0.025		0.0	0.0	0.4	
A-B	0.09							
A-C	4.75							
A-D	2.01	8.68	0.232		0.2	0.3	4.3	
D-AB	2.01	11.90	0.169		0.2	0.2	3.0	
D-BC	0.46	7.54	0.061		0.0	0.1	0.9	
C-D	0.82							
C-A	3.11							
C-B	0.09	8.67	0.011		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M) / TO RIGHT (M)
B-ACD	0.086	0.008	0.013	0.004 / 0.006
C-B	0.094	0.008	0.008	
D-AB	0.099	0.004	0.000	0.000 / 0.011
D-BC	0.063	0.012	0.023	0.005 / 0.007
A-D	0.094	0.004	0.009	

TIME	DEMAND (VEH/MIN) (RFC)	CAPACITY (VEH/MIN) (PEDS/MIN)	DEMAND/ FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START QUEUE TIME SEGMENT)	END (VEH.MIN/ TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI
08.45-09.00								
B-ACD	0.18	7.45	0.025		0.0	0.0	0.4	
A-B	0.09							
A-C	4.75							
A-D	2.01	8.68	0.232		0.3	0.3	4.5	
D-AB	2.01	11.90	0.169		0.2	0.2	3.0	
D-BC	0.46	7.54	0.061		0.1	0.1	1.0	
C-D	0.82							
C-A	3.11							
C-B	0.09	8.67	0.011		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M) / TO RIGHT (M)
B-ACD	0.086	0.008	0.013	0.004 / 0.006
C-B	0.094	0.008	0.008	
D-AB	0.099	0.004	0.000	0.000 / 0.011
D-BC	0.063	0.012	0.023	0.005 / 0.007
A-D	0.094	0.004	0.009	

TIME	DEMAND (VEH/MIN) (RFC)	CAPACITY (VEH/MIN) (PEDS/MIN)	DEMAND/ FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START QUEUE TIME SEGMENT)	END (VEH.MIN/ TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI
09.00-09.15								
B-ACD	0.15	7.87	0.019		0.0	0.0	0.3	
A-B	0.07							
A-C	3.88							
A-D	1.64	8.84	0.186		0.3	0.2	3.6	
D-AB	1.64	12.13	0.135		0.2	0.2	2.4	
D-BC	0.37	8.02	0.047		0.1	0.0	0.8	
C-D	0.67							
C-A	2.54							
C-B	0.07	9.01	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	(AHEAD FOR MAJOR) (M) / TO RIGHT (M)
B-ACD	0.092	0.006	0.013	0.004 / 0.006
C-B	0.098	0.007	0.008	
D-AB	0.101	0.004	0.000	0.000 / 0.012
D-BC	0.067	0.009	0.023	0.005 / 0.008
A-D	0.096	0.003	0.009	

TIME	DEMAND (VEH/MIN) (RFC)	CAPACITY (VEH/MIN) (PEDS/MIN)	DEMAND/ FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START QUEUE TIME SEGMENT)	END (VEH.MIN/ TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAYI
09.15-09.30								
B-ACD	0.13	8.18	0.015		0.0	0.0	0.2	
A-B	0.06							
A-C	3.25							
A-D	1.38	8.96	0.153		0.2	0.2	2.8	
D-AB	1.38	12.29	0.112		0.2	0.1	1.9	

I D-BC	0.31	8.37	0.037		0.0	0.0	0.6	I
I C-D	0.56							I
I C-A	2.13							I
I C-B	0.06	9.26	0.007		0.0	0.0	0.1	I

I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I

I	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		
I MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I B-ACD	0.097	0.005	0.013	0.004	0.007	I
I C-B	0.101	0.006	0.008			I
I D-AB	0.102	0.003	0.000	0.000	0.012	I
I D-BC	0.070	0.008	0.023	0.005	0.008	I
I A-D	0.097	0.003	0.009			I

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QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

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QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.2
08.45	0.3
09.00	0.3
09.15	0.2
09.30	0.2

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QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.2
09.30	0.1

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QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.0
09.30	0.0

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QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	(VEH/H)	* QUEUEING * DELAY * (MIN)	(MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	(MIN/VEH)
B-ACD	13.7	9.1	1.8	0.13	1.8	0.13
A-B	6.9	4.6				
A-C	356.5	237.7				
A-D	150.8	100.6	21.1	0.14	21.1	0.14
D-AB	150.8	100.6	14.5	0.10	14.5	0.10
D-BC	34.3	22.9	4.5	0.13	4.5	0.13
C-D	61.7	41.1				
C-A	233.1	155.4				
C-B	6.9	4.6	0.8	0.11	0.8	0.11
ALL	1014.7	676.5	42.6	0.04	42.6	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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RUN TITLE
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J4 Ping Yuen Rd 2021 Obs PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

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.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.38	5.06	3.38
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	2.19	3.28	2.19
ARM D	15.00	45.00	75.00	0.94	1.41	0.94

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TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.019	0.704	0.278
		0.0	5.0	190.0	75.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM C	0.829	0.029	0.000	0.143
		145.0	5.0	0.0	25.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM D	0.733	0.000	0.267	0.000
		55.0	0.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.13	8.62	0.014	0.0	0.0	0.2
A-B	0.06					
A-C	2.38					
A-D	0.94	9.08	0.103	0.0	0.1	1.7
D-AB	0.69	12.44	0.055	0.0	0.1	0.9
D-BC	0.25	8.81	0.028	0.0	0.0	0.4
C-D	0.31					
C-A	1.81					
C-B	0.06	9.62	0.006	0.0	0.0	0.1

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. LANE WIDTH	CENT RES WIDTH	VIS TO LEFT WIDTH	VISIBILITY (AHEAD FOR MAJOR)	TO RIGHT
MARGINAL CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.105	0.004	0.013	0.005	0.007
C-B	0.105	0.004	0.009		
D-AB	0.104	0.003	0.000	0.000	0.012
D-BC	0.073	0.006	0.023	0.006	0.008
A-D	0.099	0.002	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-ACD	0.15	8.41	0.018		0.0	0.0	0.3	
A-B	0.07							
A-C	2.84							
A-D	1.12	8.99	0.125		0.1	0.1	2.1	
D-AB	0.82	12.31	0.067		0.1	0.1	1.0	
D-BC	0.30	8.55	0.035		0.0	0.0	0.5	
C-D	0.37							
C-A	2.16							
C-B	0.07	9.44	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. LANE WIDTH	CENT RES WIDTH	VIS TO LEFT WIDTH	VISIBILITY (AHEAD FOR MAJOR)	TO RIGHT
MARGINAL CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.101	0.005	0.013	0.005	0.007
C-B	0.103	0.005	0.009		
D-AB	0.103	0.003	0.000	0.000	0.012
D-BC	0.071	0.007	0.023	0.006	0.008
A-D	0.098	0.003	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-ACD	0.18	8.12	0.023		0.0	0.0	0.3	
A-B	0.09							
A-C	3.47							
A-D	1.37	8.86	0.155		0.1	0.2	2.7	
D-AB	1.01	12.12	0.083		0.1	0.1	1.3	
D-BC	0.37	8.18	0.045		0.0	0.0	0.7	
C-D	0.46							
C-A	2.65							
C-B	0.09	9.20	0.010		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. LANE WIDTH	CENT RES WIDTH	VIS TO LEFT WIDTH	VISIBILITY (AHEAD FOR MAJOR)	TO RIGHT
MARGINAL CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.097	0.006	0.013	0.004	0.006
C-B	0.100	0.006	0.008		
D-AB	0.101	0.004	0.000	0.000	0.012
D-BC	0.068	0.009	0.023	0.005	0.008
A-D	0.096	0.003	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00								
B-ACD	0.18	8.12	0.023		0.0	0.0	0.3	
A-B	0.09							
A-C	3.47							
A-D	1.37	8.86	0.155		0.2	0.2	2.7	
D-AB	1.01	12.12	0.083		0.1	0.1	1.4	
D-BC	0.37	8.18	0.045		0.0	0.0	0.7	
C-D	0.46							
C-A	2.65							
C-B	0.09	9.20	0.010		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. LANE WIDTH	CENT RES WIDTH	VIS TO LEFT WIDTH	VISIBILITY (AHEAD FOR MAJOR)	TO RIGHT
MARGINAL CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.097	0.006	0.013	0.004	0.006
C-B	0.100	0.006	0.008		
D-AB	0.101	0.004	0.000	0.000	0.012
D-BC	0.068	0.009	0.023	0.005	0.008
A-D	0.096	0.003	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15								
B-ACD	0.15	8.41	0.018		0.0	0.0	0.3	
A-B	0.07							
A-C	2.84							
A-D	1.12	8.99	0.125		0.2	0.1	2.2	
D-AB	0.82	12.31	0.067		0.1	0.1	1.1	
D-BC	0.30	8.54	0.035		0.0	0.0	0.6	
C-D	0.37							
C-A	2.16							
C-B	0.07	9.44	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD. LANE WIDTH	CENT RES WIDTH	VIS TO LEFT WIDTH	VISIBILITY (AHEAD FOR MAJOR)	TO RIGHT
MARGINAL CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.101	0.005	0.013	0.005	0.007
C-B	0.103	0.005	0.009		
D-AB	0.103	0.003	0.000	0.000	0.012
D-BC	0.071	0.007	0.023	0.006	0.008
A-D	0.098	0.003	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.15-09.30								
B-ACD	0.13	8.62	0.015		0.0	0.0	0.2	
A-B	0.06							
A-C	2.38							
A-D	0.94	9.08	0.103		0.1	0.1	1.8	
D-AB	0.69	12.44	0.055		0.1	0.1	0.9	

```
I  D-BC     0.25     8.81   0.028              0.0   0.0       0.5                 I
I  C-D      0.31                                                                  I
I  C-A      1.81                                                                  I
I  C-B      0.06     9.62   0.006              0.0   0.0       0.1                 I
I                                                                                 I
I              EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                I
I                        MAJOR RD.    CENT RES  VIS TO LEFT      VISIBILITY       I
I    MARGINAL  LANE WIDTH   WIDTH       WIDTH    (AHEAD FOR MAJOR) TO RIGHT       I
I    CHANGE:    (.1M)      (.1M)      (.1M)       (M)         (M)                 I
I                                                                                 I
I     B-ACD       0.105      0.004      0.013      0.005       0.007              I
I     C-B         0.105      0.004                 0.009                          I
I     D-AB        0.104      0.003      0.000      0.000       0.012              I
I     D-BC        0.073      0.006      0.023      0.006       0.008              I
I     A-D         0.099      0.002                 0.009                          I
-------------------------------------------------------------------------------------------------
.
QUEUE FOR STREAM   B-ACD
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   A-D
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.2
 09.00         0.2
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   D-AB
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   D-BC
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-B
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
          QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
          --------------------------------------------

-------------------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I                I   * DELAY *       I      * DELAY *       I
I      I----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------------------
I B-ACD I  13.7 I   9.1 I    1.7 I    0.12  I      1.7 I    0.12  I
I A-B   I   6.9 I   4.6 I      I         I          I         I
I A-C   I 260.5 I 173.7 I      I         I          I         I
I A-D   I 102.8 I  68.6 I    13.1 I    0.13  I     13.1 I    0.13  I
I D-AB  I  75.4 I  50.3 I     6.6 I    0.09  I      6.6 I    0.09  I
I D-BC  I  27.4 I  18.3 I     3.3 I    0.12  I      3.3 I    0.12  I
I C-D   I  34.3 I  22.9 I      I         I          I         I
I C-A   I 198.8 I 132.6 I      I         I          I         I
I C-B   I   6.9 I   4.6 I    0.7 I    0.11  I      0.7 I    0.11  I
-------------------------------------------------------------------------------------
I ALL   I 726.7 I 484.5 I   25.4 I    0.03  I     25.4 I    0.03  I
-------------------------------------------------------------------------------------

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
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2026 Reference Traffic Flow Junction Calculations

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J1 Lei Uk Tsuen AM.vpi" at 11:57:20 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2026 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.50	5.25	3.50
ARM B	15.00	45.00	75.00	2.25	3.38	2.25
ARM C	15.00	45.00	75.00	2.25	3.38	2.25

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.571	0.429
		0.0	160.0	120.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.667	0.000	0.333
		120.0	0.0	60.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.722	0.278	0.000
		130.0	50.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.25	9.90	0.227		0.0	0.3	4.2	
C-AB	0.73	10.77	0.068		0.0	0.1	1.3	
C-A	1.52							
A-B	2.00							
A-C	1.50							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.15-08.30							
B-AC	2.69	9.68	0.277	0.3	0.4	5.5	
C-AB	0.91	10.83	0.084	0.1	0.1	1.7	
C-A	1.78						
A-B	2.39						
A-C	1.79						

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.30-08.45								
B-AC	3.29	9.39	0.351	0.4	0.5	7.7		
C-AB	1.16	10.91	0.106	0.1	0.2	2.3		
C-A	2.13							
A-B	2.92							
A-C	2.19							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.45-09.00								
B-AC	3.29	9.39	0.351	0.5	0.5	8.0		
C-AB	1.16	10.91	0.107	0.2	0.2	2.3		
C-A	2.13							
A-B	2.92							
A-C	2.19							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.00-09.15								
B-AC	2.69	9.68	0.277	0.5	0.4	6.0		
C-AB	0.91	10.83	0.084	0.2	0.1	1.8		
C-A	1.78							
A-B	2.39							
A-C	1.79							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.15-09.30								
B-AC	2.25	9.90	0.227	0.4	0.3	4.6		
C-AB	0.73	10.77	0.068	0.1	0.1	1.4		
C-A	1.52							
A-B	2.00							
A-C	1.50							

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.3
08.30	0.4
08.45	0.5 *
09.00	0.5 *
09.15	0.4
09.30	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.2
09.00	0.2
09.15	0.1
09.30	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	246.8	164.5	36.0	0.15	36.0	0.15
C-AB	84.1	56.0	10.9	0.13	10.9	0.13
C-A	162.7	108.5				
A-B	219.4	146.3				
A-C	164.5	109.7				
ALL	877.6	585.1	46.9	0.05	46.9	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J1 Lei Uk Tsuen PM.vpi" at 11:57:27 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2026 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	2.44	3.66	2.44
ARM B	15.00	45.00	75.00	2.06	3.09	2.06
ARM C	15.00	45.00	75.00	1.25	1.88	1.25

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.487	0.513
		0.0	95.0	100.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.697	0.000	0.303
		115.0	0.0	50.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.650	0.350	0.000
		65.0	35.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.06	10.16	0.203		0.0	0.3	3.6	
C-AB	0.47	10.48	0.045		0.0	0.1	0.8	
C-A	0.78							
A-B	1.19							
A-C	1.25							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     2.46   10.01   0.246          0.3   0.3      4.7             I
I  C-AB     0.58   10.47   0.055          0.1   0.1      1.0             I
I  C-A      0.92                                          I
I  A-B      1.42                                          I
I  A-C      1.49                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     3.02    9.80   0.308          0.3   0.4      6.4             I
I  C-AB     0.72   10.46   0.069          0.1   0.1      1.3             I
I  C-A      1.11                                          I
I  A-B      1.74                                          I
I  A-C      1.83                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     3.02    9.80   0.308          0.4   0.4      6.6             I
I  C-AB     0.72   10.46   0.069          0.1   0.1      1.3             I
I  C-A      1.11                                          I
I  A-B      1.74                                          I
I  A-C      1.83                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     2.46   10.01   0.246          0.4   0.3      5.1             I
I  C-AB     0.58   10.47   0.055          0.1   0.1      1.0             I
I  C-A      0.92                                          I
I  A-B      1.42                                          I
I  A-C      1.49                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     2.06   10.16   0.203          0.3   0.3      4.0             I
I  C-AB     0.47   10.48   0.045          0.1   0.1      0.8             I
I  C-A      0.78                                          I
I  A-B      1.19                                          I
I  A-C      1.25                                          I
I                                                     I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.3
 08.30         0.3
 08.45         0.4
 09.00         0.4
 09.15         0.3
 09.30         0.3
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I  226.2 I  150.8 I    30.4 I    0.13  I     30.4 I    0.13  I
I  C-AB  I   53.1 I   35.4 I     6.2 I    0.12  I      6.2 I    0.12  I
I  C-A   I   84.0 I   56.0 I       I       I         I       I
I  A-B   I  130.3 I   86.8 I       I       I         I       I
I  A-C   I  137.1 I   91.4 I       I       I         I       I
-------------------------------------------------------------------------
I  ALL   I  630.8 I  420.5 I    36.6 I    0.06  I     36.6 I    0.06  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J2 Subject Site AM.vpi" at 11:57:31 on Thursday, 21 October 2021

RUN TITLE
****
J2 Subject Site 2026 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.13	4.69	3.13
ARM B	15.00	45.00	75.00	0.19	0.28	0.19
ARM C	15.00	45.00	75.00	3.75	5.63	3.75

.

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
08.00 - 09.30				
	ARM A	0.000	0.020	0.980
		0.0	5.0	245.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.333	0.000	0.667
		5.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.917	0.083	0.000
		275.0	25.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.19	10.68	0.018		0.0	0.0	0.3	
C-AB	0.43	12.06	0.036		0.0	0.0	0.7	
C-A	3.32							
A-B	0.06							
A-C	3.06							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     0.22   10.42   0.021          0.0   0.0      0.3             I
I  C-AB     0.55   12.36   0.044          0.0   0.1      1.0             I
I  C-A      3.93                                          I
I  A-B      0.07                                          I
I  A-C      3.66                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     0.27   10.06   0.027          0.0   0.0      0.4             I
I  C-AB     0.73   12.78   0.057          0.1   0.1      1.4             I
I  C-A      4.76                                          I
I  A-B      0.09                                          I
I  A-C      4.48                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     0.27   10.06   0.027          0.0   0.0      0.4             I
I  C-AB     0.73   12.78   0.057          0.1   0.1      1.4             I
I  C-A      4.76                                          I
I  A-B      0.09                                          I
I  A-C      4.48                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     0.22   10.42   0.021          0.0   0.0      0.3             I
I  C-AB     0.55   12.36   0.044          0.1   0.1      1.0             I
I  C-A      3.93                                          I
I  A-B      0.07                                          I
I  A-C      3.66                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     0.19   10.68   0.018          0.0   0.0      0.3             I
I  C-AB     0.43   12.06   0.036          0.1   0.0      0.7             I
I  C-A      3.32                                          I
I  A-B      0.06                                          I
I  A-C      3.06                                          I
I                                                     I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING      VEHICLES
            IN QUEUE
  08.15          0.0
  08.30          0.0
  08.45          0.0
  09.00          0.0
  09.15          0.0
  09.30          0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING      VEHICLES
            IN QUEUE
  08.15          0.0
  08.30          0.1
  08.45          0.1
  09.00          0.1
  09.15          0.1
  09.30          0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I             I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------------
I  B-AC  I   20.6 I   13.7 I    2.0 I   0.10  I     2.0 I   0.10  I
I  C-AB  I   51.1 I   34.1 I    6.1 I   0.12  I     6.1 I   0.12  I
I  C-A   I  360.2 I  240.2 I      I       I         I       I
I  A-B   I    6.9 I    4.6 I      I       I         I       I
I  A-C   I  335.9 I  224.0 I      I       I         I       I
-------------------------------------------------------------------------------
I  ALL   I  774.7 I  516.5 I    8.1 I   0.01  I     8.1 I   0.01  I
-------------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J2 Subject Site PM.vpi" at 11:57:35 on Thursday, 21 October 2021

RUN TITLE
****
J2 Subject Site 2026 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	2.25	3.38	2.25
ARM B	15.00	45.00	75.00	0.19	0.28	0.19
ARM C	15.00	45.00	75.00	2.50	3.75	2.50

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.000	1.000
		0.0	0.0	180.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.333	0.000	0.667
		5.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.950	0.050	0.000
		190.0	10.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	START QUEUE (VEHS)	END TIME SEGMENT	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/)
08.00-08.15									
B-AC	0.19	11.06	0.017		0.0	0.0	0.3		
C-AB	0.16	11.56	0.014		0.0	0.0	0.2		
C-A	2.34								
A-B	0.00								
A-C	2.25								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	QUEUE (VEHS)	START QUEUE	END TIME SEGMENT	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/)

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                 I
I  B-AC     0.22   10.88   0.021          0.0   0.0      0.3             I
I  C-AB     0.19   11.76   0.017          0.0   0.0      0.3             I
I  C-A      2.79                                          I
I  A-B      0.00                                          I
I  A-C      2.69                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                 I
I  B-AC     0.27   10.64   0.026          0.0   0.0      0.4             I
I  C-AB     0.25   12.05   0.021          0.0   0.0      0.4             I
I  C-A      3.40                                          I
I  A-B      0.00                                          I
I  A-C      3.29                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                 I
I  B-AC     0.27   10.64   0.026          0.0   0.0      0.4             I
I  C-AB     0.25   12.05   0.021          0.0   0.0      0.4             I
I  C-A      3.40                                          I
I  A-B      0.00                                          I
I  A-C      3.29                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                 I
I  B-AC     0.22   10.88   0.021          0.0   0.0      0.3             I
I  C-AB     0.19   11.76   0.017          0.0   0.0      0.3             I
I  C-A      2.79                                          I
I  A-B      0.00                                          I
I  A-C      2.69                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                 I
I  B-AC     0.19   11.06   0.017          0.0   0.0      0.3             I
I  C-AB     0.16   11.56   0.014          0.0   0.0      0.2             I
I  C-A      2.34                                          I
I  A-B      0.00                                          I
I  A-C      2.25                                          I
I                                                     I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-------------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------------
I  B-AC  I   20.6 I   13.7 I     1.9 I   0.09  I      1.9 I   0.09  I
I  C-AB  I   18.1 I   12.1 I     1.8 I   0.10  I      1.8 I   0.10  I
I  C-A   I  256.1 I  170.7 I       I       I         I       I
I  A-B   I    0.0 I    0.0 I       I       I         I       I
I  A-C   I  246.8 I  164.5 I       I       I         I       I
-------------------------------------------------------------------------------
I  ALL   I  541.6 I  361.1 I     3.7 I   0.01  I      3.7 I   0.01  I
-------------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J3 Tai Po Tin AM.vpi" at 11:57:40 on Thursday, 21 October 2021

RUN TITLE
****
J3 Tai Po Tin 2026 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.94	5.91	3.94
ARM B	15.00	45.00	75.00	0.63	0.94	0.63
ARM C	15.00	45.00	75.00	3.25	4.88	3.25

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.063	0.937
		0.0	20.0	295.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500
		25.0	0.0	25.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.923	0.077	0.000
		240.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.63	7.85	0.080		0.0	0.1	1.2	
C-AB	0.33	11.59	0.029		0.0	0.0	0.5	
C-A	2.92							
A-B	0.25							
A-C	3.69							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.75    7.61   0.098            0.1   0.1      1.6              I
I  C-AB     0.42   11.81   0.036            0.0   0.0      0.7              I
I  C-A      3.46                                                       I
I  A-B      0.30                                                       I
I  A-C      4.40                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.91    7.28   0.126            0.1   0.1      2.1              I
I  C-AB     0.56   12.12   0.046            0.0   0.1      1.0              I
I  C-A      4.20                                                       I
I  A-B      0.37                                                       I
I  A-C      5.39                                                       I
I                                                                  I
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.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.91    7.28   0.126            0.1   0.1      2.1              I
I  C-AB     0.56   12.12   0.046            0.1   0.1      1.0              I
I  C-A      4.19                                                       I
I  A-B      0.37                                                       I
I  A-C      5.39                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.75    7.61   0.098            0.1   0.1      1.7              I
I  C-AB     0.42   11.81   0.036            0.1   0.0      0.7              I
I  C-A      3.46                                                       I
I  A-B      0.30                                                       I
I  A-C      4.40                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.63    7.85   0.080            0.1   0.1      1.3              I
I  C-AB     0.33   11.59   0.029            0.0   0.0      0.6              I
I  C-A      2.92                                                       I
I  A-B      0.25                                                       I
I  A-C      3.69                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I   (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   68.6 I   45.7 I    10.1 I    0.15  I     10.1  I    0.15  I
I  C-AB  I   39.4 I   26.3 I     4.6 I    0.12  I      4.6  I    0.12  I
I  C-A   I  317.1 I  211.4 I       I        I         I        I
I  A-B   I   27.4 I   18.3 I       I        I         I        I
I  A-C   I  404.5 I  269.7 I       I        I         I        I
-------------------------------------------------------------------------
I  ALL   I  857.0 I  571.3 I    14.7 I    0.02  I     14.7  I    0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J3 Tai Po Tin PM.vpi" at 11:57:45 on Thursday, 21 October 2021

RUN TITLE
****
J2 Tai Po Tin 2026 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.88	4.31	2.88
ARM B	15.00	45.00	75.00	0.38	0.56	0.38
ARM C	15.00	45.00	75.00	2.56	3.84	2.56

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.152	0.848
		0.0	35.0	195.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.667	0.000	0.333
		20.0	0.0	10.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.902	0.098	0.000
		185.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.38	7.78	0.048		0.0	0.1	0.7	
C-AB	0.31	11.37	0.027		0.0	0.0	0.5	
C-A	2.25							
A-B	0.44							
A-C	2.44							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                        I
I  B-AC     0.45    7.60   0.059            0.1   0.1      0.9              I
I  C-AB     0.39   11.55   0.034            0.0   0.0      0.7              I
I  C-A      2.67                                                     I
I  A-B      0.52                                                     I
I  A-C      2.91                                                     I
I                                                                I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                        I
I  B-AC     0.55    7.35   0.075            0.1   0.1      1.2              I
I  C-AB     0.51   11.79   0.043            0.0   0.1      0.9              I
I  C-A      3.24                                                     I
I  A-B      0.64                                                     I
I  A-C      3.56                                                     I
I                                                                I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                        I
I  B-AC     0.55    7.35   0.075            0.1   0.1      1.2              I
I  C-AB     0.51   11.79   0.043            0.1   0.1      0.9              I
I  C-A      3.24                                                     I
I  A-B      0.64                                                     I
I  A-C      3.56                                                     I
I                                                                I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                        I
I  B-AC     0.45    7.60   0.059            0.1   0.1      1.0              I
I  C-AB     0.39   11.55   0.034            0.1   0.0      0.7              I
I  C-A      2.67                                                     I
I  A-B      0.52                                                     I
I  A-C      2.91                                                     I
I                                                                I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                        I
I  B-AC     0.38    7.78   0.048            0.1   0.1      0.8              I
I  C-AB     0.31   11.37   0.027            0.0   0.0      0.5              I
I  C-A      2.25                                                     I
I  A-B      0.44                                                     I
I  A-C      2.44                                                     I
I                                                                I
-------------------------------------------------------------------------------------------------

 *WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
 QUEUE FOR STREAM   B-AC
 ------------------------
 TIME SEGMENT    NO. OF
   ENDING     VEHICLES
            IN QUEUE
  08.15         0.1
  08.30         0.1
  08.45         0.1
  09.00         0.1
  09.15         0.1
  09.30         0.1
.
 QUEUE FOR STREAM   C-AB
 ------------------------
 TIME SEGMENT    NO. OF
   ENDING     VEHICLES
            IN QUEUE
  08.15         0.0
  08.30         0.0
  08.45         0.1
  09.00         0.1
  09.15         0.0
  09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   41.1 I  27.4 I    5.8 I   0.14  I     5.8 I   0.14  I
I  C-AB  I   36.2 I  24.1 I    4.3 I   0.12  I     4.3 I   0.12  I
I  C-A   I  244.9 I 163.3 I      I       I       I       I
I  A-B   I   48.0 I  32.0 I      I       I       I       I
I  A-C   I  267.4 I 178.3 I      I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  637.6 I  425.1 I   10.0 I   0.02  I    10.0 I   0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J4 Ping Yuen Rd AM.vpi" at 09:41:16 on Friday, 22 October 2021

RUN TITLE
****
J4 Ping Yuen Rd 2026 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
I
I
I
I
I
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.69	8.53	5.69
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	3.31	4.97	3.31
ARM D	15.00	45.00	75.00	2.06	3.09	2.06

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.011	0.692	0.297
		0.0	5.0	315.0	135.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM C	0.792	0.000	0.000	0.208
		210.0	0.0	0.0	55.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM D	0.818	0.000	0.182	0.000
		135.0	0.0	30.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.13	7.86	0.016	0.0	0.0	0.2
A-B	0.06					
A-C	3.94					
A-D	1.69	8.84	0.191	0.0	0.2	3.4
D-AB	1.69	12.10	0.139	0.0	0.2	2.3
D-BC	0.38	8.00	0.047	0.0	0.0	0.7
C-D	0.69					
C-A	2.63					
C-B	0.00	8.17	0.000	0.0	0.0	0.0

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.092	0.007	0.013	0.004	0.006
C-B	0.098	0.007	0.008		
D-AB	0.101	0.004	0.000	0.000	0.011
D-BC	0.067	0.010	0.023	0.005	0.008
A-D	0.096	0.003	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.15-08.30								
B-ACD	0.15	7.48	0.020	0.0	0.0	0.3		
A-B	0.07							
A-C	4.70							
A-D	2.02	8.70	0.232	0.2	0.3	4.3		
D-AB	2.02	11.89	0.169	0.2	0.2	3.0		
D-BC	0.45	7.57	0.059	0.0	0.1	0.9		
C-D	0.82							
C-A	3.13							
C-B	0.00	7.89	0.000	0.0	0.0	0.0		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.086	0.008	0.013	0.004	0.006
C-B	0.094	0.008	0.008		
D-AB	0.099	0.005	0.000	0.000	0.011
D-BC	0.063	0.011	0.023	0.005	0.007
A-D	0.095	0.004	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.30-08.45								
B-ACD	0.18	6.95	0.026	0.0	0.0	0.4		
A-B	0.09							
A-C	5.76							
A-D	2.47	8.51	0.290	0.3	0.4	5.9		
D-AB	2.47	11.61	0.213	0.2	0.3	3.9		
D-BC	0.55	6.98	0.079	0.1	0.1	1.2		
C-D	1.01							
C-A	3.84							
C-B	0.00	7.52	0.000	0.0	0.0	0.0		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.078	0.010	0.013	0.004	0.005
C-B	0.090	0.010	0.008		
D-AB	0.097	0.006	0.000	0.000	0.011
D-BC	0.058	0.014	0.023	0.005	0.007
A-D	0.093	0.005	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.45-09.00								
B-ACD	0.18	6.95	0.026	0.0	0.0	0.4		
A-B	0.09							
A-C	5.76							
A-D	2.47	8.51	0.290	0.4	0.4	6.1		
D-AB	2.47	11.61	0.213	0.3	0.3	4.0		
D-BC	0.55	6.98	0.079	0.1	0.1	1.3		
C-D	1.01							
C-A	3.84							
C-B	0.00	7.52	0.000	0.0	0.0	0.0		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.078	0.010	0.013	0.004	0.005
C-B	0.090	0.010	0.008		
D-AB	0.097	0.006	0.000	0.000	0.011
D-BC	0.058	0.014	0.023	0.005	0.007
A-D	0.093	0.005	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.00-09.15								
B-ACD	0.15	7.48	0.020	0.0	0.0	0.3		
A-B	0.07							
A-C	4.70							
A-D	2.02	8.70	0.232	0.4	0.3	4.7		
D-AB	2.02	11.89	0.169	0.3	0.2	3.2		
D-BC	0.45	7.56	0.059	0.1	0.1	1.0		
C-D	0.82							
C-A	3.13							
C-B	0.00	7.89	0.000	0.0	0.0	0.0		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.086	0.008	0.013	0.004	0.006
C-B	0.094	0.008	0.008		
D-AB	0.099	0.005	0.000	0.000	0.011
D-BC	0.063	0.012	0.023	0.005	0.007
A-D	0.095	0.004	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.15-09.30								
B-ACD	0.13	7.85	0.016	0.0	0.0	0.2		
A-B	0.06							
A-C	3.94							
A-D	1.69	8.84	0.191	0.3	0.2	3.7		
D-AB	1.69	12.10	0.139	0.2	0.2	2.5		

D-BC	0.38	7.99	0.047		0.1	0.0	0.8	
C-D	0.69							
C-A	2.63							
C-B	0.00	8.17	0.000		0.0	0.0	0.0	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY WIDTH (M)	(AHEAD FOR MAJOR) TO RIGHT (M)
B-ACD	0.092	0.007	0.013	0.004	0.006
C-B	0.098	0.007	0.008		
D-AB	0.101	0.004	0.000	0.000	0.011
D-BC	0.067	0.010	0.023	0.005	0.008
A-D	0.096	0.003	0.009		

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.4
09.00	0.4
09.15	0.3
09.30	0.2

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.2
08.45	0.3
09.00	0.3
09.15	0.2
09.30	0.2

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	* QUEUEING * DELAY * (VEH/H)	* DELAY * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)	* INCLUSIVE DELAY * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
B-ACD	13.7	9.1	1.9	0.14	1.9	0.14
A-B	6.9	4.6				
A-C	431.9	288.0				
A-D	185.1	123.4	28.0	0.15	28.0	0.15
D-AB	185.1	123.4	18.9	0.10	18.9	0.10
D-BC	41.1	27.4	5.9	0.14	5.9	0.14
C-D	75.4	50.3				
C-A	288.0	192.0				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1227.2	818.2	54.7	0.04	54.7	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2026 Ref\2026 Ref - J4 Ping Yuen Rd PM.vpi" at 09:41:21 on Friday, 22 October 2021

RUN TITLE
****
J4 Ping Yuen Rd 2026 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

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.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.06	6.09	4.06
ARM B	15.00	45.00	75.00	0.19	0.28	0.19
ARM C	15.00	45.00	75.00	2.56	3.84	2.56
ARM D	15.00	45.00	75.00	1.19	1.78	1.19

.

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S)			
		ARM A	ARM B	ARM C	ARM D
08.00 - 09.30	ARM A	0.000	0.015	0.708	0.277
		0.0	5.0	230.0	90.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.333	0.000	0.667	0.000
		5.0	0.0	10.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.829	0.024	0.000	0.146
		170.0	5.0	0.0	30.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.737	0.000	0.263	0.000
		70.0	0.0	25.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.00-08.15                                                                       I
I  B-ACD    0.19    8.96   0.021          0.0   0.0      0.3              I
I  A-B      0.06                                                          I
I  A-C      2.88                                                          I
I  A-D      1.13    9.00   0.125          0.0   0.1      2.0              I
I  D-AB     0.88   12.32   0.071          0.0   0.1      1.1              I
I  D-BC     0.31    8.54   0.037          0.0   0.0      0.5              I
I  C-D      0.38                                                          I
I  C-A      2.13                                                          I
I  C-B      0.06    9.44   0.007          0.0   0.0      0.1              I
I                                                                         I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                   I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                         I
I     B-ACD      0.101     0.005     0.013     0.005      0.007              I
I     C-B        0.103     0.005               0.009                       I
I     D-AB       0.103     0.003     0.000     0.000      0.012              I
I     D-BC       0.071     0.007     0.023     0.006      0.008              I
I     A-D        0.098     0.003               0.009                       I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                                       I
I  B-ACD    0.22    8.73   0.026          0.0   0.0      0.4              I
I  A-B      0.07                                                          I
I  A-C      3.43                                                          I
I  A-D      1.34    8.89   0.151          0.1   0.2      2.6              I
I  D-AB     1.04   12.16   0.086          0.1   0.1      1.4              I
I  D-BC     0.37    8.22   0.045          0.0   0.0      0.7              I
I  C-D      0.45                                                          I
I  C-A      2.54                                                          I
I  C-B      0.07    9.22   0.008          0.0   0.0      0.1              I
I                                                                         I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                   I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                         I
I     B-ACD      0.097     0.006     0.013     0.004      0.007              I
I     C-B        0.100     0.006               0.008                       I
I     D-AB       0.101     0.004     0.000     0.000      0.012              I
I     D-BC       0.069     0.009     0.023     0.005      0.008              I
I     A-D        0.097     0.003               0.009                       I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                                       I
I  B-ACD    0.27    8.40   0.033          0.0   0.0      0.5              I
I  A-B      0.09                                                          I
I  A-C      4.20                                                          I
I  A-D      1.65    8.74   0.188          0.2   0.2      3.4              I
I  D-AB     1.28   11.94   0.107          0.1   0.1      1.8              I
I  D-BC     0.46    7.78   0.059          0.0   0.1      0.9              I
I  C-D      0.55                                                          I
I  C-A      3.11                                                          I
I  C-B      0.09    8.93   0.010          0.0   0.0      0.2              I
I                                                                         I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                   I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                         I
I     B-ACD      0.091     0.007     0.013     0.004      0.006              I
I     C-B        0.097     0.007               0.008                       I
I     D-AB       0.100     0.004     0.000     0.000      0.011              I
I     D-BC       0.065     0.011     0.023     0.005      0.007              I
I     A-D        0.095     0.004               0.009                       I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                                       I
I  B-ACD    0.27    8.40   0.033          0.0   0.0      0.5              I
I  A-B      0.09                                                          I
I  A-C      4.20                                                          I
I  A-D      1.65    8.74   0.188          0.2   0.2      3.5              I
I  D-AB     1.28   11.94   0.107          0.1   0.1      1.8              I
I  D-BC     0.46    7.78   0.059          0.1   0.1      0.9              I
I  C-D      0.55                                                          I
I  C-A      3.11                                                          I
I  C-B      0.09    8.93   0.010          0.0   0.0      0.2              I
I                                                                         I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                   I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                         I
I     B-ACD      0.091     0.007     0.013     0.004      0.006              I
I     C-B        0.097     0.007               0.008                       I
I     D-AB       0.100     0.004     0.000     0.000      0.011              I
I     D-BC       0.065     0.011     0.023     0.005      0.007              I
I     A-D        0.095     0.004               0.009                       I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                                       I
I  B-ACD    0.22    8.73   0.026          0.0   0.0      0.4              I
I  A-B      0.07                                                          I
I  A-C      3.43                                                          I
I  A-D      1.34    8.89   0.151          0.2   0.2      2.8              I
I  D-AB     1.04   12.16   0.086          0.1   0.1      1.4              I
I  D-BC     0.37    8.22   0.045          0.1   0.0      0.7              I
I  C-D      0.45                                                          I
I  C-A      2.54                                                          I
I  C-B      0.07    9.22   0.008          0.0   0.0      0.1              I
I                                                                         I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                   I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                         I
I     B-ACD      0.097     0.006     0.013     0.004      0.007              I
I     C-B        0.100     0.006               0.008                       I
I     D-AB       0.101     0.004     0.000     0.000      0.012              I
I     D-BC       0.069     0.009     0.023     0.005      0.008              I
I     A-D        0.097     0.003               0.009                       I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                                       I
I  B-ACD    0.19    8.96   0.021          0.0   0.0      0.3              I
I  A-B      0.06                                                          I
I  A-C      2.88                                                          I
I  A-D      1.13    9.00   0.125          0.2   0.1      2.2              I
I  D-AB     0.88   12.32   0.071          0.1   0.1      1.2              I
```

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I  D-BC     0.31     8.54   0.037              0.0   0.0       0.6                 I
I  C-D      0.38                                                                  I
I  C-A      2.13                                                                  I
I  C-B      0.06     9.43   0.007              0.0   0.0       0.1                 I
I                                                                                 I
I              EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                I
I                        MAJOR RD.    CENT RES  VIS TO LEFT      VISIBILITY       I
I    MARGINAL   LANE WIDTH   WIDTH       WIDTH    (AHEAD FOR MAJOR) TO RIGHT      I
I    CHANGE:    (.1M)      (.1M)      (.1M)       (M)         (M)                 I
I                                                                                 I
I      B-ACD       0.101      0.005      0.013      0.005       0.007              I
I      C-B         0.103      0.005                 0.009                         I
I      D-AB        0.103      0.003      0.000      0.000       0.012              I
I      D-BC        0.071      0.007      0.023      0.006       0.008              I
I      A-D         0.098      0.003                 0.009                         I
-------------------------------------------------------------------------------------
.
QUEUE FOR STREAM   B-ACD
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   A-D
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.2
 08.45         0.2
 09.00         0.2
 09.15         0.2
 09.30         0.1
.
QUEUE FOR STREAM   D-AB
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   D-BC
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-B
-------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
```

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	20.6	13.7	2.4	0.12	2.4	0.12
A-B	6.9	4.6				
A-C	315.4	210.3				
A-D	123.4	82.3	16.4	0.13	16.4	0.13
D-AB	96.0	64.0	8.7	0.09	8.7	0.09
D-BC	34.3	22.9	4.4	0.13	4.4	0.13
C-D	41.1	27.4				
C-A	233.1	155.4				
C-B	6.9	4.6	0.8	0.11	0.8	0.11
ALL	877.6	585.1	32.6	0.04	32.6	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

2030 Reference Traffic Flow Junction Calculations

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J1 Lei Uk Tsuen AM.vpi" at 11:58:58 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2030 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.00 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	100.0 M.
- BLOCKS TRAFFIC	YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	20.0 M.
- VISIBILITY TO RIGHT	(VB-A)	50.0 M.
- LANE 1 WIDTH	(WB-C)	5.00 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.00	6.00	4.00
ARM B	15.00	45.00	75.00	2.56	3.84	2.56
ARM C	15.00	45.00	75.00	2.69	4.03	2.69

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.563	0.438
		0.0	180.0	140.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.659	0.000	0.341
		135.0	0.0	70.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.744	0.256	0.000
		160.0	55.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.56	9.75	0.263		0.0	0.4	5.1	
C-AB	0.84	10.91	0.077		0.0	0.1	1.6	
C-A	1.85							
A-B	2.25							
A-C	1.75							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC    3.06    9.50   0.322            0.4   0.5      6.8              I
I  C-AB    1.04   11.00   0.095            0.1   0.1      2.1              I
I  C-A     2.17                                                        I
I  A-B     2.69                                                        I
I  A-C     2.09                                                        I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC    3.75    9.15   0.409            0.5   0.7      9.8              I
I  C-AB    1.36   11.14   0.123            0.1   0.2      2.9              I
I  C-A     2.57                                                        I
I  A-B     3.29                                                        I
I  A-C     2.56                                                        I
I                                                                  I
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.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC    3.75    9.15   0.410            0.7   0.7     10.3              I
I  C-AB    1.37   11.14   0.123            0.2   0.2      2.9              I
I  C-A     2.56                                                        I
I  A-B     3.29                                                        I
I  A-C     2.56                                                        I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC    3.06    9.50   0.322            0.7   0.5      7.5              I
I  C-AB    1.04   11.00   0.095            0.2   0.1      2.1              I
I  C-A     2.17                                                        I
I  A-B     2.69                                                        I
I  A-C     2.09                                                        I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC    2.56    9.75   0.263            0.5   0.4      5.6              I
I  C-AB    0.84   10.91   0.077            0.1   0.1      1.6              I
I  C-A     1.85                                                        I
I  A-B     2.25                                                        I
I  A-C     1.75                                                        I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.4
 08.30         0.5
 08.45         0.7   *
 09.00         0.7   *
 09.15         0.5
 09.30         0.4
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.2
 09.00         0.2
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I  281.1 I  187.4 I   45.0 I   0.16  I     45.0 I   0.16  I
I  C-AB  I   97.4 I   64.9 I   13.1 I   0.13  I     13.1 I   0.13  I
I  C-A   I  197.4 I  131.6 I      I       I        I       I
I  A-B   I  246.8 I  164.5 I      I       I        I       I
I  A-C   I  192.0 I  128.0 I      I       I        I       I
-------------------------------------------------------------------------
I  ALL   I 1014.7 I  676.5 I   58.1 I   0.06  I     58.1 I   0.06  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J1 Lei Uk Tsuen PM.vpi" at 11:59:02 on Thursday, 21 October 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2030 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.81	4.22	2.81
ARM B	15.00	45.00	75.00	2.31	3.47	2.31
ARM C	15.00	45.00	75.00	1.38	2.06	1.38

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.489	0.511
		0.0	110.0	115.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.703	0.000	0.297
		130.0	0.0	55.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.636	0.364	0.000
		70.0	40.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.31	10.04	0.230		0.0	0.3	4.3	
C-AB	0.55	10.43	0.052		0.0	0.1	0.9	
C-A	0.83							
A-B	1.38							
A-C	1.44							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                  I
I  B-AC    2.76    9.87   0.280            0.3   0.4      5.6              I
I  C-AB    0.66   10.42   0.064            0.1   0.1      1.2              I
I  C-A     0.98                                              I
I  A-B     1.64                                              I
I  A-C     1.72                                              I
I                                                        I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                  I
I  B-AC    3.38    9.63   0.351            0.4   0.5      7.7              I
I  C-AB    0.83   10.40   0.080            0.1   0.1      1.5              I
I  C-A     1.18                                              I
I  A-B     2.01                                              I
I  A-C     2.10                                              I
I                                                        I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                  I
I  B-AC    3.38    9.63   0.351            0.5   0.5      8.0              I
I  C-AB    0.83   10.40   0.080            0.1   0.1      1.5              I
I  C-A     1.18                                              I
I  A-B     2.01                                              I
I  A-C     2.10                                              I
I                                                        I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                  I
I  B-AC    2.76    9.86   0.280            0.5   0.4      6.1              I
I  C-AB    0.66   10.42   0.064            0.1   0.1      1.2              I
I  C-A     0.98                                              I
I  A-B     1.64                                              I
I  A-C     1.72                                              I
I                                                        I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                  I
I  B-AC    2.31    10.03  0.230            0.4   0.3      4.7              I
I  C-AB    0.55    10.43  0.052            0.1   0.1      0.9              I
I  C-A     0.83                                              I
I  A-B     1.38                                              I
I  A-C     1.44                                              I
I                                                        I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.3
 08.30         0.4
 08.45         0.5   *
 09.00         0.5   *
 09.15         0.4
 09.30         0.3
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I  253.7 I  169.1 I    36.4 I    0.14  I      36.4 I    0.14  I
I  C-AB  I   61.3 I   40.8 I     7.3 I    0.12  I       7.3 I    0.12  I
I  C-A   I   89.6 I   59.7 I       I       I         I       I
I  A-B   I  150.8 I  100.6 I       I       I         I       I
I  A-C   I  157.7 I  105.1 I       I       I         I       I
-------------------------------------------------------------------------
I  ALL   I  713.0 I  475.4 I    43.7 I    0.06  I      43.7 I    0.06  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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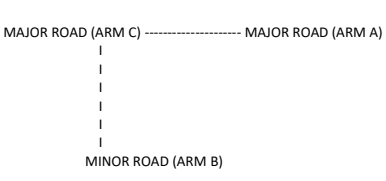
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Run with file:- "o:\yam\2030 Ref - J2 Subject Site AM.vpi" at 09:13:09 on Monday, 15 November 2021

RUN TITLE
****
J2 Subject Site 2030 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH (W)	6.00 M.
CENTRAL RESERVE WIDTH (WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH (WC-B)	2.20 M.
- VISIBILITY (VC-B)	100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT (VB-C)	20.0 M.
- VISIBILITY TO RIGHT (VB-A)	50.0 M.
- LANE 1 WIDTH (WB-C)	5.00 M.
- LANE 2 WIDTH (WB-A)	0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.69	5.53	3.69
ARM B	15.00	45.00	75.00	0.25	0.38	0.25
ARM C	15.00	45.00	75.00	4.25	6.38	4.25

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.017	0.983
		0.0	5.0	290.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.250	0.000	0.750
		5.0	0.0	15.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.926	0.074	0.000
		315.0	25.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	FLOW (VEHS)	QUEUE (VEHS)	START QUEUE	END TIME	DELAY (VEH.MIN/ SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ SEGMENT)
08.00-08.15									
B-AC	0.25	10.81	0.023	0.0	0.0			0.3	
C-AB	0.45	12.26	0.037	0.0	0.1			0.7	
C-A	3.80								
A-B	0.06								
A-C	3.63								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	QUEUE	START QUEUE	END	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     0.30   10.52   0.028           0.0   0.0     0.4             I
I  C-AB     0.58   12.61   0.046           0.1   0.1     1.0             I
I  C-A      4.50                                           I
I  A-B      0.07                                           I
I  A-C      4.33                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     0.37   10.12   0.036           0.0   0.0     0.5             I
I  C-AB     0.78   13.08   0.059           0.1   0.1     1.4             I
I  C-A      5.44                                           I
I  A-B      0.09                                           I
I  A-C      5.30                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     0.37   10.12   0.036           0.0   0.0     0.6             I
I  C-AB     0.78   13.08   0.059           0.1   0.1     1.5             I
I  C-A      5.44                                           I
I  A-B      0.09                                           I
I  A-C      5.30                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     0.30   10.52   0.028           0.0   0.0     0.4             I
I  C-AB     0.58   12.61   0.046           0.1   0.1     1.0             I
I  C-A      4.50                                           I
I  A-B      0.07                                           I
I  A-C      4.33                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     0.25   10.81   0.023           0.0   0.0     0.4             I
I  C-AB     0.45   12.26   0.037           0.1   0.1     0.8             I
I  C-A      3.80                                           I
I  A-B      0.06                                           I
I  A-C      3.63                                           I
I                                                      I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I B-AC I  27.4 I  18.3 I    2.7 I   0.10  I     2.7 I   0.10  I
I C-AB I  54.1 I  36.1 I    6.4 I   0.12  I     6.4 I   0.12  I
I C-A  I 412.1 I 274.7 I      I       I       I       I       I
I A-B  I   6.9 I   4.6 I      I       I       I       I       I
I A-C  I 397.7 I 265.1 I      I       I       I       I       I
-------------------------------------------------------------------------
I ALL  I 898.1 I 598.8 I    9.1 I   0.01  I     9.1 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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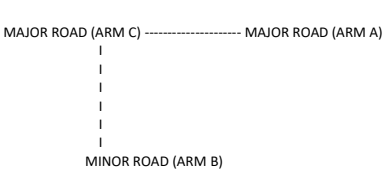
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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\yam\2030 Ref - J2 Subject Site AM.vpi" at 09:13:09 on Monday, 15 November 2021

RUN TITLE
****
J2 Subject Site 2030 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH (W)	6.00 M.
CENTRAL RESERVE WIDTH (WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH (WC-B)	2.20 M.
- VISIBILITY (VC-B)	100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT (VB-C)	20.0 M.
- VISIBILITY TO RIGHT (VB-A)	50.0 M.
- LANE 1 WIDTH (WB-C)	5.00 M.
- LANE 2 WIDTH (WB-A)	0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.69	5.53	3.69
ARM B	15.00	45.00	75.00	0.25	0.38	0.25
ARM C	15.00	45.00	75.00	4.25	6.38	4.25

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.017	0.983
		0.0	5.0	290.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.250	0.000	0.750
		5.0	0.0	15.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.926	0.074	0.000
		315.0	25.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	FLOW (VEHS)	QUEUE (VEHS)	START QUEUE	END TIME	DELAY (VEH.MIN/ SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ SEGMENT)
08.00-08.15									
B-AC	0.25	10.81	0.023	0.0	0.0			0.3	
C-AB	0.45	12.26	0.037	0.0	0.1			0.7	
C-A	3.80								
A-B	0.06								
A-C	3.63								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	QUEUE	START QUEUE	END	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     0.30   10.52   0.028           0.0   0.0     0.4             I
I  C-AB     0.58   12.61   0.046           0.1   0.1     1.0             I
I  C-A      4.50                                           I
I  A-B      0.07                                           I
I  A-C      4.33                                           I
I                                                      I
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.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     0.37   10.12   0.036           0.0   0.0     0.5             I
I  C-AB     0.78   13.08   0.059           0.1   0.1     1.4             I
I  C-A      5.44                                           I
I  A-B      0.09                                           I
I  A-C      5.30                                           I
I                                                      I
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.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     0.37   10.12   0.036           0.0   0.0     0.6             I
I  C-AB     0.78   13.08   0.059           0.1   0.1     1.5             I
I  C-A      5.44                                           I
I  A-B      0.09                                           I
I  A-C      5.30                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     0.30   10.52   0.028           0.0   0.0     0.4             I
I  C-AB     0.58   12.61   0.046           0.1   0.1     1.0             I
I  C-A      4.50                                           I
I  A-B      0.07                                           I
I  A-C      4.33                                           I
I                                                      I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     0.25   10.81   0.023           0.0   0.0     0.4             I
I  C-AB     0.45   12.26   0.037           0.1   0.1     0.8             I
I  C-A      3.80                                           I
I  A-B      0.06                                           I
I  A-C      3.63                                           I
I                                                      I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.0
 09.00         0.0
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I B-AC I  27.4 I  18.3 I    2.7 I   0.10  I     2.7 I   0.10  I
I C-AB I  54.1 I  36.1 I    6.4 I   0.12  I     6.4 I   0.12  I
I C-A  I 412.1 I 274.7 I      I       I       I       I       I
I A-B  I   6.9 I   4.6 I      I       I       I       I       I
I A-C  I 397.7 I 265.1 I      I       I       I       I       I
-------------------------------------------------------------------------
I ALL  I 898.1 I 598.8 I    9.1 I   0.01  I     9.1 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J3 Tai Po Tin AM.vpi" at 11:59:13 on Thursday, 21 October 2021

RUN TITLE
****
J3 Tai Po Tin 2030 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK	RATE OF FLOW (VEH/MIN)
ARM A	15.00	45.00	75.00	4.50	6.75	4.50	
ARM B	15.00	45.00	75.00	0.75	1.13	0.75	
ARM C	15.00	45.00	75.00	3.75	5.63	3.75	

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.056	0.944
		0.0	20.0	340.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500
		30.0	0.0	30.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.933	0.067	0.000
		280.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.75	7.67	0.098		0.0	0.1	1.5	
C-AB	0.35	11.80	0.030		0.0	0.0	0.6	
C-A	3.40							
A-B	0.25							
A-C	4.25							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.90    7.39   0.121            0.1   0.1      2.0              I
I  C-AB     0.45   12.06   0.037            0.0   0.1      0.8              I
I  C-A      4.03                                                       I
I  A-B      0.30                                                       I
I  A-C      5.07                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     1.10    7.01   0.157            0.1   0.2      2.7              I
I  C-AB     0.60   12.43   0.048            0.1   0.1      1.1              I
I  C-A      4.89                                                       I
I  A-B      0.37                                                       I
I  A-C      6.22                                                       I
I                                                                  I
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.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     1.10    7.01   0.157            0.2   0.2      2.8              I
I  C-AB     0.60   12.43   0.048            0.1   0.1      1.1              I
I  C-A      4.89                                                       I
I  A-B      0.37                                                       I
I  A-C      6.22                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.90    7.39   0.121            0.2   0.1      2.1              I
I  C-AB     0.45   12.06   0.037            0.1   0.1      0.8              I
I  C-A      4.03                                                       I
I  A-B      0.30                                                       I
I  A-C      5.07                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.75    7.67   0.098            0.1   0.1      1.7              I
I  C-AB     0.35   11.80   0.030            0.1   0.0      0.6              I
I  C-A      3.40                                                       I
I  A-B      0.25                                                       I
I  A-C      4.25                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING      VEHICLES
            IN QUEUE
  08.15          0.1
  08.30          0.1
  08.45          0.2
  09.00          0.2
  09.15          0.1
  09.30          0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING      VEHICLES
            IN QUEUE
  08.15          0.0
  08.30          0.1
  08.45          0.1
  09.00          0.1
  09.15          0.1
  09.30          0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I B-AC  I  82.3 I  54.8 I   12.8 I   0.16  I     12.8  I   0.16  I
I C-AB  I  41.8 I  27.9 I    4.9 I   0.12  I      4.9  I   0.12  I
I C-A   I 369.5 I 246.4 I       I       I         I       I
I A-B   I  27.4 I  18.3 I       I       I         I       I
I A-C   I 466.2 I 310.8 I       I       I         I       I
-------------------------------------------------------------------------
I ALL   I 987.3 I 658.2 I   17.7 I   0.02  I     17.7  I   0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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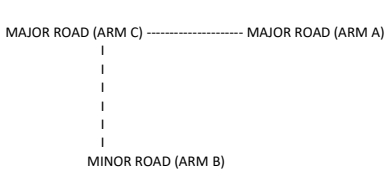
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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J3 Tai Po Tin PM.vpi" at 11:59:20 on Thursday, 21 October 2021

RUN TITLE
****
J3 Tai Po Tin 2030 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

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.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.31	4.97	3.31
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	3.06	4.59	3.06

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.151	0.849
		0.0	40.0	225.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.571	0.000	0.429
		20.0	0.0	15.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.918	0.082	0.000
		225.0	20.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.44	7.87	0.056		0.0	0.1	0.8	
C-AB	0.33	11.61	0.028		0.0	0.0	0.5	
C-A	2.74							
A-B	0.50							
A-C	2.81							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.52    7.66   0.068            0.1   0.1      1.1              I
I  C-AB     0.41   11.83   0.035            0.0   0.0      0.7              I
I  C-A      3.25                                                       I
I  A-B      0.60                                                       I
I  A-C      3.36                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.64    7.38   0.087            0.1   0.1      1.4              I
I  C-AB     0.54   12.13   0.045            0.0   0.1      1.0              I
I  C-A      3.94                                                       I
I  A-B      0.73                                                       I
I  A-C      4.11                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.64    7.38   0.087            0.1   0.1      1.4              I
I  C-AB     0.54   12.13   0.045            0.1   0.1      1.0              I
I  C-A      3.94                                                       I
I  A-B      0.73                                                       I
I  A-C      4.11                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.52    7.66   0.068            0.1   0.1      1.1              I
I  C-AB     0.41   11.83   0.035            0.1   0.0      0.7              I
I  C-A      3.25                                                       I
I  A-B      0.60                                                       I
I  A-C      3.36                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.44    7.87   0.056            0.1   0.1      0.9              I
I  C-AB     0.33   11.61   0.028            0.0   0.0      0.5              I
I  C-A      2.74                                                       I
I  A-B      0.50                                                       I
I  A-C      2.81                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   48.0 I  32.0 I    6.7 I   0.14  I     6.7 I   0.14  I
I  C-AB  I   38.4 I  25.6 I    4.5 I   0.12  I     4.5 I   0.12  I
I  C-A   I  297.6 I 198.4 I      I       I       I       I
I  A-B   I   54.8 I  36.6 I      I       I       I       I
I  A-C   I  308.5 I 205.7 I      I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  747.3 I 498.2 I   11.2 I   0.01  I    11.2 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J4 Ping Yuen Rd AM.vpi" at 09:42:40 on Friday, 22 October 2021

RUN TITLE
****
J4 Ping Yuen Rd 2030 Ref AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.50	9.75	6.50
ARM B	15.00	45.00	75.00	0.06	0.09	0.06
ARM C	15.00	45.00	75.00	3.88	5.81	3.88
ARM D	15.00	45.00	75.00	2.44	3.66	2.44

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.010	0.692	0.298
		0.0	5.0	360.0	155.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM B	1.000	0.000	0.000	0.000
		5.0	0.0	0.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM C	0.790	0.016	0.000	0.194
		245.0	5.0	0.0	60.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM D	0.821	0.000	0.179	0.000
		160.0	0.0	35.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.06	6.09	0.010	0.0	0.0	0.1
A-B	0.06					
A-C	4.50					
A-D	1.94	8.71	0.222	0.0	0.3	4.1
D-AB	2.00	11.93	0.168	0.0	0.2	2.9
D-BC	0.44	7.67	0.057	0.0	0.1	0.9
C-D	0.75					
C-A	3.06					
C-B	0.06	8.77	0.007	0.0	0.0	0.1

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.087	0.008	0.013	0.004	0.006	
C-B	0.095	0.008	0.008			
D-AB	0.099	0.004	0.000	0.000	0.011	
D-BC	0.064	0.011	0.023	0.005	0.007	
A-D	0.095	0.004	0.009			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-ACD	0.07	5.60	0.013		0.0	0.0	0.2	
A-B	0.07							
A-C	5.37							
A-D	2.31	8.55	0.271		0.3	0.4	5.3	
D-AB	2.39	11.69	0.204		0.2	0.3	3.7	
D-BC	0.52	7.18	0.073		0.1	0.1	1.1	
C-D	0.90							
C-A	3.66							
C-B	0.07	8.42	0.009		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.080	0.009	0.013	0.004	0.005	
C-B	0.092	0.009	0.008			
D-AB	0.097	0.005	0.000	0.000	0.011	
D-BC	0.060	0.013	0.023	0.005	0.007	
A-D	0.093	0.005	0.009			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-ACD	0.09	4.93	0.019		0.0	0.0	0.3	
A-B	0.09							
A-C	6.58							
A-D	2.83	8.32	0.341		0.4	0.5	7.3	
D-AB	2.92	11.35	0.258		0.3	0.3	5.0	
D-BC	0.64	6.51	0.098		0.1	0.1	1.6	
C-D	1.10							
C-A	4.48							
C-B	0.09	7.94	0.012		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.071	0.011	0.013	0.003	0.005	
C-B	0.086	0.011	0.007			
D-AB	0.095	0.006	0.000	0.000	0.011	
D-BC	0.054	0.016	0.023	0.004	0.006	
A-D	0.090	0.006	0.008			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00								
B-ACD	0.09	4.93	0.019		0.0	0.0	0.3	
A-B	0.09							
A-C	6.58							
A-D	2.83	8.32	0.341		0.5	0.5	7.7	
D-AB	2.92	11.35	0.258		0.3	0.3	5.2	
D-BC	0.64	6.50	0.098		0.1	0.1	1.6	
C-D	1.10							
C-A	4.48							
C-B	0.09	7.94	0.012		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.070	0.011	0.013	0.003	0.005	
C-B	0.086	0.012	0.007			
D-AB	0.095	0.006	0.000	0.000	0.011	
D-BC	0.054	0.016	0.023	0.004	0.006	
A-D	0.090	0.006	0.008			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15								
B-ACD	0.07	5.60	0.013		0.0	0.0	0.2	
A-B	0.07							
A-C	5.37							
A-D	2.31	8.55	0.271		0.5	0.4	5.8	
D-AB	2.39	11.69	0.204		0.3	0.3	4.0	
D-BC	0.52	7.18	0.073		0.1	0.1	1.2	
C-D	0.90							
C-A	3.66							
C-B	0.07	8.41	0.009		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.080	0.009	0.013	0.004	0.005	
C-B	0.092	0.009	0.008			
D-AB	0.097	0.005	0.000	0.000	0.011	
D-BC	0.060	0.013	0.023	0.005	0.007	
A-D	0.093	0.005	0.009			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.15-09.30								
B-ACD	0.06	6.08	0.010		0.0	0.0	0.2	
A-B	0.06							
A-C	4.50							
A-D	1.94	8.71	0.222		0.4	0.3	4.5	
D-AB	2.00	11.93	0.168		0.3	0.2	3.1	

D-BC	0.44	7.66	0.057		0.1	0.1	0.9	
C-D	0.75							
C-A	3.06							
C-B	0.06	8.76	0.007		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY WIDTH (M)	(AHEAD FOR MAJOR) TO RIGHT (M)
B-ACD	0.087	0.008	0.013	0.004	0.006
C-B	0.095	0.008	0.008		
D-AB	0.099	0.004	0.000	0.000	0.011
D-BC	0.064	0.011	0.023	0.005	0.007
A-D	0.095	0.004	0.009		

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.0	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	
09.30	0.0	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.3	
08.30	0.4	
08.45	0.5	*
09.00	0.5	*
09.15	0.4	
09.30	0.3	

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.3
09.15	0.3
09.30	0.2

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	* QUEUEING * DELAY * (VEH)	* QUEUEING * DELAY * (VEH/H)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	6.9	4.6	1.3	0.18	1.3	0.18
A-B	6.9	4.6				
A-C	493.6	329.1				
A-D	212.5	141.7	34.7	0.16	34.7	0.16
D-AB	219.4	146.3	23.9	0.11	23.9	0.11
D-BC	48.0	32.0	7.4	0.15	7.4	0.15
C-D	82.3	54.8				
C-A	335.9	224.0				
C-B	6.9	4.6	0.8	0.12	0.8	0.12
ALL	1412.3	941.6	68.1	0.05	68.1	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\yam\PCR_New\2030 Ref\2030 Ref - J4 Ping Yuen Rd PM.vpi" at 09:42:44 on Friday, 22 October 2021

RUN TITLE
****
J4 Ping Yuen Rd 2030 Ref PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
I
I
I
I
I
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

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.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.69	7.03	4.69
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	3.06	4.59	3.06
ARM D	15.00	45.00	75.00	1.38	2.06	1.38

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.013	0.707	0.280
		0.0	5.0	265.0	105.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM C	0.837	0.020	0.000	0.143
		205.0	5.0	0.0	35.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM D	0.727	0.000	0.273	0.000
		80.0	0.0	30.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.00-08.15                                                                       I
I  B-ACD   0.13    8.19   0.015            0.0   0.0      0.2              I
I  A-B     0.06                                                          I
I  A-C     3.31                                                          I
I  A-D     1.31    8.89   0.148            0.0   0.2      2.5              I
I  D-AB    1.00   12.15   0.082            0.0   0.1      1.3              I
I  D-BC    0.38    8.28   0.045            0.0   0.0      0.7              I
I  C-D     0.44                                                          I
I  C-A     2.56                                                          I
I  C-B     0.06    9.27   0.007            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT              I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.098     0.005     0.013     0.004      0.007              I
I     C-B        0.101     0.006               0.008                   I
I     D-AB       0.101     0.004     0.000     0.000      0.012              I
I     D-BC       0.069     0.008     0.023     0.005      0.008              I
I     A-D        0.097     0.003               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/    (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                                       I
I  B-ACD   0.15    7.89   0.019            0.0   0.0      0.3              I
I  A-B     0.07                                                          I
I  A-C     3.96                                                          I
I  A-D     1.57    8.76   0.179            0.2   0.2      3.2              I
I  D-AB    1.19   11.96   0.100            0.1   0.1      1.6              I
I  D-BC    0.45    7.91   0.057            0.0   0.1      0.9              I
I  C-D     0.52                                                          I
I  C-A     3.06                                                          I
I  C-B     0.07    9.02   0.008            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT              I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.093     0.006     0.013     0.004      0.006              I
I     C-B        0.098     0.007               0.008                   I
I     D-AB       0.100     0.004     0.000     0.000      0.011              I
I     D-BC       0.066     0.010     0.023     0.005      0.008              I
I     A-D        0.095     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/    (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                                       I
I  B-ACD   0.18    7.46   0.025            0.0   0.0      0.4              I
I  A-B     0.09                                                          I
I  A-C     4.84                                                          I
I  A-D     1.92    8.58   0.224            0.2   0.3      4.2              I
I  D-AB    1.46   11.69   0.125            0.1   0.1      2.1              I
I  D-BC    0.55    7.40   0.074            0.1   0.1      1.2              I
I  C-D     0.64                                                          I
I  C-A     3.75                                                          I
I  C-B     0.09    8.68   0.011            0.0   0.0      0.2              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT              I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.086     0.008     0.013     0.004      0.006              I
I     C-B        0.094     0.008               0.008                   I
I     D-AB       0.097     0.005     0.000     0.000      0.011              I
I     D-BC       0.062     0.012     0.023     0.005      0.007              I
I     A-D        0.093     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/    (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                                       I
I  B-ACD   0.18    7.46   0.025            0.0   0.0      0.4              I
I  A-B     0.09                                                          I
I  A-C     4.84                                                          I
I  A-D     1.92    8.58   0.224            0.3   0.3      4.3              I
I  D-AB    1.46   11.69   0.125            0.1   0.1      2.1              I
I  D-BC    0.55    7.40   0.074            0.1   0.1      1.2              I
I  C-D     0.64                                                          I
I  C-A     3.75                                                          I
I  C-B     0.09    8.68   0.011            0.0   0.0      0.2              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT              I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.086     0.008     0.013     0.004      0.006              I
I     C-B        0.094     0.008               0.008                   I
I     D-AB       0.097     0.005     0.000     0.000      0.011              I
I     D-BC       0.062     0.012     0.023     0.005      0.007              I
I     A-D        0.093     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/    (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                                       I
I  B-ACD   0.15    7.88   0.019            0.0   0.0      0.3              I
I  A-B     0.07                                                          I
I  A-C     3.96                                                          I
I  A-D     1.57    8.76   0.179            0.3   0.2      3.4              I
I  D-AB    1.19   11.96   0.100            0.1   0.1      1.7              I
I  D-BC    0.45    7.91   0.057            0.1   0.1      0.9              I
I  C-D     0.52                                                          I
I  C-A     3.06                                                          I
I  C-B     0.07    9.02   0.008            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT              I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.093     0.006     0.013     0.004      0.006              I
I     C-B        0.098     0.007               0.008                   I
I     D-AB       0.100     0.004     0.000     0.000      0.011              I
I     D-BC       0.066     0.010     0.023     0.005      0.008              I
I     A-D        0.095     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/    (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                                       I
I  B-ACD   0.13    8.18   0.015            0.0   0.0      0.2              I
I  A-B     0.06                                                          I
I  A-C     3.31                                                          I
I  A-D     1.31    8.89   0.148            0.2   0.2      2.7              I
I  D-AB    1.00   12.15   0.082            0.1   0.1      1.4              I
```

D-BC	0.38	8.28	0.045		0.1	0.0	0.7	
C-D	0.44							
C-A	2.56							
C-B	0.06	9.26	0.007		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (AHEAD FOR MAJOR) (M)	TO RIGHT
B-ACD	0.098	0.005	0.013	0.004	0.007	
C-B	0.101	0.006	0.008			
D-AB	0.101	0.004	0.000	0.000	0.012	
D-BC	0.069	0.008	0.023	0.005	0.008	
A-D	0.097	0.003	0.009			

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.2
08.45	0.3
09.00	0.3
09.15	0.2
09.30	0.2

.

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.0

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	* QUEUEING * DELAY * (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	13.7	9.1	1.8	0.13	1.8	0.13
A-B	6.9	4.6				
A-C	363.4	242.2				
A-D	144.0	96.0	20.2	0.14	20.2	0.14
D-AB	109.7	73.1	10.2	0.09	10.2	0.09
D-BC	41.1	27.4	5.6	0.14	5.6	0.14
C-D	48.0	32.0				
C-A	281.1	187.4				
C-B	6.9	4.6	0.8	0.11	0.8	0.11
ALL	1014.7	676.5	38.5	0.04	38.5	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

2026 Design Traffic Flow Signal Calculations

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J1 Lei Uk Tsuen AM.vpi" at 09:41:33 on Wednesday, 3 November 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2026 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.59	5.38	3.59
ARM B	15.00	45.00	75.00	2.25	3.38	2.25
ARM C	15.00	45.00	75.00	2.45	3.68	2.45

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.557	0.443
		0.0	160.0	127.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.667	0.000	0.333
		120.0	0.0	60.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.745	0.255	0.000
		146.0	50.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.25	9.85	0.228		0.0	0.3	4.2	
C-AB	0.75	10.89	0.069		0.0	0.1	1.4	
C-A	1.70							
A-B	2.00							
A-C	1.59							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                 I
I  B-AC    2.69    9.62   0.279            0.3   0.4      5.6              I
I  C-AB    0.93   10.97   0.085            0.1   0.1      1.8              I
I  C-A     2.00                                              I
I  A-B     2.39                                              I
I  A-C     1.90                                              I
I                                                       I
-------------------------------------------------------------------------------------------------

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I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                 I
I  B-AC    3.29    9.31   0.354            0.4   0.5      7.8              I
I  C-AB    1.19   11.08   0.108            0.1   0.2      2.4              I
I  C-A     2.39                                              I
I  A-B     2.92                                              I
I  A-C     2.32                                              I
I                                                       I
-------------------------------------------------------------------------------------------------

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I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                 I
I  B-AC    3.29    9.30   0.354            0.5   0.5      8.1              I
I  C-AB    1.20   11.08   0.108            0.2   0.2      2.5              I
I  C-A     2.39                                              I
I  A-B     2.92                                              I
I  A-C     2.32                                              I
I                                                       I
-------------------------------------------------------------------------------------------------

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I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                 I
I  B-AC    2.69    9.62   0.279            0.5   0.4      6.1              I
I  C-AB    0.93   10.97   0.085            0.2   0.1      1.8              I
I  C-A     2.00                                              I
I  A-B     2.39                                              I
I  A-C     1.90                                              I
I                                                       I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                 I
I  B-AC    2.25    9.84   0.229            0.4   0.3      4.6              I
I  C-AB    0.75   10.89   0.069            0.1   0.1      1.4              I
I  C-A     1.70                                              I
I  A-B     2.00                                              I
I  A-C     1.59                                              I
I                                                       I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.3
 08.30         0.4
 08.45         0.5   *
 09.00         0.5   *
 09.15         0.4
 09.30         0.3
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.2
 09.00         0.2
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I  246.8 I  164.5 I    36.4 I    0.15  I     36.4  I    0.15  I
I  C-AB  I   86.1 I   57.4 I    11.3 I    0.13  I     11.3  I    0.13  I
I  C-A   I  182.6 I  121.8 I         I          I          I          I
I  A-B   I  219.4 I  146.3 I         I          I          I          I
I  A-C   I  174.1 I  116.1 I         I          I          I          I
-------------------------------------------------------------------------
I  ALL   I  909.1 I  606.1 I    47.7 I    0.05  I     47.7  I    0.05  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J1 Lei Uk Tsuen PM.vpi" at 09:41:37 on Wednesday, 3 November 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2026 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.58	3.86	2.58
ARM B	15.00	45.00	75.00	2.06	3.09	2.06
ARM C	15.00	45.00	75.00	1.31	1.97	1.31

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.461	0.539
		0.0	95.0	111.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.697	0.000	0.303
		115.0	0.0	50.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.667	0.333	0.000
		70.0	35.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.06	10.11	0.204		0.0	0.3	3.7	
C-AB	0.48	10.49	0.045		0.0	0.1	0.8	
C-A	0.84							
A-B	1.19							
A-C	1.39							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                        I
I  B-AC     2.46    9.95   0.248            0.3   0.3      4.8              I
I  C-AB     0.58   10.48   0.055            0.1   0.1      1.0              I
I  C-A      0.99                                                I
I  A-B      1.42                                                I
I  A-C      1.66                                                I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                        I
I  B-AC     3.02    9.73   0.310            0.3   0.4      6.4              I
I  C-AB     0.73   10.48   0.069            0.1   0.1      1.3              I
I  C-A      1.19                                                I
I  A-B      1.74                                                I
I  A-C      2.03                                                I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                        I
I  B-AC     3.02    9.73   0.310            0.4   0.4      6.7              I
I  C-AB     0.73   10.48   0.069            0.1   0.1      1.3              I
I  C-A      1.19                                                I
I  A-B      1.74                                                I
I  A-C      2.03                                                I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                        I
I  B-AC     2.46    9.95   0.248            0.4   0.3      5.1              I
I  C-AB     0.58   10.48   0.055            0.1   0.1      1.0              I
I  C-A      0.99                                                I
I  A-B      1.42                                                I
I  A-C      1.66                                                I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                        I
I  B-AC     2.06   10.11   0.204            0.3   0.3      4.0              I
I  C-AB     0.48   10.49   0.046            0.1   0.1      0.8              I
I  C-A      0.84                                                I
I  A-B      1.19                                                I
I  A-C      1.39                                                I
I                                                          I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.3
 08.30         0.3
 08.45         0.4
 09.00         0.4
 09.15         0.3
 09.30         0.3
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------
I  B-AC  I  226.2 I  150.8 I    30.7 I    0.14  I     30.7 I    0.14  I
I  C-AB  I   53.6 I   35.7 I     6.3 I    0.12  I      6.3 I    0.12  I
I  C-A   I   90.4 I   60.3 I       I       I         I       I
I  A-B   I  130.3 I   86.8 I       I       I         I       I
I  A-C   I  152.2 I  101.5 I       I       I         I       I
-------------------------------------------------------------------
I  ALL   I  652.7 I  435.1 I    37.0 I    0.06  I     37.0 I    0.06  I
-------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J2 Subject Site AM.vpi" at 09:41:40 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Subject Site 2026 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH (W)	6.00 M.
CENTRAL RESERVE WIDTH (WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH (WC-B)	2.20 M.
- VISIBILITY (VC-B)	100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT (VB-C)	20.0 M.
- VISIBILITY TO RIGHT (VB-A)	50.0 M.
- LANE 1 WIDTH (WB-C)	5.00 M.
- LANE 2 WIDTH (WB-A)	0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.33	4.99	3.33
ARM B	15.00	45.00	75.00	0.55	0.83	0.55
ARM C	15.00	45.00	75.00	4.10	6.15	4.10

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.030	0.970
		0.0	8.0	258.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.205	0.000	0.795
		9.0	0.0	35.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.848	0.152	0.000
		278.0	50.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	START QUEUE (VEHS)	END TIME SEGMENT	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/)
08.00-08.15									
B-AC	0.55	11.11	0.050		0.0	0.1	0.8		
C-AB	0.86	12.04	0.072		0.0	0.1	1.7		
C-A	3.24								
A-B	0.10								
A-C	3.22								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     0.66   10.85   0.061          0.1   0.1     0.9             I
I  C-AB     1.12   12.38   0.091          0.1   0.2     2.3             I
I  C-A      3.77                                          I
I  A-B      0.12                                          I
I  A-C      3.85                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     0.80   10.49   0.077          0.1   0.1     1.2             I
I  C-AB     1.51   12.83   0.118          0.2   0.2     3.3             I
I  C-A      4.49                                          I
I  A-B      0.15                                          I
I  A-C      4.72                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     0.80   10.49   0.077          0.1   0.1     1.2             I
I  C-AB     1.51   12.83   0.118          0.2   0.2     3.3             I
I  C-A      4.49                                          I
I  A-B      0.15                                          I
I  A-C      4.72                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     0.66   10.85   0.061          0.1   0.1     1.0             I
I  C-AB     1.12   12.38   0.091          0.2   0.2     2.4             I
I  C-A      3.77                                          I
I  A-B      0.12                                          I
I  A-C      3.85                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     0.55   11.11   0.050          0.1   0.1     0.8             I
I  C-AB     0.87   12.04   0.072          0.2   0.1     1.8             I
I  C-A      3.23                                          I
I  A-B      0.10                                          I
I  A-C      3.22                                          I
I                                                     I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.2
 08.45         0.2
 09.00         0.2
 09.15         0.2
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I   (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   60.3 I   40.2 I     5.9 I   0.10  I      5.9 I    0.10  I
I  C-AB  I  104.9 I   69.9 I    14.9 I   0.14  I     14.9 I    0.14  I
I  C-A   I  344.9 I  229.9 I       I        I         I        I
I  A-B   I   11.0 I    7.3 I      I        I         I        I
I  A-C   I  353.8 I  235.8 I      I        I         I        I
-------------------------------------------------------------------------
I  ALL   I  874.8 I  583.2 I    20.8 I   0.02  I     20.8 I    0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J2 Subject Site PM.vpi" at 09:41:44 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Subject Site 2026 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.31	3.47	2.31
ARM B	15.00	45.00	75.00	0.41	0.62	0.41
ARM C	15.00	45.00	75.00	2.84	4.26	2.84

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.011	0.989
		0.0	2.0	183.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.242	0.000	0.758
		8.0	0.0	25.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.872	0.128	0.000
		198.0	29.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	FLOW (VEHS)	QUEUE (VEHS)	START QUEUE	END TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/)
08.00-08.15									
B-AC	0.41	11.34	0.036		0.0	0.0	0.5		
C-AB	0.46	11.61	0.039		0.0	0.1	0.8		
C-A	2.38								
A-B	0.03								
A-C	2.29								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	FLOW	QUEUE	START QUEUE	END	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                  I
I  B-AC     0.49   11.16   0.044           0.0   0.0     0.7              I
I  C-AB     0.57   11.82   0.048           0.1   0.1     1.1              I
I  C-A      2.82                                            I
I  A-B      0.03                                            I
I  A-C      2.73                                            I
I                                                       I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                  I
I  B-AC     0.60   10.91   0.055           0.0   0.1     0.9              I
I  C-AB     0.74   12.12   0.061           0.1   0.1     1.5              I
I  C-A      3.41                                            I
I  A-B      0.04                                            I
I  A-C      3.35                                            I
I                                                       I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                  I
I  B-AC     0.60   10.91   0.055           0.1   0.1     0.9              I
I  C-AB     0.74   12.12   0.061           0.1   0.1     1.5              I
I  C-A      3.41                                            I
I  A-B      0.04                                            I
I  A-C      3.35                                            I
I                                                       I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                  I
I  B-AC     0.49   11.16   0.044           0.1   0.0     0.7              I
I  C-AB     0.57   11.82   0.048           0.1   0.1     1.1              I
I  C-A      2.82                                            I
I  A-B      0.03                                            I
I  A-C      2.73                                            I
I                                                       I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                  I
I  B-AC     0.41   11.34   0.036           0.0   0.0     0.6              I
I  C-AB     0.46   11.61   0.039           0.1   0.1     0.8              I
I  C-A      2.38                                            I
I  A-B      0.03                                            I
I  A-C      2.29                                            I
I                                                       I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-------------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   45.2 I   30.2 I    4.2 I   0.09  I     4.2  I   0.09  I
I  C-AB  I   53.2 I   35.5 I    6.9 I   0.13  I     6.9  I   0.13  I
I  C-A   I  258.1 I  172.0 I      I       I         I       I
I  A-B   I    2.7 I    1.8 I      I       I         I       I
I  A-C   I  250.9 I  167.3 I      I       I         I       I
-------------------------------------------------------------------------
I  ALL   I  610.2 I  406.8 I   11.1 I   0.02  I    11.1  I   0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J3 Tai Po Tin AM.vpi" at 09:41:48 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Tai Po Tin 2026 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.29	6.43	4.29
ARM B	15.00	45.00	75.00	0.63	0.94	0.63
ARM C	15.00	45.00	75.00	3.72	5.59	3.72

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.058	0.942
		0.0	20.0	323.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500
		25.0	0.0	25.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.933	0.067	0.000
		278.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.63	7.72	0.081		0.0	0.1	1.3	
C-AB	0.35	11.83	0.029		0.0	0.0	0.6	
C-A	3.38							
A-B	0.25							
A-C	4.04							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.75    7.46   0.100            0.1   0.1      1.6              I
I  C-AB     0.44   12.10   0.037            0.0   0.1      0.8              I
I  C-A      4.00                                                       I
I  A-B      0.30                                                       I
I  A-C      4.82                                                       I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.91    7.09   0.129            0.1   0.1      2.1              I
I  C-AB     0.59   12.47   0.048            0.1   0.1      1.1              I
I  C-A      4.85                                                       I
I  A-B      0.37                                                       I
I  A-C      5.90                                                       I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.91    7.09   0.129            0.1   0.1      2.2              I
I  C-AB     0.59   12.47   0.048            0.1   0.1      1.1              I
I  C-A      4.85                                                       I
I  A-B      0.37                                                       I
I  A-C      5.90                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.75    7.46   0.100            0.1   0.1      1.7              I
I  C-AB     0.44   12.10   0.037            0.1   0.1      0.8              I
I  C-A      4.00                                                       I
I  A-B      0.30                                                       I
I  A-C      4.82                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.63    7.72   0.081            0.1   0.1      1.4              I
I  C-AB     0.35   11.83   0.029            0.1   0.0      0.6              I
I  C-A      3.38                                                       I
I  A-B      0.25                                                       I
I  A-C      4.04                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I B-AC  I  68.6 I  45.7 I   10.3 I   0.15  I     10.3  I   0.15  I
I C-AB  I  41.6 I  27.7 I    4.8 I   0.12  I     4.8   I   0.12  I
I C-A   I 367.0 I 244.7 I       I       I         I       I
I A-B   I  27.4 I  18.3 I       I       I         I       I
I A-C   I 442.9 I 295.3 I       I       I         I       I
-------------------------------------------------------------------------
I ALL   I 947.5 I 631.7 I   15.1 I   0.02  I     15.1  I   0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J3 Tai Po Tin PM.vpi" at 09:41:52 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Tai Po Tin 2026 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK	RATE OF FLOW (VEH/MIN)
ARM A	15.00	45.00	75.00	3.21	4.82	3.21	
ARM B	15.00	45.00	75.00	0.38	0.56	0.38	
ARM C	15.00	45.00	75.00	2.79	4.18	2.79	

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.136	0.864
		0.0	35.0	222.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.667	0.000	0.333
		20.0	0.0	10.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.910	0.090	0.000
		203.0	20.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.38	7.68	0.049		0.0	0.1	0.7	
C-AB	0.32	11.45	0.028		0.0	0.0	0.5	
C-A	2.47							
A-B	0.44							
A-C	2.78							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.45    7.48   0.060            0.1   0.1      0.9              I
I  C-AB     0.40   11.63   0.034            0.0   0.0      0.7              I
I  C-A      2.93                                                  I
I  A-B      0.52                                                  I
I  A-C      3.31                                                  I
I                                                            I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.55    7.20   0.076            0.1   0.1      1.2              I
I  C-AB     0.52   11.90   0.044            0.0   0.1      1.0              I
I  C-A      3.55                                                  I
I  A-B      0.64                                                  I
I  A-C      4.06                                                  I
I                                                            I
-------------------------------------------------------------------------------------------------

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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.55    7.20   0.076            0.1   0.1      1.2              I
I  C-AB     0.52   11.90   0.044            0.1   0.1      1.0              I
I  C-A      3.55                                                  I
I  A-B      0.64                                                  I
I  A-C      4.06                                                  I
I                                                            I
-------------------------------------------------------------------------------------------------

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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.45    7.48   0.060            0.1   0.1      1.0              I
I  C-AB     0.40   11.64   0.034            0.1   0.0      0.7              I
I  C-A      2.93                                                  I
I  A-B      0.52                                                  I
I  A-C      3.31                                                  I
I                                                            I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.38    7.68   0.049            0.1   0.1      0.8              I
I  C-AB     0.32   11.45   0.028            0.0   0.0      0.5              I
I  C-A      2.47                                                  I
I  A-B      0.44                                                  I
I  A-C      2.78                                                  I
I                                                            I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I   (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   41.1 I   27.4 I     5.9 I   0.14  I      5.9 I    0.14  I
I  C-AB  I   37.2 I   24.8 I     4.4 I   0.12  I      4.4 I    0.12  I
I  C-A   I  268.6 I  179.0 I       I       I         I       I
I  A-B   I   48.0 I   32.0 I       I       I         I       I
I  A-C   I  304.4 I  202.9 I       I       I         I       I
-------------------------------------------------------------------------
I  ALL   I  699.3 I  466.2 I    10.3 I   0.01  I     10.3 I    0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J4 Ping Yuen Rd AM.vpi" at 09:41:55 on Wednesday, 3 November 2021

RUN TITLE
****
J3 Ping Yuen Rd 2026 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
I
I
I
I
I
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	6.04	9.06	6.04
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	3.79	5.68	3.79
ARM D	15.00	45.00	75.00	2.06	3.09	2.06

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.010	0.710	0.280
		0.0	5.0	343.0	135.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM C	0.802	0.017	0.000	0.182
		243.0	5.0	0.0	55.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I
	ARM D	0.818	0.000	0.182	0.000
		135.0	0.0	30.0	0.0
		(0.0)I	(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.00-08.15                                                                       I
I  B-ACD   0.13    7.71   0.016            0.0   0.0      0.2              I
I  A-B     0.06                                                          I
I  A-C     4.29                                                          I
I  A-D     1.69    8.73   0.193            0.0   0.2      3.4              I
I  D-AB    1.69   11.97   0.141            0.0   0.2      2.4              I
I  D-BC    0.38    7.81   0.048            0.0   0.0      0.7              I
I  C-D     0.69                                                          I
I  C-A     3.04                                                          I
I  C-B     0.06    8.90   0.007            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.090     0.007     0.013     0.004      0.006              I
I     C-B        0.097     0.007               0.008                   I
I     D-AB       0.100     0.004     0.000     0.000      0.011              I
I     D-BC       0.065     0.010     0.023     0.005      0.007              I
I     A-D        0.095     0.004               0.009                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                                       I
I  B-ACD   0.15    7.30   0.020            0.0   0.0      0.3              I
I  A-B     0.07                                                          I
I  A-C     5.12                                                          I
I  A-D     2.02    8.57   0.235            0.2   0.3      4.4              I
I  D-AB    2.02   11.74   0.172            0.2   0.2      3.0              I
I  D-BC    0.45    7.34   0.061            0.0   0.1      0.9              I
I  C-D     0.82                                                          I
I  C-A     3.63                                                          I
I  C-B     0.07    8.58   0.009            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.083     0.008     0.013     0.004      0.006              I
I     C-B        0.093     0.009               0.008                   I
I     D-AB       0.098     0.005     0.000     0.000      0.011              I
I     D-BC       0.061     0.012     0.023     0.005      0.007              I
I     A-D        0.093     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                                       I
I  B-ACD   0.18    6.72   0.027            0.0   0.0      0.4              I
I  A-B     0.09                                                          I
I  A-C     6.27                                                          I
I  A-D     2.47    8.35   0.296            0.3   0.4      6.0              I
I  D-AB    2.47   11.42   0.216            0.2   0.3      4.0              I
I  D-BC    0.55    6.70   0.082            0.1   0.1      1.3              I
I  C-D     1.01                                                          I
I  C-A     4.44                                                          I
I  C-B     0.09    8.15   0.011            0.0   0.0      0.2              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.075     0.010     0.013     0.003      0.005              I
I     C-B        0.089     0.011               0.007                   I
I     D-AB       0.095     0.006     0.000     0.000      0.011              I
I     D-BC       0.056     0.015     0.023     0.004      0.006              I
I     A-D        0.091     0.005               0.008                   I
-------------------------------------------------------------------------------------------

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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                                       I
I  B-ACD   0.18    6.72   0.027            0.0   0.0      0.4              I
I  A-B     0.09                                                          I
I  A-C     6.27                                                          I
I  A-D     2.47    8.35   0.296            0.4   0.4      6.2              I
I  D-AB    2.47   11.42   0.216            0.3   0.3      4.1              I
I  D-BC    0.55    6.70   0.082            0.1   0.1      1.3              I
I  C-D     1.01                                                          I
I  C-A     4.44                                                          I
I  C-B     0.09    8.14   0.011            0.0   0.0      0.2              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.075     0.010     0.013     0.003      0.005              I
I     C-B        0.089     0.011               0.007                   I
I     D-AB       0.095     0.006     0.000     0.000      0.011              I
I     D-BC       0.056     0.015     0.023     0.004      0.006              I
I     A-D        0.091     0.005               0.008                   I
-------------------------------------------------------------------------------------------

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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                                       I
I  B-ACD   0.15    7.30   0.020            0.0   0.0      0.3              I
I  A-B     0.07                                                          I
I  A-C     5.12                                                          I
I  A-D     2.02    8.57   0.235            0.4   0.3      4.8              I
I  D-AB    2.02   11.74   0.172            0.3   0.2      3.2              I
I  D-BC    0.45    7.34   0.061            0.1   0.1      1.0              I
I  C-D     0.82                                                          I
I  C-A     3.63                                                          I
I  C-B     0.07    8.58   0.009            0.0   0.0      0.1              I
I                                                                        I
I             EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                      MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY            I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                        I
I     B-ACD      0.083     0.008     0.013     0.004      0.006              I
I     C-B        0.093     0.009               0.008                   I
I     D-AB       0.098     0.005     0.000     0.000      0.011              I
I     D-BC       0.061     0.013     0.023     0.005      0.007              I
I     A-D        0.093     0.004               0.009                   I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                                       I
I  B-ACD   0.13    7.71   0.016            0.0   0.0      0.3              I
I  A-B     0.06                                                          I
I  A-C     4.29                                                          I
I  A-D     1.69    8.73   0.193            0.3   0.2      3.7              I
I  D-AB    1.69   11.97   0.141            0.2   0.2      2.5              I
```

I D-BC	0.38	7.80	0.048		0.1	0.1	0.8	I
I C-D	0.69							I
I C-A	3.04							I
I C-B	0.06	8.90	0.007		0.0	0.0	0.1	I

I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I

I	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	I
I MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR) TO RIGHT	I
I CHANGE:	(.1M)	(.1M)	(.1M)	(M) (M)	I
I B-ACD	0.090	0.007	0.013	0.004	0.006 I
I C-B	0.097	0.007	0.008		I
I D-AB	0.100	0.004	0.000	0.000	0.011 I
I D-BC	0.065	0.010	0.023	0.005	0.007 I
I A-D	0.095	0.004	0.009		I

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.4
09.00	0.4
09.15	0.3
09.30	0.2

.

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.2
08.45	0.3
09.00	0.3
09.15	0.2
09.30	0.2

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN) (MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	13.7	9.1	1.9	0.14	1.9 0.14
A-B	6.9	4.6			
A-C	470.3	313.6			
A-D	185.1	123.4	28.6	0.15	28.6 0.15
D-AB	185.1	123.4	19.2	0.10	19.2 0.10
D-BC	41.1	27.4	6.1	0.15	6.1 0.15
C-D	75.4	50.3			
C-A	333.2	222.1			
C-B	6.9	4.6	0.8	0.12	0.8 0.12
ALL	1317.7	878.5	56.7	0.04	56.7 0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2026 Des\2026 Des - J4 Ping Yuen Rd PM.vpi" at 09:41:58 on Wednesday, 3 November 2021

RUN TITLE
****
J3 Ping Yuen Rd 2026 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
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MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
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I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.40	6.60	4.40
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	2.79	4.18	2.79
ARM D	15.00	45.00	75.00	1.19	1.78	1.19

.

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.014	0.730	0.256
		0.0	5.0	257.0	90.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.843	0.022	0.000	0.135
		188.0	5.0	0.0	30.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.737	0.000	0.263	0.000
		70.0	0.0	25.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.00-08.15                                                                      I
I  B-ACD   0.13    8.29   0.015            0.0   0.0      0.2              I
I  A-B     0.06                                                            I
I  A-C     3.21                                                            I
I  A-D     1.13    8.95   0.126            0.0   0.1      2.1              I
I  D-AB    0.88   12.25   0.071            0.0   0.1      1.1              I
I  D-BC    0.31    8.44   0.037            0.0   0.0      0.6              I
I  C-D     0.38                                                            I
I  C-A     2.35                                                            I
I  C-B     0.06    9.36   0.007            0.0   0.0      0.1              I
I                                                                          I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                          I
I     B-ACD      0.100     0.005     0.013     0.005      0.007              I
I     C-B        0.102     0.005               0.009                   I
I     D-AB       0.102     0.003     0.000     0.000      0.012              I
I     D-BC       0.070     0.008     0.023     0.005      0.008              I
I     A-D        0.097     0.003               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                                      I
I  B-ACD   0.15    8.01   0.019            0.0   0.0      0.3              I
I  A-B     0.07                                                            I
I  A-C     3.84                                                            I
I  A-D     1.34    8.83   0.152            0.1   0.2      2.6              I
I  D-AB    1.04   12.08   0.087            0.1   0.1      1.4              I
I  D-BC    0.37    8.10   0.046            0.0   0.0      0.7              I
I  C-D     0.45                                                            I
I  C-A     2.81                                                            I
I  C-B     0.07    9.13   0.008            0.0   0.0      0.1              I
I                                                                          I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                          I
I     B-ACD      0.095     0.006     0.013     0.004      0.006              I
I     C-B        0.099     0.006               0.008                   I
I     D-AB       0.101     0.004     0.000     0.000      0.011              I
I     D-BC       0.068     0.009     0.023     0.005      0.008              I
I     A-D        0.096     0.003               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                                      I
I  B-ACD   0.18    7.62   0.024            0.0   0.0      0.4              I
I  A-B     0.09                                                            I
I  A-C     4.70                                                            I
I  A-D     1.65    8.67   0.190            0.2   0.2      3.4              I
I  D-AB    1.28   11.84   0.108            0.1   0.1      1.8              I
I  D-BC    0.46    7.63   0.060            0.0   0.1      0.9              I
I  C-D     0.55                                                            I
I  C-A     3.44                                                            I
I  C-B     0.09    8.81   0.010            0.0   0.0      0.2              I
I                                                                          I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                          I
I     B-ACD      0.089     0.007     0.013     0.004      0.006              I
I     C-B        0.096     0.008               0.008                   I
I     D-AB       0.099     0.005     0.000     0.000      0.011              I
I     D-BC       0.064     0.011     0.023     0.005      0.007              I
I     A-D        0.094     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                                      I
I  B-ACD   0.18    7.62   0.024            0.0   0.0      0.4              I
I  A-B     0.09                                                            I
I  A-C     4.70                                                            I
I  A-D     1.65    8.67   0.190            0.2   0.2      3.5              I
I  D-AB    1.28   11.83   0.108            0.1   0.1      1.8              I
I  D-BC    0.46    7.63   0.060            0.1   0.1      0.9              I
I  C-D     0.55                                                            I
I  C-A     3.44                                                            I
I  C-B     0.09    8.81   0.010            0.0   0.0      0.2              I
I                                                                          I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                          I
I     B-ACD      0.089     0.007     0.013     0.004      0.006              I
I     C-B        0.096     0.008               0.008                   I
I     D-AB       0.099     0.005     0.000     0.000      0.011              I
I     D-BC       0.064     0.011     0.023     0.005      0.007              I
I     A-D        0.094     0.004               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                                      I
I  B-ACD   0.15    8.01   0.019            0.0   0.0      0.3              I
I  A-B     0.07                                                            I
I  A-C     3.84                                                            I
I  A-D     1.34    8.83   0.152            0.2   0.2      2.8              I
I  D-AB    1.04   12.07   0.087            0.1   0.1      1.5              I
I  D-BC    0.37    8.10   0.046            0.1   0.0      0.7              I
I  C-D     0.45                                                            I
I  C-A     2.81                                                            I
I  C-B     0.07    9.12   0.008            0.0   0.0      0.1              I
I                                                                          I
I            EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:                  I
I                    MAJOR RD.   CENT RES  VIS TO LEFT     VISIBILITY           I
I   MARGINAL  LANE WIDTH   WIDTH      WIDTH   (AHEAD FOR MAJOR) TO RIGHT             I
I    CHANGE:   (.1M)     (.1M)     (.1M)      (M)       (M)                 I
I                                                                          I
I     B-ACD      0.095     0.006     0.013     0.004      0.006              I
I     C-B        0.099     0.006               0.008                   I
I     D-AB       0.101     0.004     0.000     0.000      0.011              I
I     D-BC       0.067     0.009     0.023     0.005      0.008              I
I     A-D        0.096     0.003               0.009                   I
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I TIME    DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I      (VEH/MIN) (VEH/MIN) CAPACITY    FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/ I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                                      I
I  B-ACD   0.13    8.29   0.015            0.0   0.0      0.2              I
I  A-B     0.06                                                            I
I  A-C     3.21                                                            I
I  A-D     1.13    8.95   0.126            0.2   0.1      2.2              I
I  D-AB    0.88   12.25   0.071            0.1   0.1      1.2              I
```

I	D-BC	0.31	8.43	0.037		0.0	0.0	0.6	I
I	C-D	0.38							I
I	C-A	2.35							I
I	C-B	0.06	9.35	0.007		0.0	0.0	0.1	I

I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I

I		MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I	B-ACD	0.100	0.005	0.013	0.005	0.007	I
I	C-B	0.102	0.005	0.009			I
I	D-AB	0.102	0.003	0.000	0.000	0.012	I
I	D-BC	0.070	0.008	0.023	0.005	0.008	I
I	A-D	0.097	0.003	0.009			I

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.2
09.30	0.1

.

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.1
09.00	0.1
09.15	0.0
09.30	0.0

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	13.7	9.1	1.8	0.13	1.8	0.13
A-B	6.9	4.6				
A-C	352.4	234.9				
A-D	123.4	82.3	16.6	0.13	16.6	0.13
D-AB	96.0	64.0	8.7	0.09	8.7	0.09
D-BC	34.3	22.9	4.5	0.13	4.5	0.13
C-D	41.1	27.4				
C-A	257.8	171.9				
C-B	6.9	4.6	0.8	0.11	0.8	0.11
ALL	932.4	621.6	32.3	0.03	32.3	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50520110 **MVA HONG KONG LIMITED**

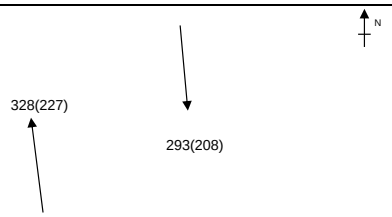
Junction: Ping Che Road Signal Crossing Design Year: 2026

Description: 2026 Design Traffic Flow Designed By: YAM Checked By: KFM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
PCR NB	↑	A	1	3.150						1640	1640	328	0.200	0.200	227	0.138	0.138
PCR SB	↑	A	1	3.150						1735	1735	293	0.169		208	0.120	
Pedestrian Crossing		Bp	2	MIN GREEN + FLASH =			5	+	7	=	12			*			*

Notes:

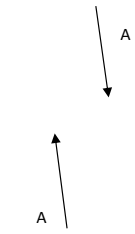
Flow: (pcu/hr)



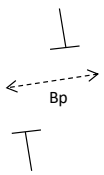
Group		A,Bp	Group		A,Bp
y		0.200	y		0.138
L (sec)		18	L (sec)		18
C (sec)		90	C (sec)		90
y pract.		0.720	y pract.		0.720
R.C. (%)		260%	R.C. (%)		420%

Stage / Phase Diagrams

1.



2.



3.

4.

5.

I/G= 3		I/G= 4	12	I/G=		I/G=		I/G=	
I/G= 3		I/G= 4	12	I/G=		I/G=		I/G=	

Date: NOV, 2021 **Junction:** (J5) Ping Che Road Signal Crossing

2030 Design Traffic Flow Junction Calculations

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT
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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J1 Lei Uk Tsuen AM.vpi" at 09:42:16 on Wednesday, 3 November 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2030 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.09	6.13	4.09
ARM B	15.00	45.00	75.00	2.56	3.84	2.56
ARM C	15.00	45.00	75.00	2.89	4.33	2.89

.

TIME	FROM/TO	ARM A	ARM B	ARM C
	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
	(PERCENTAGE OF H.V.S)			
08.00 - 09.30				
	ARM A	0.000	0.550	0.450
		0.0	180.0	147.0
		(0.0)%	(0.0)%	(0.0)%
	ARM B	0.659	0.000	0.341
		135.0	0.0	70.0
		(0.0)%	(0.0)%	(0.0)%
	ARM C	0.762	0.238	0.000
		176.0	55.0	0.0
		(0.0)%	(0.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.56	9.70	0.264		0.0	0.4	5.1	
C-AB	0.85	11.02	0.077		0.0	0.1	1.6	
C-A	2.03							
A-B	2.25							
A-C	1.84							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC    3.06    9.43   0.324            0.4   0.5      6.9              I
I  C-AB    1.07   11.13   0.096            0.1   0.1      2.1              I
I  C-A     2.38                                                        I
I  A-B     2.69                                                        I
I  A-C     2.19                                                        I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC    3.75    9.07   0.413            0.5   0.7      9.9              I
I  C-AB    1.41   11.31   0.124            0.1   0.2      3.0              I
I  C-A     2.82                                                        I
I  A-B     3.29                                                        I
I  A-C     2.69                                                        I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC    3.75    9.07   0.413            0.7   0.7     10.4              I
I  C-AB    1.41   11.31   0.124            0.2   0.2      3.0              I
I  C-A     2.82                                                        I
I  A-B     3.29                                                        I
I  A-C     2.69                                                        I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC    3.06    9.43   0.324            0.7   0.5      7.6              I
I  C-AB    1.07   11.14   0.096            0.2   0.1      2.2              I
I  C-A     2.38                                                        I
I  A-B     2.69                                                        I
I  A-C     2.19                                                        I
I                                                                  I
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I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START   END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE  QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC    2.56    9.69   0.264            0.5   0.4      5.6              I
I  C-AB    0.86   11.03   0.078            0.1   0.1      1.7              I
I  C-A     2.03                                                        I
I  A-B     2.25                                                        I
I  A-C     1.84                                                        I
I                                                                  I
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*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.4
 08.30         0.5
 08.45         0.7   *
 09.00         0.7   *
 09.15         0.5
 09.30         0.4
.
QUEUE FOR STREAM   C-AB
-----------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.2
 09.00         0.2
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I  281.1 I  187.4 I    45.5 I    0.16  I     45.5  I    0.16  I
I  C-AB  I   99.8 I   66.6 I    13.6 I    0.14  I     13.6  I    0.14  I
I  C-A   I  216.9 I  144.6 I       I       I        I       I
I  A-B   I  246.8 I  164.5 I       I       I        I       I
I  A-C   I  201.6 I  134.4 I       I       I        I       I
-------------------------------------------------------------------------
I  ALL   I 1046.2 I  697.5 I    59.1 I    0.06  I     59.2  I    0.06  I
-------------------------------------------------------------------------
```

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* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J1 Lei Uk Tsuen PM.vpi" at 09:42:20 on Wednesday, 3 November 2021

RUN TITLE
****
J1 Lei Uk Tsuen 2030 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Lei Uk Tsuen
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.97	4.46	2.97
ARM B	15.00	45.00	75.00	2.31	3.47	2.31
ARM C	15.00	45.00	75.00	1.52	2.29	1.52

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.462	0.538
		0.0	110.0	128.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.703	0.000	0.297
		130.0	0.0	55.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.672	0.328	0.000
		82.0	40.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	2.31	9.97	0.232		0.0	0.3	4.3	
C-AB	0.55	10.49	0.053		0.0	0.1	1.0	
C-A	0.97							
A-B	1.38							
A-C	1.60							

.

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.15-08.30							
B-AC	2.76	9.78	0.282	0.3	0.4	5.7	
C-AB	0.68	10.49	0.064	0.1	0.1	1.2	
C-A	1.15						
A-B	1.64						
A-C	1.91						

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)		
08.30-08.45								
B-AC	3.38	9.53	0.355	0.4	0.5	7.8		
C-AB	0.85	10.49	0.081	0.1	0.1	1.6		
C-A	1.38							
A-B	2.01							
A-C	2.34							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)		
08.45-09.00								
B-AC	3.38	9.53	0.355	0.5	0.5	8.2		
C-AB	0.85	10.49	0.081	0.1	0.1	1.6		
C-A	1.38							
A-B	2.01							
A-C	2.34							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)		
09.00-09.15								
B-AC	2.76	9.78	0.282	0.5	0.4	6.2		
C-AB	0.68	10.49	0.064	0.1	0.1	1.2		
C-A	1.15							
A-B	1.64							
A-C	1.91							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)		
09.15-09.30								
B-AC	2.31	9.96	0.232	0.4	0.3	4.7		
C-AB	0.55	10.49	0.053	0.1	0.1	1.0		
C-A	0.97							
A-B	1.38							
A-C	1.60							

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.3
08.30	0.4
08.45	0.5 *
09.00	0.5 *
09.15	0.4
09.30	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	253.7	169.1	36.9	0.15	36.9	0.15
C-AB	62.4	41.6	7.6	0.12	7.6	0.12
C-A	104.9	69.9				
A-B	150.8	100.6				
A-C	175.5	117.0				
ALL	747.3	498.2	44.4	0.06	44.4	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
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* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J2 Subject Site AM.vpi" at 09:42:25 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Subject Site 2030 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH (W)	6.00 M.
CENTRAL RESERVE WIDTH (WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH (WC-B)	2.20 M.
- VISIBILITY (VC-B)	100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT (VB-C)	20.0 M.
- VISIBILITY TO RIGHT (VB-A)	50.0 M.
- LANE 1 WIDTH (WB-C)	5.00 M.
- LANE 2 WIDTH (WB-A)	0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.89	5.83	3.89
ARM B	15.00	45.00	75.00	0.61	0.92	0.61
ARM C	15.00	45.00	75.00	4.60	6.90	4.60

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.026	0.974
		0.0	8.0	303.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.184	0.000	0.816
		9.0	0.0	40.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.864	0.136	0.000
		318.0	50.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	START QUEUE	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15									
B-AC	0.61	11.00	0.056		0.0	0.1	0.9		
C-AB	0.90	12.24	0.074		0.0	0.1	1.9		
C-A	3.70								
A-B	0.10								
A-C	3.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	QUEUE (VEHS)	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.15-08.30								
B-AC	0.73	10.71	0.068	0.1	0.1	1.1		
C-AB	1.19	12.65	0.094	0.1	0.2	2.6		
C-A	4.30							
A-B	0.12							
A-C	4.52							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.30-08.45								
B-AC	0.90	10.30	0.087	0.1	0.1	1.4		
C-AB	1.63	13.16	0.124	0.2	0.2	3.7		
C-A	5.10							
A-B	0.15							
A-C	5.54							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.45-09.00								
B-AC	0.90	10.30	0.087	0.1	0.1	1.4		
C-AB	1.63	13.16	0.124	0.2	0.2	3.7		
C-A	5.10							
A-B	0.15							
A-C	5.54							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.00-09.15								
B-AC	0.73	10.71	0.068	0.1	0.1	1.1		
C-AB	1.19	12.65	0.094	0.2	0.2	2.6		
C-A	4.30							
A-B	0.12							
A-C	4.52							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.15-09.30								
B-AC	0.61	11.00	0.056	0.1	0.1	0.9		
C-AB	0.91	12.25	0.074	0.2	0.1	1.9		
C-A	3.69							
A-B	0.10							
A-C	3.79							

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.2
09.30	0.1

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	67.2	44.8	6.8	0.10	6.8	0.10
C-AB	111.8	74.5	16.5	0.15	16.5	0.15
C-A	392.8	261.9				
A-B	11.0	7.3				
A-C	415.5	277.0				
ALL	998.2	665.5	23.3	0.02	23.3	0.02

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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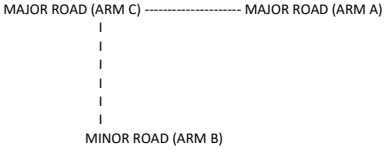
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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J2 Subject Site PM.vpi" at 09:42:28 on Wednesday, 3 November 2021

RUN TITLE
****
J2 Subject Site 2030 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd SB
ARM B IS Access Rd to Care Home
ARM C IS Ping Che Rd NB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	2.65	3.98	2.65
ARM B	15.00	45.00	75.00	0.47	0.71	0.47
ARM C	15.00	45.00	75.00	3.30	4.95	3.30

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.009	0.991
		0.0	2.0	210.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.211	0.000	0.789
		8.0	0.0	30.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.871	0.129	0.000
		230.0	34.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	QUEUE (VEHS)	START QUEUE (VEHS)	END TIME SEGMENT)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/
08.00-08.15									
B-AC	0.47	11.34	0.042		0.0	0.0	0.6		
C-AB	0.56	11.79	0.047		0.0	0.1	1.0		
C-A	2.74								
A-B	0.03								
A-C	2.63								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                              I
I  B-AC     0.57   11.14   0.051          0.0   0.1     0.8             I
I  C-AB     0.70   12.05   0.058          0.1   0.1     1.4             I
I  C-A      3.24                                          I
I  A-B      0.03                                          I
I  A-C      3.13                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                              I
I  B-AC     0.69   10.85   0.064          0.1   0.1     1.0             I
I  C-AB     0.92   12.40   0.074          0.1   0.1     2.0             I
I  C-A      3.91                                          I
I  A-B      0.04                                          I
I  A-C      3.84                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                              I
I  B-AC     0.69   10.85   0.064          0.1   0.1     1.0             I
I  C-AB     0.92   12.40   0.074          0.1   0.1     2.0             I
I  C-A      3.91                                          I
I  A-B      0.04                                          I
I  A-C      3.84                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                              I
I  B-AC     0.57   11.14   0.051          0.1   0.1     0.8             I
I  C-AB     0.70   12.05   0.058          0.1   0.1     1.4             I
I  C-A      3.24                                          I
I  A-B      0.03                                          I
I  A-C      3.13                                          I
I                                                     I
-------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/  PEDESTRIAN START  END     DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                              I
I  B-AC     0.47   11.34   0.042          0.1   0.0     0.7             I
I  C-AB     0.56   11.80   0.047          0.1   0.1     1.1             I
I  C-A      2.74                                          I
I  A-B      0.03                                          I
I  A-C      2.63                                          I
I                                                     I
-------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR
.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.0
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.0
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
  ENDING     VEHICLES
           IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
              QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
              --------------------------------------------

-------------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-------------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------------
I  B-AC  I   52.1 I  34.7 I    4.9 I   0.09  I     4.9  I   0.09  I
I  C-AB  I   65.3 I  43.5 I    8.8 I   0.14  I     8.8  I   0.14  I
I  C-A   I  296.7 I 197.8 I      I       I       I      I       I
I  A-B   I    2.7 I   1.8 I      I       I       I      I       I
I  A-C   I  288.0 I 192.0 I      I       I       I      I       I
-------------------------------------------------------------------------------
I  ALL   I  704.8 I 469.9 I   13.8 I   0.02  I    13.8  I   0.02  I
-------------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.


END OF JOB
```

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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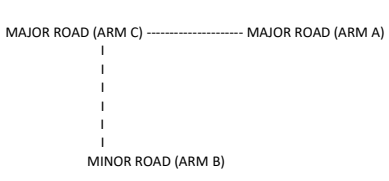
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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J3 Tai Po Tin AM.vpi" at 09:42:32 on Wednesday, 3 November 2021

RUN TITLE
****
J3 Tai Po Tin 2030 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.85	7.27	4.85
ARM B	15.00	45.00	75.00	0.75	1.13	0.75
ARM C	15.00	45.00	75.00	4.22	6.34	4.22

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.052	0.948
		0.0	20.0	368.0
		(0.0)I	(0.0)I	(0.0)I
	ARM B	0.500	0.000	0.500
		30.0	0.0	30.0
		(0.0)I	(0.0)I	(0.0)I
	ARM C	0.941	0.059	0.000
		318.0	20.0	0.0
		(0.0)I	(0.0)I	(0.0)I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.75	7.54	0.099		0.0	0.1	1.6	
C-AB	0.36	12.04	0.030		0.0	0.0	0.6	
C-A	3.86							
A-B	0.25							
A-C	4.60							

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.90    7.24   0.124            0.1   0.1      2.0              I
I  C-AB     0.47   12.35   0.038            0.0   0.1      0.8              I
I  C-A      4.58                                                       I
I  A-B      0.30                                                       I
I  A-C      5.49                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     1.10    6.81   0.161            0.1   0.2      2.8              I
I  C-AB     0.64   12.78   0.050            0.1   0.1      1.1              I
I  C-A      5.54                                                       I
I  A-B      0.37                                                       I
I  A-C      6.73                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     1.10    6.81   0.161            0.2   0.2      2.9              I
I  C-AB     0.64   12.78   0.050            0.1   0.1      1.1              I
I  C-A      5.54                                                       I
I  A-B      0.37                                                       I
I  A-C      6.73                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.90    7.24   0.124            0.2   0.1      2.2              I
I  C-AB     0.47   12.35   0.038            0.1   0.1      0.8              I
I  C-A      4.57                                                       I
I  A-B      0.30                                                       I
I  A-C      5.49                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.75    7.54   0.099            0.1   0.1      1.7              I
I  C-AB     0.37   12.04   0.030            0.1   0.0      0.6              I
I  C-A      3.86                                                       I
I  A-B      0.25                                                       I
I  A-C      4.60                                                       I
I                                                                  I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.2
 09.00         0.2
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I   TOTAL DEMAND  I   * QUEUEING *      I * INCLUSIVE QUEUEING * I
I      I              I   * DELAY *       I      * DELAY *       I
I      I-----------------------------------------------------------------I
I      I  (VEH)  (VEH/H) I  (MIN)    (MIN/VEH) I    (MIN)     (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   82.3 I   54.8 I    13.1 I    0.16  I      13.1 I    0.16  I
I  C-AB  I   44.1 I   29.4 I     5.1 I    0.11  I       5.1 I    0.11  I
I  C-A   I  419.3 I  279.6 I       I         I         I         I
I  A-B   I   27.4 I   18.3 I       I         I         I         I
I  A-C   I  504.6 I  336.4 I       I         I         I         I
-------------------------------------------------------------------------
I  ALL   I 1077.8 I  718.5 I    18.2 I    0.02  I      18.2 I    0.02  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J3 Tai Po Tin PM.vpi" at 09:42:36 on Wednesday, 3 November 2021

RUN TITLE
****
J3 Tai Po Tin 2030 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Tai Po Tin
ARM C IS Ping Che Rd SB

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.
- LANE 1 WIDTH	(WB-C) 2.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.67	5.51	3.67
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	3.31	4.97	3.31

.

TIME	FROM/TO	ARM A	ARM B	ARM C
08.00 - 09.30				
	ARM A	0.000	0.136	0.864
		0.0	40.0	254.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.571	0.000	0.429
		20.0	0.0	15.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.925	0.075	0.000
		245.0	20.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS (VEH/HR)
(PERCENTAGE OF H.V.S)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-AC	0.44	7.76	0.056		0.0	0.1	0.9	
C-AB	0.33	11.69	0.029		0.0	0.0	0.5	
C-A	2.98							
A-B	0.50							
A-C	3.17							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

```
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.15-08.30                                                          I
I  B-AC     0.52    7.53   0.069            0.1   0.1      1.1              I
I  C-AB     0.42   11.93   0.035            0.0   0.0      0.7              I
I  C-A      3.53                                                  I
I  A-B      0.60                                                  I
I  A-C      3.79                                                  I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.30-08.45                                                          I
I  B-AC     0.64    7.21   0.089            0.1   0.1      1.4              I
I  C-AB     0.56   12.26   0.046            0.0   0.1      1.0              I
I  C-A      4.28                                                  I
I  A-B      0.73                                                  I
I  A-C      4.64                                                  I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 08.45-09.00                                                          I
I  B-AC     0.64    7.21   0.089            0.1   0.1      1.4              I
I  C-AB     0.56   12.26   0.046            0.1   0.1      1.0              I
I  C-A      4.28                                                  I
I  A-B      0.73                                                  I
I  A-C      4.64                                                  I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.00-09.15                                                          I
I  B-AC     0.52    7.53   0.069            0.1   0.1      1.2              I
I  C-AB     0.42   11.93   0.036            0.1   0.0      0.7              I
I  C-A      3.53                                                  I
I  A-B      0.60                                                  I
I  A-C      3.79                                                  I
I                                                          I
-------------------------------------------------------------------------------------------------

.-----------------------------------------------------------------------------------------------
I TIME     DEMAND  CAPACITY DEMAND/   PEDESTRIAN START  END      DELAY    GEOMETRIC DELAYI
I       (VEH/MIN) (VEH/MIN) CAPACITY     FLOW    QUEUE QUEUE   (VEH.MIN/     (VEH.MIN/  I
I                    (RFC)   (PEDS/MIN) (VEHS) (VEHS)  TIME SEGMENT)  TIME SEGMENT) I
I 09.15-09.30                                                          I
I  B-AC     0.44    7.76   0.056            0.1   0.1      0.9              I
I  C-AB     0.34   11.69   0.029            0.0   0.0      0.6              I
I  C-A      2.98                                                  I
I  A-B      0.50                                                  I
I  A-C      3.17                                                  I
I                                                          I
-------------------------------------------------------------------------------------------------

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

.
QUEUE FOR STREAM   B-AC
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.1
 08.30         0.1
 08.45         0.1
 09.00         0.1
 09.15         0.1
 09.30         0.1
.
QUEUE FOR STREAM   C-AB
------------------------
TIME SEGMENT    NO. OF
 ENDING     VEHICLES
          IN QUEUE
 08.15         0.0
 08.30         0.0
 08.45         0.1
 09.00         0.1
 09.15         0.0
 09.30         0.0
.
            QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
            --------------------------------------------

-------------------------------------------------------------------------
I STREAM I  TOTAL DEMAND  I  * QUEUEING *     I * INCLUSIVE QUEUEING * I
I      I            I   * DELAY *      I     * DELAY *      I
I      I-----------------------------------------------------------I
I      I (VEH)  (VEH/H) I  (MIN)   (MIN/VEH) I   (MIN)    (MIN/VEH) I
-------------------------------------------------------------------------
I  B-AC  I   48.0 I  32.0 I    6.9 I   0.14  I     6.9 I   0.14  I
I  C-AB  I   39.6 I  26.4 I    4.6 I   0.12  I     4.6 I   0.12  I
I  C-A   I  323.8 I 215.9 I      I       I       I       I
I  A-B   I   54.8 I  36.6 I      I       I       I       I
I  A-C   I  348.3 I 232.2 I      I       I       I       I
-------------------------------------------------------------------------
I  ALL   I  814.5 I 543.0 I   11.5 I   0.01  I    11.5 I   0.01  I
-------------------------------------------------------------------------


* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.



END OF JOB
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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (DEC 1998)

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Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J4 Ping Yuen Rd AM.vpi" at 09:42:43 on Wednesday, 3 November 2021

RUN TITLE
****
J3 Ping Yuen Rd 2030 Des AM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MINOR ROAD (ARM D)
I
I
I
I
I
I
MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	6.85	10.27	6.85
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	4.35	6.52	4.35
ARM D	15.00	45.00	75.00	2.44	3.66	2.44

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S)			
		ARM A	ARM B	ARM C	ARM D
08.00 - 09.30	ARM A	0.000	0.009	0.708	0.283
		0.0	5.0	388.0	155.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.813	0.014	0.000	0.172
		283.0	5.0	0.0	60.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.821	0.000	0.179	0.000
		160.0	0.0	35.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.13	7.41	0.017	0.0	0.0	0.2
A-B	0.06					
A-C	4.85					
A-D	1.94	8.61	0.225	0.0	0.3	4.1
D-AB	2.00	11.79	0.170	0.0	0.2	2.9
D-BC	0.44	7.46	0.059	0.0	0.1	0.9
C-D	0.75					
C-A	3.54					
C-B	0.06	8.68	0.007	0.0	0.0	0.1

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.085	0.008	0.013	0.004	0.006
C-B	0.094	0.008	0.008		
D-AB	0.098	0.005	0.000	0.000	0.011
D-BC	0.062	0.012	0.023	0.005	0.007
A-D	0.094	0.004	0.009		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.15-08.30								
B-ACD	0.15	6.93	0.022	0.0	0.0	0.3		
A-B	0.07							
A-C	5.79							
A-D	2.31	8.42	0.275	0.3	0.4	5.4		
D-AB	2.39	11.52	0.207	0.2	0.3	3.8		
D-BC	0.52	6.93	0.075	0.1	0.1	1.2		
C-D	0.90							
C-A	4.22							
C-B	0.07	8.32	0.009	0.0	0.0	0.1		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.078	0.010	0.013	0.004	0.005
C-B	0.090	0.010	0.008		
D-AB	0.096	0.006	0.000	0.000	0.011
D-BC	0.058	0.014	0.023	0.005	0.007
A-D	0.092	0.005	0.008		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.30-08.45								
B-ACD	0.18	6.24	0.029	0.0	0.0	0.4		
A-B	0.09							
A-C	7.09							
A-D	2.83	8.17	0.347	0.4	0.5	7.5		
D-AB	2.92	11.13	0.263	0.3	0.4	5.2		
D-BC	0.64	6.20	0.103	0.1	0.1	1.7		
C-D	1.10							
C-A	5.17							
C-B	0.09	7.82	0.012	0.0	0.0	0.2		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.067	0.012	0.013	0.003	0.005
C-B	0.085	0.012	0.007		
D-AB	0.093	0.007	0.000	0.000	0.010
D-BC	0.052	0.018	0.023	0.004	0.006
A-D	0.089	0.006	0.008		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
08.45-09.00								
B-ACD	0.18	6.24	0.029	0.0	0.0	0.4		
A-B	0.09							
A-C	7.09							
A-D	2.83	8.17	0.347	0.5	0.5	7.9		
D-AB	2.92	11.13	0.263	0.4	0.4	5.3		
D-BC	0.64	6.20	0.103	0.1	0.1	1.7		
C-D	1.10							
C-A	5.17							
C-B	0.09	7.82	0.012	0.0	0.0	0.2		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.067	0.012	0.013	0.003	0.005
C-B	0.085	0.012	0.007		
D-AB	0.093	0.007	0.000	0.000	0.010
D-BC	0.052	0.018	0.023	0.004	0.006
A-D	0.089	0.006	0.008		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.00-09.15								
B-ACD	0.15	6.92	0.022	0.0	0.0	0.3		
A-B	0.07							
A-C	5.79							
A-D	2.31	8.42	0.275	0.5	0.4	6.0		
D-AB	2.39	11.52	0.207	0.4	0.3	4.1		
D-BC	0.52	6.92	0.075	0.1	0.1	1.3		
C-D	0.90							
C-A	4.22							
C-B	0.07	8.31	0.009	0.0	0.0	0.1		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT
CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)
B-ACD	0.077	0.010	0.013	0.004	0.005
C-B	0.090	0.010	0.008		
D-AB	0.096	0.006	0.000	0.000	0.011
D-BC	0.058	0.014	0.023	0.005	0.007
A-D	0.092	0.005	0.008		

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAYI
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	
09.15-09.30								
B-ACD	0.13	7.40	0.017	0.0	0.0	0.3		
A-B	0.06							
A-C	4.85							
A-D	1.94	8.61	0.225	0.4	0.3	4.5		
D-AB	2.00	11.78	0.170	0.3	0.2	3.2		

D-BC	0.44	7.45	0.059		0.1	0.1	1.0	
C-D	0.75							
C-A	3.54							
C-B	0.06	8.67	0.007		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (M)	VISIBILITY (AHEAD FOR MAJOR) (M)	TO RIGHT
B-ACD	0.085	0.008	0.013	0.004	0.006	
C-B	0.094	0.008	0.008			
D-AB	0.098	0.005	0.000	0.000	0.011	
D-BC	0.062	0.012	0.023	0.005	0.007	
A-D	0.094	0.004	0.009			

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.0	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	
09.30	0.0	

.

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.3	
08.30	0.4	
08.45	0.5	*
09.00	0.5	*
09.15	0.4	
09.30	0.3	

.

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.3
08.45	0.4
09.00	0.4
09.15	0.3
09.30	0.2

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	* QUEUEING * DELAY * (VEH/H)	* QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
B-ACD	13.7	9.1	2.1	0.15	2.1	0.15
A-B	6.9	4.6				
A-C	532.0	354.7				
A-D	212.5	141.7	35.5	0.17	35.5	0.17
D-AB	219.4	146.3	24.4	0.11	24.4	0.11
D-BC	48.0	32.0	7.7	0.16	7.7	0.16
C-D	82.3	54.8				
C-A	388.1	258.7				
C-B	6.9	4.6	0.8	0.12	0.8	0.12
ALL	1509.7	1006.5	70.5	0.05	70.5	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRANSPORT RESEARCH LABORATORY

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

Visual PICADY 4 ANALYSIS PROGRAM
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Run with file:- "o:\lky\PCR\2030 Des\2030 Des - J4 Ping Yuen Rd PM.vpi" at 09:42:39 on Wednesday, 3 November 2021

RUN TITLE
****
J4 Ping Yuen Rd 2030 Des PM

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS Ping Che Rd NB
ARM B IS Access Rd to Yuen Ha Tsuen
ARM C IS Ping Che Rd SB
ARM D IS Ping Yuen Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.40 M.	(W) 6.40 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.	(VA-D) 0.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 20.0 M.	(VD-A) 20.0 M.
- VISIBILITY TO RIGHT	(VB-A) 50.0 M.	(VD-C) 50.0 M.
- LANE 1 WIDTH	(WB-C) 3.13 M.	(WD-A) 5.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 5.00 M.

.TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 08.00 AND ENDS 09.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.05	7.58	5.05
ARM B	15.00	45.00	75.00	0.13	0.19	0.13
ARM C	15.00	45.00	75.00	3.31	4.97	3.31
ARM D	15.00	45.00	75.00	1.38	2.06	1.38

TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
08.00 - 09.30					
	ARM A	0.000	0.012	0.728	0.260
		0.0	5.0	294.0	105.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.500	0.000	0.500	0.000
		5.0	0.0	5.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.849	0.019	0.000	0.132
		225.0	5.0	0.0	35.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.727	0.000	0.273	0.000
		80.0	0.0	30.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/

	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)
08.00-08.15						
B-ACD	0.13	8.07	0.015	0.0	0.0	0.2
A-B	0.06					
A-C	3.67					
A-D	1.31	8.84	0.149	0.0	0.2	2.5
D-AB	1.00	12.08	0.083	0.0	0.1	1.3
D-BC	0.38	8.15	0.046	0.0	0.0	0.7
C-D	0.44					
C-A	2.81					
C-B	0.06	9.18	0.007	0.0	0.0	0.1

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	(AHEAD FOR MAJOR) (M) TO RIGHT
B-ACD	0.096	0.006	0.013	0.004	0.006
C-B	0.100	0.006	0.008		
D-AB	0.101	0.004	0.000	0.000	0.011
D-BC	0.068	0.009	0.023	0.005	0.008
A-D	0.096	0.003	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-ACD	0.15	7.74	0.019		0.0	0.0	0.3	
A-B	0.07							
A-C	4.39							
A-D	1.57	8.69	0.180		0.2	0.2	3.2	
D-AB	1.19	11.87	0.101		0.1	0.1	1.6	
D-BC	0.45	7.75	0.058		0.0	0.1	0.9	
C-D	0.52							
C-A	3.36							
C-B	0.07	8.92	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	(AHEAD FOR MAJOR) (M) TO RIGHT
B-ACD	0.091	0.007	0.013	0.004	0.006
C-B	0.097	0.007	0.008		
D-AB	0.099	0.005	0.000	0.000	0.011
D-BC	0.065	0.011	0.023	0.005	0.007
A-D	0.095	0.004	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-ACD	0.18	7.29	0.025		0.0	0.0	0.4	
A-B	0.09							
A-C	5.37							
A-D	1.92	8.50	0.226		0.2	0.3	4.2	
D-AB	1.46	11.58	0.126		0.1	0.1	2.1	
D-BC	0.55	7.21	0.076		0.1	0.1	1.2	
C-D	0.64							
C-A	4.11							
C-B	0.09	8.55	0.011		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	(AHEAD FOR MAJOR) (M) TO RIGHT
B-ACD	0.083	0.008	0.013	0.004	0.006
C-B	0.093	0.009	0.008		
D-AB	0.097	0.006	0.000	0.000	0.011
D-BC	0.060	0.013	0.023	0.005	0.007
A-D	0.092	0.005	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00								
B-ACD	0.18	7.28	0.025		0.0	0.0	0.4	
A-B	0.09							
A-C	5.37							
A-D	1.92	8.50	0.226		0.3	0.3	4.3	
D-AB	1.46	11.58	0.126		0.1	0.1	2.2	
D-BC	0.55	7.21	0.076		0.1	0.1	1.2	
C-D	0.64							
C-A	4.11							
C-B	0.09	8.55	0.011		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	(AHEAD FOR MAJOR) (M) TO RIGHT
B-ACD	0.083	0.008	0.013	0.004	0.006
C-B	0.093	0.009	0.008		
D-AB	0.097	0.006	0.000	0.000	0.011
D-BC	0.060	0.013	0.023	0.005	0.007
A-D	0.092	0.005	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15								
B-ACD	0.15	7.74	0.019		0.0	0.0	0.3	
A-B	0.07							
A-C	4.39							
A-D	1.57	8.69	0.180		0.3	0.2	3.4	
D-AB	1.19	11.87	0.101		0.1	0.1	1.7	
D-BC	0.45	7.75	0.058		0.1	0.1	1.0	
C-D	0.52							
C-A	3.36							
C-B	0.07	8.91	0.008		0.0	0.0	0.1	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY	
MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	(AHEAD FOR MAJOR) (M) TO RIGHT
B-ACD	0.091	0.007	0.013	0.004	0.006
C-B	0.097	0.007	0.008		
D-AB	0.099	0.005	0.000	0.000	0.011
D-BC	0.065	0.011	0.023	0.005	0.007
A-D	0.095	0.004	0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
09.15-09.30								
B-ACD	0.13	8.07	0.015		0.0	0.0	0.2	
A-B	0.06							
A-C	3.67							
A-D	1.31	8.84	0.149		0.2	0.2	2.7	
D-AB	1.00	12.07	0.083		0.1	0.1	1.4	

I D-BC	0.38	8.14	0.046		0.1	0.0	0.7	I
I C-D	0.44							I
I C-A	2.81							I
I C-B	0.06	9.18	0.007		0.0	0.0	0.1	I

I EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN: I

I	MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY		I
I MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT	I
I CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)	I
I B-ACD	0.096	0.006	0.013	0.004	0.006	I
I C-B	0.100	0.006	0.008			I
I D-AB	0.101	0.004	0.000	0.000	0.011	I
I D-BC	0.068	0.009	0.023	0.005	0.008	I
I A-D	0.096	0.003	0.009			I

.

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.2
08.30	0.2
08.45	0.3
09.00	0.3
09.15	0.2
09.30	0.2

.

QUEUE FOR STREAM D-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1

.

QUEUE FOR STREAM D-BC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.0

.

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	(VEH/H)	* QUEUEING * DELAY * (MIN)	(MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	(MIN/VEH)
B-ACD	13.7	9.1	1.8	0.13	1.8	0.13
A-B	6.9	4.6				
A-C	403.1	268.8				
A-D	144.0	96.0	20.4	0.14	20.4	0.14
D-AB	109.7	73.1	10.3	0.09	10.3	0.09
D-BC	41.1	27.4	5.7	0.14	5.7	0.14
C-D	48.0	32.0				
C-A	308.5	205.7				
C-B	6.9	4.6	0.8	0.11	0.8	0.11
ALL	1081.9	721.3	39.0	0.04	39.0	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50520110 **MVA HONG KONG LIMITED**

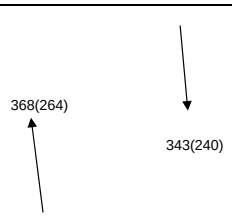
Junction: Ping Che Road Signal Crossing Design Year: 2030

Description: 2030 Design Traffic Flow Designed By: YAM Checked By: KFM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
PCR NB	↑	A	1	3.150						1640	1640	368	0.224	0.224	264	0.161	0.161
PCR SB	↑	A	1	3.150						1735	1735	343	0.198		240	0.138	
Pedestrian Crossing		Bp	2	MIN GREEN + FLASH =			5	+	7	=	12			*			*

Notes:

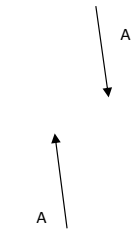
Flow: (pcu/hr)



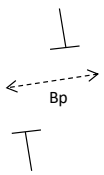
Group		A,Bp	Group		A,Bp
y		0.224	y		0.161
L (sec)		18	L (sec)		18
C (sec)		90	C (sec)		90
y pract.		0.720	y pract.		0.720
R.C. (%)		221%	R.C. (%)		347%

Stage / Phase Diagrams

1.



2.



3.

4.

5.

I/G= 3		I/G= 4	12	I/G=		I/G=		I/G=	
I/G= 3		I/G= 4	12	I/G=		I/G=		I/G=	

Date: NOV, 2021 **Junction:** (J5) Ping Che Road Signal Crossing

APPENDIX C

LONG-TERM TRAFFIC FORECAST FOR NOISE IMPACT ASSESSMENT (NIA)

Appendix C
Long-term Traffic Forecast for Noise Impact Assessment (NIA)

Proposed Transitional Housing Development at Ping Che Road - Traffic Forecast for NIA

Index[1]	Road Section	From	To	Direction	2030 AM Peak		2030 PM Peak	
					Peak Hour Traffic Flow - Round up to nearest 10 (veh/hr)	HV%[2]	Peak Hour Traffic Flow - Round up to nearest 10 (veh/hr)	HV%[2]
L1a	Ping Che Road	Access Road to Tong Fong	Access Road to Lei Uk	Two-way	350	29%	260	26%
L1b	Ping Che Road	Access Road to Lei Uk	Access Road to Caritas Care Home	Two-way	490	43%	360	39%
L1c	Ping Che Road	Access Road to Caritas Care Home	Access Road to Playground	Two-way	550	40%	400	37%
L1d	Ping Che Road	Access Road to Playground	Access Road to Wun Chuen Sin Kwoon	Two-way	560	39%	410	38%
L1e	Ping Che Road	Access Road to Wun Chuen Sin Kwoon	Access Road to Tai Po Tin	Two-way	570	38%	420	38%
L1f	Ping Che Road	Access Road to Tai Po Tin	Ping Yuen Road	Two-way	570	37%	440	37%
L2a	Access Road to Lei Uk	Ping Che Road	Lei Uk	Two-way	390	43%	310	40%
L3a	Access Road to Caritas Care Home	Ping Che Road	Caritas Care Home	Two-way	110	10%	80	3%
L4a	Access Road to Playground	Ping Che Road	Playground	Two-way	40	25%	40	23%
L5a	Access Road to Wun Chuen Sin Kwoon	Ping Che Road	Wun Chuen Sin Kwoon	Two-way	30	0%	20	15%
L6a	Access Road to Tai Po Tin	Ping Che Road	Tai Po Tin	Two-way	90	19%	90	12%

Notes:

1. Please refer to Figure 7.1 for index plan of assessed road sections.
2. Vehicles with an unladen weight of 1,525 kg or more are categorized as heavy vehicles (HV), which includes light/medium/heavy goods vehicles (LGV/MGV/HGV), container trucks, public light bus (PLB), non-franchised buses (NB), and franchised buses (FB)

Appendix 5

ENVIRONMENTAL ASSESSMENT

[RESTRICTED]

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

ENVIRONMENTAL ASSESSMENT (REV. 3)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

ENVIRONMENTAL ASSESSMENT

REV. 3

PROJECT NO.: 2535585A
DATE: 23 NOV 2021

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QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	DRAFT			
Date	16 OCT 2020	4 NOV 2021	15 NOV 2021	23 NOV 2021
Prepared by	Various	Various	Various	Various
Signature				
Checked by	C K Chan	C K Chan	C K Chan	C K Chan
Signature				
Authorised by	James Xiong	James Xiong	James Xiong	James Xiong
Signature				
Project number	2535585A	2535585A	2535585A	2535585A
File reference	0	1	2	2

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 This Environmental Assessment is prepared in support of a Section 16 Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ "Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site"). The Application Site is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

1.1.2 The Application Site Area is approximately 13,207m^2. The Proposed Transitional Housing Development comprises of one (1) 4-storey residential block; one (1) 1-storey Multi-purpose Amenity block; and one (1) 1-storey Elderly Service Center providing a total of approximately 596 units, housing approximately 916 persons. The total non-domestic is approximately 849m^2. The tentative intake year will be 2023.

1.1.3 Indicative Block Plan and Sections of the project is attached in **Appendix 1.1**.

1.2 OBJECTIVE & SCOPE OF ENVIRONMENTAL ASSESSMENT

1.2.1 The key objectives of this PER are to identify environmental key issues and constraints of the project, to identify possible environmental impacts, to propose mitigation measures against any unacceptable environmental impacts during the construction and operation phases of the project, for further study in subsequent detail design stage.

2 NOISE IMPACT ASSESSMENT

2.1 INTRODUCTION

2.1.1 This section presents the noise impact associated to the Proposed Development during construction and operation phase.

2.2 LEGISLATION, STANDARDS AND GUIDELINES

2.2.1 The Noise Control Ordinance (NCO) provided the statutory framework for noise control. As this Project is not a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and therefore, the noise assessment for the Project has made reference to the guidelines, Practice Note (PN) and Technical Memorandum (TM) as follows:

- TM on Noise from Construction Work other than Percussive Piling (GW-TM);
- TM for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Practice Note for Professional Persons on Noise from Construction Activities – Non-statutory Controls (ProPECC PN 2/93); and
- Hong Kong Planning Standards and Guidelines (HKPSG)

CONSTRUCTION PHASE

NOISE STANDARDS FOR NON-RESTRICTED HOURS

2.2.2 Daytime construction noise (excluding percussive piling) between the hours of 07:00 and 19:00 on weekdays, i.e. non-restricted or normal working hours, is not governed by the Noise Control Ordinance (NCO). However, ProPECC PN 2/93 provided an assessment criteria and requirements for constructions works not controlled by the NCO. Noise impacts arising from general construction activities shall be assessed in accordance with the construction noise assessment limits set out in ProPECC PN 2/93 as tabulated in **Table 2.1** below.

Table 2.1 Construction Noise Limit During Non-Restricted Hours

Noise Sensitive Uses	0700 to 1900 hours on any day not being a Sunday or general holiday, Leq (30 min), dB(A)
Dwellings	75
School	70 (65 during examination)

(The above standards apply to uses which rely on opened windows for ventilation)

NOISE STANDARDS FOR RESTRICTED HOURS

2.2.3 Construction activities such as land clearing, earth works and construction of the facility conducted during the restricted hours (19:00-07:00 hours on any day and anytime on Sunday or general holidays) are governed by the Noise Control Ordinance (NCO). A Construction Noise Permit (CNP) is required for the use of the powered mechanical equipment (PME) for the purpose of carrying out construction work. Otherwise, the construction work is prohibited.

2.2.4 The GW-TM provides details of the procedures adopted by the EPD for assessing such applications. The granting of a CNP is subject to the conditions as stated in the CNP, which may be revoked at any time for failure to comply with the permit conditions. A CNP may be granted in cases where the noise can be contained within the Acceptable Noise Level (ANL) at the Noise Sensitive Receivers (NSRs). ANLs are assigned depending on the Area Sensitivity Ratings (ASRs) of the study area. The ANLs for construction works in Designated Areas are more stringent than those given in the GW-TM.

2.2.5 In general, it cannot be presumed that a CNP would be granted for carrying out Prescribed Construction Work (PCW) within a designated area during restricted hours but it may be granted if the relevant ANLs and criteria stipulated in the DA-TM can be met.

2.2.6 As noise in restricted periods is covered by the NCO, there is no guarantee that a CNP will be issued for the project construction. The Noise Control Authority will consider a well justified CNP application, once filed, for construction works within restricted hours as guided by the relevant TM issued under the NCO. The Noise Control Authority will take into account contemporary conditions/situation of adjoining land uses and any previous complaints against construction activities at the site before making his decision in granting a CNP. If a CNP is to be issued, the Noise Control Authority shall include in it any condition seen fit. Failure to comply with any such conditions will lead to cancellation of the CNP and prosecution action under the NCO.

2.2.7 All the proposed construction works are expected to be carried out during non-restricted hours. In case of any construction activities during restricted hours, it is the Contractor's responsibility to ensure compliance with the NCO and the relevant TMs. The Contractor will be required to submit a CNP application to the Noise Control Authority and abide by any conditions stated in the CNP, should one be issued.

OPERATION PHASE

FIXED NOISE

2.2.8 According to Chapter 9 of the HKPSG, the noise assessments of fixed noise sources should be conducted in accordance with the IND-TM. For the impact assessments of fixed noise sources, the Area Sensitivity Ratings (ASRs) of the NSRs must be determined in accordance with the IND-TM, and then based on the ASR, the appropriate ANL can be determined. **Table 2.2** shows the Area Sensitivity Ratings (ASRs), while **Table 2.3** shows the Acceptable Noise Levels (ANLs).

2.2.9 There are four types of areas described in the IND-TM which are summarized in **Table 2.2**.

Table 2.2 Area Sensitivity Ratings of NSRs

Type of Area Containing NSR	Degree to which NSR is affected by Influencing Factors (IFs)		
	Not Affected	Indirectly Affected	Directly Affected
(i) Rural area, including country parks, or village type developments	A	B	B
(ii) Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

2.2.10 Based upon the different ASRs, the ANLs are shown in **Table 2.3**.

Table 2.3 Acceptable Noise Level during Operational Phase

Time Period	NCO Criteria			ANL - 5dB(A)		
	ASR 'A'	ASR 'B'	ASR 'C'	ASR 'A'	ASR 'B'	ASR 'C'
Daytime and Evening (0700-2300 hrs)	60	65	70	55	60	65
Night-time (2300-0700 hrs)	50	55	60	45	50	55

2.2.11 According to the Annual Traffic Census of 2019 released by the Transport Department (TD), the Annual Average Daily Traffic (AADT) of Ping Che Road, a major road in proximity to the Project Site, is below 30,000. Therefore, it is not considered as an "Influencing Factor" (IF). As such, the degree to which NSR is affected by IF is considered as "Not affected". However, in

accordance to Outline Zoning Plan (S/NE-TKL/14), the Proposed Development is located within 100m of a zone designated as “Industrial” in the south. With respect to IND-TM, the Area Sensitivity Rating (ASR) of C is given to the Proposed Development.

2.2.12 In order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the TM, the level of the intruding noise at the facade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background.

TRAFFIC NOISE

2.2.13 The HKPSG provides guidance on the acceptable road traffic noise levels at uses which rely on the open windows for ventilation. The relevant criteria are shown in **Table 2.4**.

Table 2.4 Road Traffic Noise Planning Criteria

Common Uses	Road Traffic Noise, L10 (1hour), dB(A)
All domestic premises including temporary housing accommodation	70
Hotels and hostels	70
Offices	70
Educational institutions including kindergartens, childcare centres and all others where unaided voice communication is required	65
Places of public worship and courts of law	65
Hospitals, clinics, convalescences and residential care homes for the elderly - diagnostic rooms - wards	55

Note:

The above criteria apply to noise sensitive uses which rely on open window for ventilation and should be viewed as the maximum permissible noise levels assessed at 1m from the external façades.

2.3 BASELINE CONDITIONS

2.3.1 The Project site is located adjacent to No. 198 Ping Che Road, Fanling where it is surrounded by village type developments, Open Storage Area, Green Belt, Agricultural area and GIC facilities. Site visit was conducted on 25th August 2020 to assess potential fixed noise impact on the nearby NSRs and the Proposed Development. Further discussion in **Section 2.7**.

2.4 NOISE SENSITIVE RECEIVERS

2.4.1 The relevant existing and planned NSRs within 300m of the study area are tabulated in **Table 2.5** below. **Figure 2.1** shows the location of the representative noise sensitive receivers.

Table 2.5 Noise Sensitive Receivers selected for Noise Impact Assessment

NSR	Description	Type of Uses	Shortest Distance from Site (m)[1]	Planned/ Existing
01	Caritas Nursery School – Ta Kwu Ling	Nursery School	71.7	Existing
02	Caritas Fung Wong Fung Ting Home	Elderly Centre	8.1	Existing
03	19 Sing Ping Village	Residential	4.3	Existing
04	20 Sing Ping Village	Residential	25.0	Existing
05	17-18 Sing Ping Village	Residential	15.3	Existing
06	21 Sing Ping Village	Residential	26.9	Existing
07	15-16 Sing Ping Village	Residential	12.8	Existing
08	13 Sing Ping Village	Residential	9.1	Existing
09	12 Sing Ping Village	Residential	2.9	Existing
10	1 Sing Ping Village	Residential	11.4	Existing
11	196 Ping Che Road	Residential	31.2	Existing
12	223 Ping Che Road	Residential	22.2	Existing

Note:

[1] The shortest distance is measured from the site boundary of the Proposed Development.

2.5 IDENTIFICATION OF POTENTIAL NOISE IMPACTS

CONSTRUCTION PHASE

2.5.1 During the construction phase, the use of PME for the construction works of the proposed development would likely be the major source of noise impact potentially affecting the NSRs located in the vicinity of the Site. Potential noise impacts generated from the use of PME such as excavators, generators, crane and lorry for these construction activities would be expected.

2.5.2 The area of the construction site is approximately 13,207 m^2, which is medium-sized site for construction works and will be controlled under appropriate site management measures such as quieter PME, temporary noise barriers and other good Site Practices. As such, the construction noise impact would be minimal.

OPERATIONAL PHASE

FIXED NOISE

2.5.3 The area for noise impact assessment shall generally include all areas within 300m from the site boundary. It is noted that there is a zone designated as "Industrial" in the south of the Project Site. However, this zone mainly serves the purpose of open storage without any noise generating activities.

2.5.4 Site visit was conducted on 25th August 2020 to identify potential fixed noise sources near the Proposed Development. Further discussion in **Section 2.7**.

TRAFFIC NOISE

2.5.5 Road traffic noise impact to the Proposed Development is identified with respect to existing roads within 300m noise assessment boundary. Further discussion in **Section 2.7**.

2.6 CONSTRUCTION PHASE NOISE ASSESSMENT

2.6.1 The area of the construction site is approximately 13,207m^2, which is not a big-scaled site for construction works and will be controlled under appropriate site management measures such as quieter PME, temporary noise barriers and good Site Practices. The construction noise impact would be minimal.

2.6.2 However, in all circumstances, the Contractor who is responsible for the construction of the Project, shall observe and comply with the NCO and its subsidiary regulations. The Contractor will be required to implement the best

management practices to control and reduce the noise generated during the construction works of the Project in order to minimize any adverse impact. All plant and equipment to be used onsite shall be properly maintained in good operating condition and noisy construction activities shall be effectively mitigated by means of silencers, mufflers, acoustic linings or shields, acoustic sheds or screens or other means, such that the noise disturbance on the nearby NSRs can be avoided. The Contractor shall devise, arrange methods of working and carry out the works in such a manner so as to minimize the noise impacts on the surrounding NSRs, and shall provide experienced personnel with suitable training to ensure that these methods are implemented.

2.6.3 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. These clauses spell out the recommended noise control measures to be implemented by the Contractor(s) during the construction stage of the Project. The Project Proponent will include the "Recommended Pollution Control Clauses for Construction Contracts" in the construction contract(s).

2.7 OPERATIONAL PHASE NOISE ASSESSMENT

FIXED NOISE

2.7.1 Site visit was conducted on 25th August 2020 to identify potential fixed noise sources within the 300m noise assessment boundary. Potential significant fixed noise equipment such as air-cooled chillers and water-cooling towers were not identified. In addition, there is no noticeable fixed noise impact observed at the Project Site. As such, fixed noise impact on the Proposed Development by nearby potential fixed noise sources, if any, is minimal.

2.7.2 Moreover, neither air-cooled chiller nor water cooling tower will be adopted in the Proposed Development. Only a small number of power split type outdoor units will be installed and fixed noise impact is insignificant. Electrical and Mechanical (E&M) equipment, such as water pump and sewage pump for holding tank, will be installed inside enclosed plant rooms. As such, fixed noise impact on nearby NSRs from the Proposed Development is considered minimal without the need for a quantitative fixed noise impact assessment.

TRAFFIC NOISE

ASSESSMENT METHODOLOGY

2.7.3 Predictions of road traffic noise are based on the procedures listed in the Calculation of Road Traffic Noise 1988 (CRTN) by the Department of

Transport in the UK as according to the HKPSG. Noise prediction is conducted by employing the RoadNoise 2000 computer software. Road traffic noise level is presented in terms of L10 (1-hr) dB(A). Computer plot of the RoadNoise model is shown in **Figure 2.2**.

2.7.4 As stated in CRTN, the traffic flow used shall be the maximum expected within a period of 15 years from the occupation of the development. However, the Proposed Development aims at providing temporary residential services only which would tentatively start occupation from year 2023 and last until year 2030. As such, the traffic flow adopted would be 2030.

2.7.5 Traffic forecast in year 2030 with the maximum traffic flow, are used in the assessment. Traffic flow data in AM peak period is adopted to represent the worst-case scenario. Peak hour traffic flows and heavy vehicle percentage of year 2030 as well as the drawings of road alignments are shown in **Appendix 2.2**.

ASSESSMENT RESULTS

Base Case Scenario

2.7.6 The base case scenario investigated the noise impact on temporary residential from the nearby traffic. Based on current design, The proposed Elderly Service Care and Multi-purpose Amenity Blocks would be served with mechanical ventilation and not rely on opened window for ventilation. And if necessary, the openings of the proposed Elderly Service Centre would be designed facing away from Ping Che Road. Since these social welfare amenities do not use open window for ventilation / do not have ventilation openings facing the Ping Che road, traffic noise impact on these blocks will not be assessed. The noise assessment points selected for the temporary residential Block 1 and Block 2 can be found in **Figure 2.3**.

2.7.7 The results of predicted traffic noise assessment are summarized in **Table 2.6.** The maximum predicted noise level in base case scenario is 74 dB(A) in Block 2. Details for assessment results is shown as **Appendix 2.2**.

Table 2.6 Summary of Predicted Traffic Noise Levels for Base Case Scenario

Block	Max Noise Level, dB(A)	Criterion, dB(A)	Compliance
1	65	70	Yes
2	**74**	70	**No**

2.8 MITIGATION MEASURES

CONSTRUCTION PHASE

2.8.1 The majority of PMEs would not be anticipated to generate significant noise impacts during construction works with standard noise control measures being implemented as required in PN 2/93 (such as quiet equipment).

2.8.2 In order to alleviate the potential construction noise impacts on the nearby NSRs, the following mitigation measures are suggested:

- Implementation of good site management practices to limit noise emissions at source, and avoid unnecessary parallel operation of noisy PME
- Careful planning of construction work programme,
- Good Site Management Practices
- Use of temporary noise barriers/enclosure

OPERATION PHASE

2.8.3 Given that the Proposed Development, including the temporary residential blocks and the social services amenities, only uses a number of small power split type outdoor units, fixed noise impact on nearby NSRs from the Proposed Development shall be minimal. No mitigation measures are needed.

2.8.4 The result of road traffic noise impact assessment shows that the maximum traffic noise level at the Proposed Development is 74 dB(A) at Block 2, which exceeds the noise criterion of 70 dB(A) as stated in Chapter 9 of HKPSG. As such, vertical noise barriers close to the affected units, to +20.0mPD and +19.5mPD are proposed as shown in **Figure 2.4** to reduce the noise impact on the affected units.

2.8.5 After applying the mitigation measure, the maximum noise level predicted in Block 2 would be 70 dB(A). The results of predicted traffic noise assessment are summarized in **Table 2.7.** Details for assessment results is shown as **Appendix 2.3**.

Table 2.7 Summary of Predicted Traffic Noise Levels for Mitigated Case Scenario

Block	Max Noise Level, dB(A)	Criterion, dB(A)	Compliance
1	59	70	Yes
2	70	70	Yes

2.9 SUMMARY OF SECTION

CONSTRUCTION PHASE

2.9.1 The use of PME for the construction works of the proposed development would likely be the major source of noise impact potentially affecting the NSRs located in the vicinity of the Site. However, the area of the construction site is approximately 13,207 m^2, which is not a big-scaled site for construction works and will be controlled under appropriate site management measures such as quieter PME, temporary noise barriers and good Site Practices. The construction noise impact would be minimal.

OPERATION PHASE

Fixed Noise Impact

2.9.2 There is no noticeable external fixed noise impact observed in the Project Site. Major fixed noise equipment such as air-cooled chillers and water-cooling towers were not identified within the 300m noise assessment area. In addition, only a small number of small power split type outdoor units will be installed for the Proposed Development. As such, fixed noise impact on nearby NSRs by the Proposed Development is insignificant.

Traffic Noise Impact

2.9.3 Road traffic noise impact assessment is conducted. The predicted traffic noise levels at all residential units could comply with the traffic noise criteria after the provision of noise mitigation measures, and 100% noise compliance could be achieved.

3 AIR QUALITY IMPACT ASSESSMENT

3.1 INTRODUCTION

3.1.1 This section presents the assessment of potential air quality impacts associated with construction and operation of the proposed project works.

3.2 LEGISLATIONS, STANDARDS & GUIDELINES

3.2.1 The air quality impact assessment criteria shall make reference to the Hong Kong Planning Standards and Guidelines (HKPSG), Air Pollution Control Ordinance (APCO) (Cap. 311) and other relevant guidelines.

Air Quality Objectives (AQOs)

3.2.2 The Hong Kong Air Quality Objectives (AQOs) which stipulate the maximum allowable concentrations over specific periods for typical pollutants should be met. The relevant AQOs are listed in **Table 3.1**.

Table 3.1 The Hong Kong Air Quality Objectives

Pollutant	Averaging time	Concentration limit [1] ($\mu g/m^3$)	Number of Exceedances Allowed
Respirable Suspended Particulates (PM_{10}) [2]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [3]	24-hour	75	9
		50 [4][5]	18 [5]
		50 [4]	35
	Annual	35	Not Applicable
		25 [4]	
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	125	3
		50	3
Ozone (O_3)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead (Pb)	Annual	0.5	Not Applicable

Note:
[1] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325kPa.
[2] Respirable suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 10μm or less.
[3] Fine suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 2.5μm or less.
[4] New AQOs to be implemented at January 1,2022.
[5] 18 times of allowed exceedance is for government project.

Hong Kong Planning Standards and Guidelines (HKPSG)

3.2.3 The HKPSG recommended the minimum buffer distances between sources of pollution and sensitive land uses to ensure acceptable air quality at the sensitive land uses. The recommended minimum buffer distances for road / highways are summarized in **Table 3.2**.

Table 3.2 HKPSG Recommended Buffer Distances for Road and Highways

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

Guidelines and Regulations for Construction Phase

3.2.4 In Air Pollution Control (Construction Dust) Regulation (Cap. 311R). Particulate matters (TSP, PM_{10} and $PM_{2.5}$) would be the pollutants to be concerned during the construction phase. For impacts during the construction phase, in particular fugitive dust, the hourly average Total Suspended Particulate (TSP) concentration capped on 500 µg/m3 measured at 298K (25°C) and 101.325 kPa (1atm) for construction dust impact assessment. Mitigation measures for dust impacts in construction sites are also specified in the regulations.

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

3.2.6 According to Air Pollution Control (Smoke) Regulation of APCO, dark smoke emission of the machines used for construction shall comply with the regulated requirements.

3.2.7 In Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, it comes into effects to control the emissions from diesel powered engines and limited amount of diesel-powered mechanical equipment will be used on-site during construction phase.

3.2.8 Referring to Air Pollution Control (Fuel Restriction) Regulations, liquid fuel to be used should be fulfilled with less than 0.005% by weight of Sulphur content. Therefore, emissions of other gaseous pollutants, e.g. NO_2, SO2, PM and CO. The impact from PM and CO from the operation of on-site diesel-powered mechanical equipment are under controlled and are considered to be small.

3.3 DESCRIPTION OF THE ENVIRONMENT

3.3.1 The study area of this project is 500m from the site boundary as shown on **Figure 3.1**. Majority of land in the study area is used for "Government, Institution or Community" (G/IC), Open Storage, Village and Agriculture Land.

3.3.2 The project site is located at G/IC zoning on S/NE-TKL/14, where near Sing Ping Village. Site survey was conducted on 23 June 2020. No industrial emission nor odour source emission were found within the said study area.

3.3.3 During construction phase, the followings are the major pollutant sources:

- Heavy construction works including piling, excavation, loading / unloading of spoils and material handling, etc.;
- Wind erosion of exposed open area; and
- On-site diesel-powered engines.

3.3.4 TSP, PM_{10} and $PM_{2.5}$ generated from the construction works as described above would be the major pollutant sources during the construction phase.

3.3.5 During operation phase, the following is the major pollutant source:

- Vehicular emissions from open roads.

3.3.6 NO_2, PM_{10} and $PM_{2.5}$ generated from the operation phase would be the major pollutant sources to be considered.

3.4 BACKGROUND AIR QUALITY

Existing Ambient Air Quality Levels

3.4.1 Existing air quality of the Study Area has been determined through a review of EPD's routine air quality monitoring data collected in 2016 to 2020. The nearest EPD air quality monitoring station (AQMS) from the Project Site is the North AQMS at Po Wing Road Sports Centre at Pak Wo Road in Sheung Shui. Yet, the North AQMS commenced from July 2020 which those data are insufficient to be analyzed. Instead, Tai Po AQMS at Tai Po Government Offices Building at Ting Kok Road in Tai Po is used for the existing ambient air quality analysis in this project. Its latest 5 years of air quality data (i.e. Sulphur Dioxide, Nitrogen Dioxide, Respirable and Fine Suspended Particulates and Ozone) are summarized in **Table 3.3** to depict the trend of the localized air quality.

Table 3.3 Existing Ambient Air Quality From 2016 To 2020 (Tai Po AQMS)

Pollutant	Averaging Time	Conc Limits ($\mu g/m^3$)	Number of exceedances allowed	Concentration ($\mu g/m^3$) [1]					Remark
				2016	2017	2018	2019	2020	
Respirable Suspended Particulates (PM_{10})	24-hour	100	9	74	82	69	65	58	10th highest conc.
	Annual	50	Not Applicable	29	32	31	31	24	/
Fine Suspended Particulates ($PM_{2.5}$)	24-hour	75	9	55	55	47	47	38	10th highest conc.
	Annual	35	Not Applicable	20	22	19	20	15	/
Nitrogen Dioxide (NO_2)	1-hour	200	18	112	127	125	142	106	19th highest conc.
	Annual	40	Not Applicable	33	39	36	36	30	/
Sulphur Dioxide (SO_2)	10-minute	500	3	37	39	24	20	19	4th highest conc.
	24-hour	125	3	10	9	8	10	7	4th highest conc.
Ozone (O_3)	8-hour [2]	160	9	147	**181**	**167**	**197**	**165**	10th highest conc.

Note:
[1] **Bolded in Red** concentrations indicate exceedance of the Air Quality Objectives.
[2] Running 8-Hour Average.

3.4.2 The ambient air quality in the vicinity of the Site is generally complied with the AQOs except for exceedances of Ozone. However, Ozone is a Pearl River Delta Region problem rather than a local Hong Kong issue.

Future Ambient Air Quality Levels

3.4.3 The future prevailing background concentrations are made reference to the EPD's PATH modelling results. The PATH model is a regional air quality model developed by EPD to simulate air quality over Hong Kong against the Pearl River Delta (PRD) as background. The PATH modelling result in Year 2023 (the nearest year available to the commence year) would be used to represent predict the prevailing the background concentrations contribution of the study area in this study. The pollutants concentrations predicted by PATH in Year 2023 within grid (38,56) are summarized in **Table 3.4**.

Table 3.4 Summary of PATH Background Concentration in Year 2023

Pollutant	Averaging Time	Conc. Limits (μg/m^3)	Number of Exceedances Allowed	Grid Conc. (μg/m^3) (38,56)	Remarks
Respirable Suspended Particulates (RSP/PM_{10})	24-hour [2]	100	9	65	10th highest conc.
	Annual [3]	50	Not Applicable	27	/
Fine Suspended Particulates (FSP/$PM_{2.5}$)	24-hour [4]	75	9	49	10th highest conc.
	24-hour [4]	50 [6]	18	36	19th highest conc.
	24-hour [4]	50 [6]	35	24	36th highest conc.
	Annual [5]	35	Not Applicable		/
	Annual [5]	25 [6]	Not Applicable	15	/
Nitrogen Dioxide (NO_2)	1-hour	200	18	98	19th highest conc.
	Annual	40	Not Applicable	13	/
Sulphur Dioxide (SO_2)	10-minute[1]	500	3	104	4th highest conc.
	24-hour	125	3		4th highest conc.
	24-hour	50 [6]	3	11	4th highest conc.
Carbon Monoxide (CO)	1-hour	30,000	0	923	1st highest conc.
	8-hour	10,000	0	840	1st highest conc.
Ozone (O_3)	8-hour	160	9	**210**	10th highest conc.

Notes:
[1] Highest conversion factor, 2.45 as per EPD's Guideline Estimation of 10-min average SO_2 Concentration for Air Quality Assessment is multiplied to the 1-hour average of SO_2 for conservative assumption.
[2] Adjustment concentration of 11.0μg/m^3 is added as per EPD's Guidelines on Choice of Models and Model Parameters.

Pollutant	Averaging Time	Conc. Limits (μg/m³)	Number of Exceedances Allowed	Grid Conc. (μg/m³) (38,56)	Remarks
[3] Adjustment concentration of 10.3μg/m³ is added as per EPD's Guidelines on Choice of Models and Model Parameters. [4] Adjustment concentration of 0μg/m³ is added as per EPD's Guidelines on Choice of Models and Model Parameters. [5] Adjustment concentration of 3.5μg/m³ is added as per EPD's Guidelines on Choice of Models and Model Parameters. [6] New AQOs to be implemented on January 1, 2022. [7] **Bolded** concentrations indicate exceedance of the air quality objectives, if appears.					

3.4.4 According to **Table 3.4,** no exceedances of AQOs, except Ozone, were found on the predicted PATH Model.

3.5 IDENTIFICATION OF AIR SENSITIVE RECEIVERS

3.5.1 The representative Air Sensitive Receivers (ASRs) have been identified within a Study Area of 500m from the site boundary. The representative ASRs identified would be subject to the degree of air quality impacts from construction of the Project. No concurrent project is found within the Study Area. The identified representative ASRs around the project site are summarized in **Table 3.5**. The locations of the representative ASRs are shown in **Figure 3.1.**

Table 3.5 Representative Air Sensitive Receivers

ASR	Description	Type	Approx. Distance to Site Boundary (m)
A01	Lee Uk Tsuen	Village	433
A02	Tong Fung	Village	425
A03	Caritas Nursery School – Ta Kwu Ling	Education	74
A04	Caritas Fung Wong Fung Ting House	Elderly Service	13
A05	Sing Ping Village	Village	4
A06	Sing Ping San Tsuen Children's Playground	Recreational	4
A07	Ta Kwu Ling District Rural Committee N.T.	Community Centre	10
A08	Ta Kwu Ling Playground	Village	15
A09	Wun Chuen Sin Kwoon	Worship	204
A10	Ping Che Ha	Village	430
A11	Tai Po Tin (Upper)	Village	240
A12	Tai Po Tin (Lower)	Village	329

3.6 ENVIRONMENTAL IMPACTS AND MITIGATIONS DURING CONSTRUCTION PHASE

3.6.1 The principal potential source of air quality impact arising from the Project construction will be fugitive dust, which will be generated from the demolition of existing village school building, site clearance, excavation, filling, site formation, earth works and temporary stockpiling of dusty construction materials. The temporary dust nuisance, measurable as TSP, PM_{10} and $PM_{2.5}$, would be generated as a result of construction activities.

3.6.2 Construction work activities including site clearance, site formation and earth works are classified as “notifiable” and “regulatory” work under the Air Pollution Control (Construction Dust) Regulation. In order to comply with APCO, requirements for dust control stipulated in the Air Pollution Control (Construction Dust) Regulation should be incorporated in the Contract Specification in order to minimise any potential dust nuisance arising from the construction activities of the Project. Potential dust impact and watering mitigation and dust suppression measures shall be implemented by the Contractor and subject to the actual site condition.

3.6.3 Under the effects of the Air Pollution Control (Smoke) Regulation, Air Pollution Control (Fuel Restriction) Regulation and Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and the limited number of engines and operation hours, the impact from the on-site diesel-powered engines are considered to be small.

3.6.4 Typical control measures on construction phase are listed as below.

- The works area for site clearance shall be sprayed with water throughout the operation to maintain the entire surface wet;
- Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading;
- All vehicles shall be washed to remove any dusty materials from its body and wheels before leaving a construction site;
- All spraying of materials and surfaces should avoid excessive water usage;
- When a vehicle leaving the construction site with carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting;
- Travelling speeds should be controlled to reduce traffic induced dust dispersion and re-suspension within the Site from the operating trucks;

- Erection of hoarding of not less than 2.4 m high from ground level along the Site boundary;
- Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides;
- All dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet;
- Impervious dust screens or sheeting shall be used to enclose the structure being demolished;
- Avoid/No blasting in demolition; and
- Ensure effective water suppression during demolition operations.

3.6.5 In view of the short distance between ASRs A05 and A06, additional dust control measures are considered as listed below.

- Adopt a higher hoarding height close to ASRs A05 and A06; and
- Avoid dusty works and stockpiling near ASRs A05 and A06.

3.7 ENVIRONMENTAL IMPACTS DURING OPERATIONAL PHASE

VEHICULAR EMISSION FROM OPEN ROAD TRAFFIC

3.7.1 As it is a temporary housing development, potential air quality impacts during operation phase is vehicular emissions from surrounding roads. Ping Che Road, the only major road located immediately West along to immediately South of the Site.

3.7.2 With reference to the Annual Traffic Census 2019 published by Transport Department (TD), Ping Che Road is a District Distributor (DD). According to the HKPSG, 10m buffer distance between the air sensitive uses to the said road is adopted for the Proposed Development, as shown on **Figure 3.2**.

3.7.3 Meanwhile, the public access road connecting to Ping Che Road is assumed as Local Distributor (LD). A minimum of 5m buffer distance between the air sensitive uses and the public access road is adopted, as shown on **Figure 3.2**.

3.7.4 As illustrated on **Figure 3.2**, the openable window of all residential units are outside the buffer zone, i.e. 5m from access road and 10m from Ping Che Road. As air conditioner type (window type / spilt type) are not confirmed at this stage, building disposition will be further reviewed and sufficient setback will be provided to ensure there will not be fresh air intake (including that for the air conditioner) or openable windows within the buffer distance area.

3.7.5 Meanwhile, fresh air intakes (including that for the air conditioner and openable windows) of the Elderly Service Center and Multi-Purpose Amenity Blocks will also be located beyond the 10m buffer zone from Ping Che Road.

INDUSTRIAL EMISSION AND ODOUR SOURCE EMISSION

3.7.6 Site survey was conducted on 23 June 2020. No industrial emission is found within the 500m study area. Furthermore, no odour source emission is discovered within the 500m study area. No air quality impact on the Site from the industrial emission and odour source emission are anticipated.

3.7.7 Sewage holding tank is proposed in the development. Deodourisation units like activated carbon system and biofilters will be installed at vent exhaust in order to clean up the foul gases from odour sources in the plants. Odour removal efficiency of >90% is proposed, therefore no odour impact from the proposed tank is anticipated.

3.8 MITIGATION MEASURES OF AIR IMPACTS DURING OPERATION PHASE

3.8.1 For both the residential units and the social welfare amenities, as mentioned on Section 3.7.4, no fresh air intake / openable windows for residentials are within the buffer zones. No further mitigation measure is required.

3.9 SUMMARY OF SECTION

3.9.1 With the implementation of appropriate mitigation measures as mentioned above, the air quality impact during construction and operational stage could be limited.

3.9.2 Impact of emission from road traffic upon the project is minimized when the fresh air intakes of the proposed buildings meet the buffer distance as stated in HKPSG.

4 WATER QUALITY IMPACT ASSESSMENT

4.1 INTRODUCTION

4.1.1 This section presents the assessment of potential water quality impacts associated with construction and operation of the proposed project works.

4.2 LEGISLATION, STANDARDS & GUIDELINES

4.2.1 The water quality impact assessment criteria shall make reference to Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG), Water Pollution Control Ordinance (WPCO) (Cap. 358), ProPECC PN1/94, ProPECC PN5/93 and Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS).

WATER POLLUTION CONTROL ORDINANCE (WPCO)

4.2.2 According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary water control zones. Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in each of the WCZs based on their beneficial uses. The Project site falls within Ganges Subzone of the Deep Bay WCZ. The corresponding WQOs are listed in the **Table 4.1**.

Table 4.1 Summary of WQOs of the Ganges Subzone of Deep Bay WCZ

Parameters	Objectives	Sub-Zone
Offensive Odour, Tints	Not to be present	Whole zone
Visible foam, oil scum, litter	Not to be present	Whole zone
Dissolved Oxygen (DO)	Not less than 4.0mg/L	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone, Water Gathering Ground Subzones and other inland waters of the Zone

Parameters	Objectives	Sub-Zone
5-Day Biochemical Oxygen Demand (BOD_5)	Not to exceed 3mg/L	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
Chemical Oxygen Demand (COD)	Not to exceed 15mg/L	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
pH	To be in the range of 6.5 – 8.5	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
Salinity	Change due to waste discharges not to exceed 10% of ambient	Whole zone
Temperature	Change due to waste discharges not to exceed 2°C	Whole zone
Suspended solids (SS)	Not to cause the annual median to exceed 20mg/L	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Ganges Subzone, Indus Subzone, Water Gathering Ground Subzones and other inland waters
Unionized Ammonia (UIA)	Annual mean not to exceed 0.021mg/L as unionized form	Whole zone
Bacteria (*E. coli*)	Should be zero per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken between 7 and 21 days.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
Colour	Not to exceed 30 Hazen units	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
Toxins	Should not cause a risk to any beneficial uses of the aquatic environment	Whole Zone
	Should not attain such levels as to produce toxic carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms.	Whole Zone

4.2.3 Besides setting the WQOs, the WPCO controls effluent discharging into the WCZs through a licensing system. Guidance on the permissible effluent discharges based on the type of receiving waters (foul sewers, stormwater drains, inland and coastal waters) is provided in the TM-DSS. The limits given in the TM cover the physical, chemical and microbial quality of effluents. Any effluent discharge during the construction and operational stages should comply with the standards for effluents as given in the TM-DSS. The discharge limits vary with the effluent flow rates. Group B and C inland water standards in TM-DSS are adopted and the effluent discharge standards are presented in Table 4.2 and Table 4.3.

Table 4.2 Standards for effluents discharged into Group B Inland Waters

Determinant	Flow Rate(m^3/day)				
	≦200	**＞200 and ≦400**	**＞400 and ≦600**	**＞600 and ≦800**	**＞800 and ≦1000**
pH (pH units)	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
Temperature (°C)	35	30	30	30	30
Colour (lovibond units) (25mm cell length)	1	1	1	1	1
Suspended solids (mg/l)	30	30	30	30	30
BOD (mg/l)	20	20	20	20	20
COD (mg/l)	80	80	80	80	80
Oil & Grease (mg/l)	10	10	10	10	10
Iron (mg/l)	10	8	7	5	4
Boron (mg/l)	5	4	3	2.5	2
Barium (mg/l)	5	4	3	2.5	2
Mercury (mg/l)	0.001	0.001	0.001	0.001	0.001
Cadmium (mg/l)	0.001	0.001	0.001	0.001	0.001
Selenium (mg/l)	0.2	0.2	0.2	0.2	0.2
Other toxic metals individually (mg/l)	0.5	0.5	0.2	0.2	0.2
Total Toxic metals (mg/l)	2	1.5	1	0.5	0.5
Cyanide (mg/l)	0.1	0.1	0.1	0.08	0.08
Phenols (mg/l)	0.1	0.1	0.1	0.1	0.1
Sulphide (mg/l)	0.2	0.2	0.2	0.2	0.2
Fluoride (mg/l)	10	10	8	8	8
Sulphate (mg/l)	800	800	600	600	600
Chloride (mg/l)	1000	1000	800	800	800
Total phosphorus (mg/l)	10	10	10	8	8
Ammonia nitrogen (mg/l)	5	5	5	5	5

Determinant	Flow Rate(m^3/day)				
	≦200	＞200 and ≦400	＞400 and ≦600	＞600 and ≦800	＞800 and ≦1000
Nitrate + nitrite nitrogen (mg/l)	30	30	30	20	20
Surfactants (total) (mg/l)	5	5	5	5	5
E. coli(count/100ml)	100	100	100	100	100

Note:
[1] All units in mg/L unless otherwise stated.
[2] Flow >1000m^3/day is not listed in the above table.

Table 4.3 Standards for effluents discharged into Group C Inland Waters

Determinant	Flow Rate (m^3/day)		
	≤ 100	> 100 and ≤500	> 500 and ≤1000
pH (pH units)	6-9	6-9	6-9
Temperature (˚C)	30	30	30
Colour (lovibond units) (25mm cell length)	1	1	1
Suspended solids (mg/l)	20	10	10
BOD (mg/l)	20	15	10
COD (mg/l)	80	60	40
Oil & Grease (mg/l)	1	1	1
Boron (mg/l)	10	5	4
Barium (mg/l)	1	1	1
Iron (mg/l)	0.5	0.4	0.3
Mercury (mg/l)	0.001	0.001	0.001
Cadmium (mg/l)	0.001	0.001	0.001
Silver (mg/l)	0.1	0.1	0.1
Copper (mg/l)	0.1	0.1	0.05
Selenium (mg/l)	0.1	0.1	0.05
Lead (mg/l)	0.2	0.2	0.2
Nickel (mg/l)	0.2	0.2	0.2
Other toxic metals individually (mg/l)	0.5	0.4	0.3
Total toxic metals (mg/l)	0.5	0.4	0.3
Cyanide (mg/l)	0.05	0.05	0.05
Phenols (mg/l)	0.1	0.1	0.1
Sulphide (mg/l)	0.2	0.2	0.2
Fluoride (mg/l)	10	7	5
Sulphate (mg/l)	800	600	400
Chloride (mg/l)	1000	1000	1000
Total phosphorus	10	10	8

Ammonia nitrogen (mg/l)	2	2	2
Nitrate + nitrite nitrogen (mg/l)	30	30	20
Surfactants (total) (mg/l)	2	2	2
E. coli (count/100ml)	1000	1000	1000
Note: [1] All units in mg/L unless otherwise stated. [2] Flow >1000m^3/day is not listed in the above table.			

PROFESSIONAL PERSONS ENVIRONMENTAL CONSULTATIVE COMMITTEE PRACTICE NOTES (PROPECCPNS)

4.2.4 Professional Persons Environmental Consultative Committee Practice Notes (ProPECCPNs) was published by the EPD to provide environmental guidelines for the handling and disposal of construction site discharges. The ProPECC PN1/94 published by EPD provides good practice guidelines for dealing with ten types of discharge from a construction site, such as surface runoff, boring and drilling water, bentonite slurry, wastewater from building constructions and site facilities etc. Practices outlined in the ProPECC PN1/94 should be followed as far as possible during construction to minimize the water quality impact due to construction site drainage to avoid silt runoff to surrounding water sensitive receivers.

4.2.5 The Professional Persons Environmental Consultative Committee Practice Note PN5/93 "Drainage Plans subject to Comment by the Environmental Protection Department" (ProPECC PN5/93) provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN5/93.

HONG KONG PLANNING STANDARDS AND GUIDELINES (HKPSG)

4.2.6 Chapter 9 Environment of The Hong Kong Planning Standards and Guidelines (HKPSG), provides additional information on regulatory guidelines against water pollution for sensitive uses such as aquaculture and fisheries zones, bathing waters and other contact recreational waters.

4.3 DESCRIPTION OF THE STUDY AREA

4.3.1 In order to evaluate the operational water quality impacts from the Project works, the study area would cover those Water Sensitive Receivers (WSRs) within 500m from the Project site. In this section, Marine Environment and River Environment are to be analysed.

4.3.2 There is no concurrent project within the 500m Study Area.

4.3.3 For the Marine Environment, the nearest EPD Water Quality Monitoring Station (WQMS) is MM1 at Mirs Bay WCZ, with distance of 8.8km. The nearest WQMS in the same WCZ (i.e. Deep Bay WCZ) is DM1, with distance of 15.5km. The summary of aforementioned WQMS in 2020 are provided in **Table 4.4**, reference from "Marine Water Quality in Hong Kong in 2020" by EPD.

4.3.4 Pollution flows into the Deep Bay from the catchments and rivers on both the Hong Kong and Shenzhen sides have resulted in poor water quality especially in Inner Deep Bay. Marine water quality in Deep Bay WCZ in 2020 is presented in **Table 4.4**. In 2020, the overall WQO compliance rate for Deep Bay WCZ was 67%, as compared with a ten year average of 47% in 2009-2018. Overall, with the measures under the Deep Bay Water Pollution Control Joint Implementation Plan taken progressively by Hong Kong and Shenzhen, there have been significant water quality improvements in Deep Bay. In particular, there have been full compliance of the DO WQO in the past two years and NH3-N WQOs in the past five years.

4.3.5 In 2020, Mirs Bay attained an overall marine WQO compliance rate of 98%. The water quality was very good with high DO, and low nutrient and E. coli levels, fitting secondary contact recreational uses.

Table 4.4 Baseline Marine Water Quality Conditions

Parameters	Unit	WPCO WQO (in marine waters)	WQMS	
			MM1 (Mirs Bay)	DM1 (Inner Deep Bay)
Temperature	°C	Change due to waste discharge not to exceed 2 °C	25.9 (20.5-29.8)	26.5 (20.8-31.2)
Salinity	/	Change due to waste discharge not to exceed 10% of natural ambient level	31.9 (28.2-34.2)	14.6 (1.6-22.6)
Dissolved Oxygen (DO)	mg/L	Not less than 4 mg/L for 90% of the samples	6.3 (5.7-7.4)	5.9 (4.4-7.8)
Dissolved Oxygen (DO) – Bottom	mg/L	Not less than 2 mg/L for 90% of the samples	6.8 (5.9-9.4)	NA [3]
Dissolved Oxygen (DO)	% Saturation	Not Available	95 (81-125)	59 (20-112)
Dissolved Oxygen (DO) – Bottom	% Saturation	Not Available	96 (82-119)	NA [3]
pH	-	6.5 - 8.5, change due to waste discharge not to exceed 0.2 from natural range	8.0 (7.5-8.3)	7.4 (7.1-7.8)
Secchi Disc Depth	m	Not Available	2.4 (2.0-2.9)	1.1 (0.8-1.2)
Turbidity	NTU	Not Available	2.7 (1.2-2.9)	21.7 (13.3-41.4)
Suspended Solids	mg/L	Waste discharge not to raise the natural ambient level by 30% nor cause the accumulation of suspended solids which may	4.3 (1.7-9.3)	37.0 (19.0-59.0)

		adversely affect aquatic communities		
5-day Biochemical Oxygen Demand	mg/L	Not Available	1.0 (0.6-1.4)	1.6 (0.3-3.1)
Ammonia Nitrogen (NH_3-N)	mg/L	Not Available	0.041 (<0.005-0.067)	0.455 (0.190-0.970)
Unionised Ammonia	mg/L	Annual mean not to exceed 0.021 mg/L	0.002 (<0.001-0.003)	0.007 (<0.002-0.014)
Nitrite Nitrogen (NO_2-N)	mg/L	Not Available	0.004 (<0.002-0.007)	0.131 (0.026-0.310)
Nitrate Nitrogen (NO_3-N)	mg/L	Not Available	0.020 (0.002-0.051)	1.300 (0.900-1.600)
Total Inorganic Nitrogen	mg/L	Annual mean depth-averaged total inorganic nitrogen not to exceed 0.5 mg/L	0.06 (<0.01-0.13)	1.89 (1.38-2.32)
Total Kjeldahl Nitrogen	mg/L	Not Available	0.44 (0.25-0.72)	0.90 (0.58-1.70)
Total Nitrogen (TN)	mg/L	Not Available	0.47 (0.26-0.74)	2.33 (1.81-2.91)
Orthophosphate Phosphorus (OrthoP)	mg/L	Not Available	0.008 (0.002-0.011)	0.151 (0.120-0.220)
Total Phosphorus (TP)	mg/L	Not Available	0.05 (<0.02-0.11)	0.24 (0.19-0.34)
Silica (SiO_2)	mg/L	Not Available	0.75 (0.15-1.30)	5.88 (3.10-10.00)
Chlorophyll-a	µg/L	Not Available	3.5 (2.4-6.1)	6.3 (2.5-8.9)
E coli	cfu/100mL	Not Available	8 (<1-97)	200 (12-1600)
Faecal Coliforms	cfu/100mL	Not Available	18 (1-630)	530 (55-2800)

Note:
[1] Data presented are in annual arithmetic means of the depth-averaged results except for E.coli and faecal coliforms which are annual geometric means.
[2] Figures in brackets are annual ranges.
[3] NA (Not Applicable) indicated the measurement was not made due to shallow water.

4.3.6 For River Environment, the nearest EPD River Monitoring Station (RMS) is GR2 at River Ganges, with distance of 350m. The summary of above RMS in 2020 is provided in **Table 4.5**, reference from "River Water Quality in Hong Kong in 2020" by EPD.

Table 4.5 Baseline River Water Quality Conditions

Parameters	Unit	Key Water Quality Objective	RMS - GR2 (River Ganges) (Under Deep Bay WCZ)
Dissolved Oxygen	mg/L	/	4.7 (3.2-6.6)
pH range	/	6.5-8.5	7.3 (6.7-7.6)
Suspended Solids	mg/L	/	9.7 (3.9-22.0)
5-Day Biochemical Oxygen Demand	mg/L	3	3.8 (1.9-5.3)
Chemical Oxygen	mg/L	15	12 (7-21)

Demand			
Oil & Grease	mg/L	/	<0.5 (<0.5-<0.5)
E. coli	counts/100mL	/	4300 (1000-53000)
Faecal Coliforms	counts/100mL	/	14000 (2400-100000)
Ammonia-Nitrogen	mg/L	/	7.700 (0.420-38.000)
Nitrate-Nitrogen	mg/L	/	0.385 (0.065-1.800)
Total Kjeldahl Nitrogen	mg/L	/	10.50 (0.59-40.00)
Orthophosphate Phosphorus	mg/L	/	0.240 (0.120-0.540)
Total Phosphorus	mg/L	/	0.68 (0.24-1.30)
Sulphide	mg/L	/	<0.02 (<0.02-<0.02)
Aluminium	µg/L	/	<50 (<50-125)
Cadmium	µg/L	/	<0.1 (<0.1-<0.1)
Chromium	µg/L	/	<1 (<1-<1)
Copper	µg/L	/	1 (1-3)
Lead	µg/L	/	<1 (<1-1)
Zinc	µg/L	/	11 (<10-37)
Flow	m^3/s	/	0.102 (0.064-0.289)

Note:
[1] Data presented are in annual medians of monthly samples; except those for faecal coliforms and E. coli which are in annual geometric means.
[2] Figures in brackets are annual ranges.
[3] NM indicates no measurement taken.
[4] Values at or below laboratory reporting limits are presented as laboratory reporting limits.

4.3.7 Refer to “River Water Quality in Hong Kong in 2020” by EPD, for River Ganges, the overall WQO compliance rate was 74% in 2020, as compared with 44% in 1990. In terms of Water Quality Index (WQI), the mid-stream station (GR2) in River Ganges were graded “Fair”.

4.3.8 During construction phase, the followings are the major pollutant sources:

- General construction activities;
- Construction site run-off;
- Accidental spillage; and
- Sewage effluent from the construction workforce.

4.3.9 During operation phase, the followings are the major pollutant sources:

- Sewage generated from the Development; and
- Runoff from road surfaces and paved areas.

4.4 IDENTIFICATION OF WATER SENSITIVE RECEIVERS

4.4.1 Water Sensitive Receivers (WSRs) are defined as those users of the aquatic/marine environment whose use of the environment could be impaired as a result of the proposed project. When WSRs that are potentially affected by the operation of the Project are identified, further study will be conducted.

4.4.2 Representative Water Sensitive Receivers (WSRs) identified within 500m of the Project boundary that may potentially be affected is/are listed as below. Location of the identified WSR(s) is/are shown in **Figure 4.1**.

- River Ganges (55m distance apart).

4.4.3 The section of River Ganges near the Site Boundary is a nullah with no catch-pits, inlet nor manholes connected. It is expected the impact from the Proposed Project to the WSR is minimal.

4.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES DURING CONSTRUCTION PHASE

Construction Site Runoff

4.5.1 The surface runoff from construction works areas may contain increased loads of suspended solids (SS) and contaminants. Potential sources of pollution from construction site drainage include:

- Runoff and erosion from site surfaces, drainage channels, demolition works, earth working areas and stockpiles;
- Release of any bentonite slurries, concrete washings and other grouting activities;
- Wash water from dust suppression spray facilities; and
- Fuel, oil, solvents and lubricants from maintenance of mechanical equipment.

4.5.2 Sediment laden runoff particularly from works areas subjected to excavation or earthworks, if uncontrolled, may cause increased levels of suspended solids and pollutants entering the stormwater drainage system and into the marine environment.

4.5.3 Mitigation measures and good site practices outlined in ProPECC PN1/94 should be implemented to control construction site runoff and drainage from the works area. The Contractor would also be required to apply for a discharge license under the WPCO for the construction phase of the project.

With implementation of the recommended mitigation measures along with compliance of the effluent standards set under TM-DSS, construction site runoff can be effectively controlled, and adverse impacts to storm drains or the marine environment is not anticipated.

General Construction Activities

4.5.4 On-site construction activities may result in water pollution from uncontrolled discharge of debris and rubbish such as packaging, construction materials, chemicals and refuse. Best Management Practices (BMPs) should be implemented at the construction site, including proper handling, sorting and storage of construction solid waste, debris and refuse generated on-site prior to disposal. General refuse and recyclable materials should be collected separately and stored in appropriately labelled bins and removed regularly to minimise the risk of windblown waste / debris discharging into the harbour.

4.5.5 With proper implementation of the good construction and site management practices mentioned above, water pollution arising from the general on-site construction activities can be prevented, and water quality impacts would not be anticipated.

Accidental Spillage of Chemicals

4.5.6 A large variety of chemicals may be used during construction activities. These may include petroleum products, surplus adhesives, spent lubrication oil, grease and mineral oil, spent acid and alkaline solutions/solvent and other chemicals. The use of these chemicals and their storage as waste materials has the potential to create impacts on the water quality of adjacent watercourses or storm drains if spillage occurs. Waste oil may infiltrate into the surface soil layer, or runoff into local watercourses, increasing hydrocarbon levels. The potential impact could however be mitigated by practical mitigation measures and good site practices as given in Waste Disposal Ordinance (Cap. 354), its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation and The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

Sewage Effluent from the Construction Workforce

4.5.7 During the construction of the Project, the workforce on site will generate sewage effluents, which are characterised by high levels of BOD, ammonia and E.coli counts. Potential water quality impacts upon the local drainage and freshwater system may arise from these sewage effluents, if uncontrolled.

4.5.8 The construction sewage should be handled by interim sewage treatment facilities, such as portable chemical toilets. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. Provided that sewage is not discharged directly into the storm drains or watercourses adjacent to the construction site, and temporary sanitary facilities are used and properly maintained, it is unlikely that sewage generated from the site would have a significant water quality impact.

4.6 ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

Sewage generated from the Development

4.6.1 Sewage discharge will be the major water pollution source throughout the operation phase of the proposed Development. The sewage generated from the proposed Development should be collected and conveyed to the nearest public sewerage system via proper connections to minimize water quality impact from the operation of the proposed Development. All sewage discharged shall comply with the TM-DSS controlled under the WPCO.

4.6.2 A newly proposed Terminal Manhole TM-01 and respective sewer will be built to connect the Proposed Development to the existing sewerage system. Thus, a holding tank will be built to lower the burden of pumping station.

Runoff from road surfaces and paved areas

4.6.3 During operation phase, stormwater runoff from paved surfaces within the Project Sites will be directed to a managed stormwater drainage system. Runoff from the roofs of buildings and road surfaces within the Sites may carry suspended solids and other pollutants such as fuel, oils and heavy metals that could enter nearby surface water bodies or storm drains if uncontrolled. With implementation of stormwater best management practices including provision of trapped gullies and catch-pits, adverse impacts to the water quality is not anticipated.

4.6.4 Review of the potential sewerage impact demonstrates that the existing sewerage system can provide adequate capacity to support the sewage generation associated with the Proposed Development. The impact for both sewerage and drainage are considered to be minimal. For details, please refer to Sewerage Impact Assessment (SIA) and Drainage Impact Assessment (DIA) for the Proposed Development which have been conducted in separated reports.

4.7 MITIGATION MEASURES OF WATER QUALITY IMPACTS DURING OPERATION PHASE

Sewage generated from the Development

4.7.1 During the operation phase, all sewage arising from the proposed development will be collected and conveyed to the nearest public sewerage system via proper connections. No mitigation measure is required.

Runoff from road surfaces and paved areas

4.7.2 The stormwater drainage system will be designed in accordance with Drainage Services Department's (DSD) Stormwater Drainage Manual (SDM). As part of the design, silt removal facilities such as silt traps will be installed to reduce the potential for suspended solids entering the drainage system. With implementation of stormwater best management practices in the ProPECC PN5/93, including provision of trapped gullies and catch-pits, etc., adverse impacts to the water quality of the stormwater drainage system in the vicinity is not anticipated.

4.8 SUMMARY OF SECTION

4.8.1 With the implementation of appropriate mitigation measures as mentioned above, water quality impact during construction and operational stage could be limited.

5 WASTE MANAGEMENT

5.1 INTRODUCTION

5.1.1 This section presents an overview of waste types that are likely to be generated from Project-related activities, identification of the potential environmental impacts that may result from these wastes, and the associated mitigation and management measures, in accordance with the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

5.2 LEGISLATION, STANDARDS & GUIDELINES

5.2.1 The waste management criteria shall make reference to the Hong Kong Planning Standards and Guidelines (HKPSG), Annex 7 and Annex 15 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

5.2.2 The environmental legislations and guidelines applicable to the study and assessment of waste management implications include:

- Waste Disposal Ordinance (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- The Air Pollution Control Ordinance, Cap. 311
- Public Health and Municipal Services Ordinance (Cap. 132);
- Land (Miscellaneous Provisions) Ordinance (Cap. 28);
- ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites;
- DEVB TC(W) No. 6/2010 “Trip Ticket System for Disposal of Construction & Demolition Materials”;
- WBTC No. 2/93, Public Dumps;
- WBTC No. 2/93B, Public Filling Facilities; and
- Code of Practice on the Packaging, Labelling and Storage of Chemical Waste.

5.3 ASSESSMENT APPROACH AND CRITERIA

5.3.1 The approach for assessing waste management implications is outlined in Annex 7 of EIAO-TM. Whereas methods for assessing potential waste management impacts during construction and operation phases of the Project would be studied as per Annex 15 of EIAO-TM, which include the following:

- Estimation of types and quantities of the wastes generated and fill to be imported;
- Assessment of potential impacts from the management of waste with respect to potential hazards, air and odour emissions, noise, wastewater discharge and public transport; and
- Impacts on the capacity of waste collection, transfer and disposal facilities.

5.3.2 The methods for assessing potential impacts associated with waste generated from Project construction activities include:

a) Estimation of types and quantities of the wastes generated and fill to be imported;

b) Assessment of potential impacts from the management of waste with respect to potential hazards, air and odour emissions, noise, wastewater discharge and public transport; and

c) Impacts on the capacity of waste collection, transfer and disposal facilities.

5.4 IDENTIFICATION AND EVALUATION OF WASTE MANAGEMENT IMPLICATIONS (CONSTRUCTION PHASE)

5.4.1 Project construction activities consist of site formation and site clearance activities (vegetation removal and demolition of existing building structures), building construction and superstructure development at Ping Che Road.

5.4.2 A variety of wastes are anticipated to be generated during construction phase which can be divided into different key categories based on their composition and ultimate method of disposal. The type of wastes generated from Project construction activities include:

- Construction and demolition (C&D) materials (including inert & non-inert);
- Chemical waste; and
- General refuse.

5.4.3 The assessment on waste management implications is based on best available preliminary design information and it is anticipated majority of wastes are generated from site clearance, site formation, and general excavation. **Table 5.1** outlined the identified waste streams during construction phase.

Table 5.1 Waste Types and Sources Generated during Construction Phase

Waste Types	Waste Sources	Examples
Construction and Demolition (C&D) materials (inert and non-inert)	• Site clearance and vegetation removal • Demolition of existing building structures (Ex-Sing Ping School) • General excavation • Reinstatement and backfilling	Inert C&D materials: • Rocks, broken concrete • Soft materials (soil) Non-inert C&D materials: • Bamboo, timber, paper, plastic etc.
Chemical Waste	• Mechanical equipment maintenance • The operation and maintenance of the plant and mechanical equipment	• Cleaning fluids, solvents, waste lubricating oil and fuel etc.
General Refuse	• Construction works and onsite staff and workers	• Food waste, cans, waste papers etc.

CONSTRUCTION AND DEMOLITION (C&D) MATERIALS

5.4.4 C&D materials contain a mixture of inert and non-inert materials and is mainly generated from the construction of new buildings and other superstructures. Site clearance activities may also generate C&D materials on a smaller scale. Based on the proposed five blocks of housing, amenity and service buildings, the estimated C&D waste generation is not expected to exceed 50,000m^3.

5.4.5 Inert C&D materials generated from construction activities would include, but not limited to rock, soil, concrete, asphalt, bitumen and soft granular materials that can be transported to public fill. The inert materials should be segregated from the non-inert C&D materials for on-site reuse and use as much as possible before off-site disposal.

5.4.6 Non-inert C&D materials generated from construction activities would include, but not limited to bamboo, timber, vegetation, paper and plastic that cannot be transported to public fill. Non-inert C&D materials will be sorted on-site and taken to the appropriate recycling facility.

5.4.7 Site formation and general excavation will be the major source of C&D materials and 6,650 m^3 of inert C&D material in the form of rock/concrete is expected. Approximately 1,330 m^3 of the inert C&D materials will be used onsite and 5,320 m^3 is estimated to be disposed of at public fill.

5.4.8 Approximately 2,000 m^3 of non-inert C&D materials such as timber, vegetation, packaging waste and other organic materials are anticipated from site clearance. Assuming a 10% recycling rate, non-inert C&D materials will be reused/recycle onsite as much as possible prior to final disposal to landfill.

5.4.9 The quantities of materials generated during site clearance and the recommended disposal outlets are shown in **Table 5.2** below.

Table 5.2 Estimated Quantities of Wastes to be Generated during Construction

Waste Type	Amount to be Generated	Onsite Reuse	Total Disposed	Recommended Outlets
Inert C&D Materials [1]	6,650 m^3	1,330 m^3	5,320 m^3	Reuse within the site as much as possible prior to disposal at PFRFs
Non-inert C&D Materials [2]	2,000 m^3	200 m^3	1,800 m^3	Reduce and recycle as much as possible before disposal to landfill
Chemical Waste	A few litres per month	A few litres per month		Collected by a licensed collector to be disposed of at the CWTC
General Refuse	Less than 17.4 kg/day	0	Less than 17.4 kg/day	Recycle as much as possible before disposal to landfill

Notes:
[1] "Inert C&D Materials" includes all grade rock, top soil, excavated soil, broken concrete, asphalt, bitumen and granular materials etc.
[2] "Non-inert C&D materials" includes, but not limited to, bamboo, timber, paper and plastic, etc. Assuming a 10% recycling rate.

OFF-SITE REUSE OR DISPOSAL OF SURPLUS INERT C&D MATERIALS

5.4.10 The surplus inert C&D materials generated could be reused by other projects in Hong Kong. During the detailed design stage, further alternative disposal arrangement (i.e., other potential projects that could receive inert C&D materials from the Project) shall be continuously explored and identified. If no potential projects could receive the surplus inert C&D materials, the remaining inert C&D materials could be disposed of at the Government's Public Fill Reception Facilities (PFRFs) for beneficial use by any other projects in Hong Kong.

5.4.11 Liaison with the CEDD Public Fill Committee (PFC) on the management of C&D materials will be required before the commencement of construction work. No construction work shall proceed until all issues on management of C&D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD. The proposed outlet of the C&D materials is subject to agreement with EPD and CEDD at later stages of the Project.

ASBESTOS-CONTAINING MATERIALS

5.4.12 Contaminated materials such as asbestos-containing materials (AMCs) are expected to be mainly generated during demolition of the existing Ex-Sing Ping School. According to historical sources, the former Sing Ping School was constructed in the 1960s and was later abandoned in 1993. Suspected ACM is likely to present in the building structures that were built before the mid-1980s.

5.4.13 Some of the school building structures were inaccessible during site inspection (refer to **Section 6.5.10**) as the area was fenced off and could not provide a more detailed evaluation. An asbestos investigation is recommended by hiring a registered asbestos contractor to ascertain the presence of suspected ACM and its quantity.

5.4.14 The quantity of ACM will be detailed in the Asbestos Management Plan (AMP), which should be prepared prior to the decommissioning work. The AMP will also include the Asbestos Abatement Plan (AAP) prepared by a registered asbestos consultant and submitted to EPD for approval under the Air Pollution Control Ordinance (APCO). The asbestos abatement work shall be carried out by a registered asbestos contractor according to the future AMP.

5.4.15 When the handling, storage, transportation and disposal of ACM are in line with the mitigation measures provided in **Section 5.6**, environmental impacts associated with ACMs are expected to be minimal.

CHEMICAL WASTE

5.4.16 Chemical wastes arising during the construction phase would induce environmental, health and safety hazards if not stored and disposed of in an appropriate manner as stipulated in the *Waste Disposal (Chemical Waste) (General) Regulations*. The potential hazards include:

- Toxic effects to workers;
- Adverse impacts on water quality from spills; and
- Fire hazards.

5.4.17 The maintenance and servicing of the construction site and equipment may generate chemical wastes such as cleaning fluids, solvents, contaminated rags, waste lubricating oil and fuel. Vehicle maintenance may also involve the use of a variety of chemicals, oil and lubricants including heavy duty cleaners, organic solvents, degreasers, brake fluids, battery acid and soldering fluids. It is difficult to quantify the amount of chemical waste that would arise from the construction activities since it would depend on the Contractor's on-site maintenance management and the amount of chemicals utilised. However, it is estimated that the quantity of such chemical wastes would be low in the order of few litres per month due to the small scale of the development. The amount of chemical waste to be generated will be quantified in the Waste Management Plan to be prepared by the Contractor for the site.

5.4.18 Materials classified as chemical wastes will require special handling and storage arrangements before removal for off-site disposal at the approved Chemical Waste Treatment Facility (CWTC) or recycling by licensed facilities. Wherever possible, opportunities should be taken to reuse and recycle materials. Mitigation and control requirements for chemical wastes are detailed in **Section 5.6**. When handling, storage and disposal of chemical wastes are conducted in accordance with these requirements, adverse environmental impacts are not expected. A Waste Management Plan should also be prepared as a part of the Environmental Management Plan in accordance with *ETWB TC(W) No. 19/2005 – Environmental Management on Construction Sites* and submitted to the Architect/Engineer for approval.

GENERAL REFUSE

5.4.19 The construction workforce will generate refuse comprising food scraps, wastepaper and empty containers during the construction phase. Release of general refuse into roadside gullies or surface channels should not be permitted as the introduction of these wastes is likely to have detrimental effects on water quality in the area. Such refuse should be properly managed, and intentional or accidental release to the surrounding environment must be avoided.

5.4.20 A maximum of 20 workers is estimated working simultaneously at the site, and a domestic waste generation rate of about 0.87 kg/person/day would be assumed[1]. It is estimated that the daily amount of general refuse that would be generated is would be at most 17.4 kg/day.

5.4.21 Disposal of refuse at sites other than approved waste transfer or disposal facilities will be prohibited. Effective collection of site wastes will be required to prevent waste materials being blown around by wind or creating an odour

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[1,2] Plate 2.7 Per Capita Disposal Rates of Municipal Solid Waste, Domestic Waste & Industrial Waste from 2000 to 2019; Environmental Protection Department, The Government of the Hong Kong Special Administrative Region; <https://www.wastereduction.gov.hk/sites/default/files/msw2019.pdf>

nuisance or pest & vermin problems. Waste storage areas should be well maintained and cleaned regularly.

5.4.22 Recyclable materials, such as paper, plastic bottles and aluminum cans, should be separated for recycling, in order to reduce the final amount of general refuse to be disposed of at landfill. Adequate number of enclosed waste containers should be provided onsite to avoid over-spillage of waste. Arrangements should be made with the recycling companies to collect the recyclable materials as required.

5.4.23 With the implementation of good waste management practices at the site as detailed in **Section 5.6**, adverse environmental impacts are not expected to arise from the storage, handling and transportation of the general refuse from construction workforce.

5.5 IDENTIFICATION AND EVALUATION OF WASTE MANAGEMENT IMPLICATIONS (OPERATION PHASE)

5.5.1 Wastes generated during operational phase would mainly be municipal solid waste (MSW) consists of mixed refuse and recyclable waste generated from housing residents. Each type of the above waste arising is discussed below.

MUNICIPAL SOLID WASTE

5.5.2 MSWs will arise from the residents and housing management of the proposed transitional housing estate. This will include mixed refuse such as plastic, paper, aluminum and food packaging. The storage of general refuse has potential to give rise to adverse environmental impacts.

5.5.3 With reference to the data from *Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2019* by EPD, which contains the latest information available, the MSW generation rate was 1.47 kg/person/day[2]. The estimated MSW arising in the public housing development is summarised in **Table 5.3**, based on planned population intake, showing about 1.52 tpd of MSW would be generated during fully operational phase. This estimate assumed no waste reduction measure to reduce the demand for valuable landfill space. Based on information from EPD, the major components of MSW in Hong Kong included glass, metals, paper, plastics and putrescible. Most of these materials are recyclable which could significantly reduce the amount for final disposal.

Table 5.3 Estimated Quantities of MSW Arising from Transitional Housing Residents

Site	Planned Population	EPD's MSW Generation Rate (kg/person/day)	Estimated MSW Arising	Example of Wastes Found in MSW
Residential Blocks	1,035 persons	1.47	1.52 tpd[1] (equivalent to 555 tpa[2])	• Mixed refuse • Recyclable waste

5.5.4 Storage of general refuse would generate odour nuisance and visual impact if they are not managed in a proper manner. Effective collection of wastes would be required to prevent vermin and pest problems. The general refuse should be temporarily stored in proper containers with covers to avoid adverse impact to the surroundings. To reduce waste and improve recycling, it is expected that waste such as wastepaper, plastics, glass and aluminum etc. shall be segregated for off-site recycling. A reputable waste collector should be employed to collect the general refuse daily for disposal at designated landfill sites. With proper implementation of waste management practices detailed in **Section 5.7**, the environmental impact from handling and disposal of general refuse would not be anticipated.

5.6 RECOMMENDATION OF MITIGATION MEASURES DURING CONSTRUCTION PHASE

GENERAL

GOOD SITE PRACTICES

5.6.1 Adverse impacts related to waste management such as dust, odour, noise and wastewater discharge is not expected to arise, provided that good site practices be strictly followed. Recommendations for good site practices during the construction activities include:

- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;
- Training of site personnel in proper waste management and chemical handling procedures;
- Provision of sufficient waste disposal points and regular collection of waste;
- Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Stockpiles of C&D materials should be kept covered by impervious sheets to avoid wind-blown dust;

- All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation to keep the dusty material wet during material handling at the stockpile areas;
- Provision of wheel washing facilities before exiting the works area to minimise dust pollution to public roads; and
- Well planned delivery programme for offsite disposal to minimise adverse environmental impact from transporting the inert or non-inert C&D materials.

WASTE REDUCTION MEASURES

5.6.2 Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Sort inert C&D materials to recover any recyclable portions;
- Segregation and storage of different types of waste in respective containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- Encourage collection of recyclable waste such as wastepaper and aluminum cans by providing separately labelled bins, enabling waste segregation from other general refuse generated by the workforce;
- Proper site practices to minimise the potential for damage or contamination of inert C&D materials; and
- Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.

5.6.3 In addition to the above measures, specific mitigation measures are recommended below for the generation of identified waste to minimise environmental impacts during its handling, transportation and disposal.

STORAGE, COLLECTION AND TRANSPORTATION OF WASTE

5.6.4 Storage of waste onsite may induce adverse environmental implications if not properly managed. The following recommendation should be implemented to minimise the impacts:

- All waste should be handled and stored properly to prevent leakage or overflow. An enclosed and covered area is preferred to reduce the occurrence of wind-blown light material;
- Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and

- Designation of different locations to stockpile each material to enhance reuse.

5.6.5 The collection and transportation of waste from works area to respective disposal sites may also induce adverse environmental impacts if not properly managed. The following recommendation should be implemented to minimise the impacts:

- Remove waste in a timely manner;
- Employ trucks with cover or enclosed containers for waste transportation;
- Obtain relevant waste disposal permits from the appropriate regulatory authorities; and
- Disposal of waste should be done at licensed waste disposal facilities.

5.6.6 In addition to the above measures, other specific mitigation measures on handling the excavated materials, chemical waste and materials generated from construction phase are recommended below:

Excavated C&D Material

5.6.7 Wherever practicable, C&D material generated from Project activities should be segregated from other wastes to avoid contamination and ensure acceptability at the PFRFs. The following mitigation measures should be implemented in handling the excavated C&D materials:

- Maintain temporary stockpiles and reuse excavated fill material for backfilling;
- Carry out onsite sorting;
- Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and
- Implement a trip-ticket system in accordance with DEVB TCW No. 06/2010, Trip-ticket System for Disposal of Construction and Demolition Material for each works contract to ensure that the disposal of C&D materials are properly documented and verified.

5.6.8 Details of the recommended onsite sorting and reuse of C&D materials are provided below:

5.6.9 All C&D materials arising from the construction would be sorted onsite as far as practicable to recover the inert C&D material going to PFRFs and reusable / recyclable non-inert materials prior to disposal offsite. Non-inert portion of C&D materials, such as wood, timber, plastics, steel and other metals should be reused, recycled, and as last resort, disposed of to landfill.

5.6.10 The Contractor would be responsible for devising a system to work for onsite sorting of C&D materials and designated area(s) shall be setup within the site for the temporary stockpiling of C&D materials and to facilitate the sorting process. Within stockpile areas, the following shall be observed to minimise potential environmental impacts or nuisance:

- Cover the materials during heavy rainfall and windy days;
- Locate stockpiles to minimise potential air quality, water quality and visual impacts; and
- Minimise land intake of stockpile areas as far as possible.

5.6.11 It is recommended that the system should include the identification of the source of waste generation, estimated quantity, arrangement for onsite sorting and/or collection, temporary stockpile areas, and frequency of collection from recycling Contractors or frequency of removal offsite.

Reuse of C&D Material

5.6.12 It is estimated that C&D materials would be generated throughout the entire construction stage. The construction programme would be reviewed to maximize the quantity of onsite reuse of C&D materials whenever opportunity arises. The future Contractor should reuse the C&D materials as much as practicable to accommodate the actual site conditions and construction programme.

Transportation of C&D Material

5.6.13 The collection and transportation of waste from works area to respective disposal sites may also induce adverse environmental impacts if not properly managed. It is recommended to remove waste in timely manner; employ the trucks with cover or enclosed containers for waste transportation; obtain relevant waste disposal permits from the appropriate authorities; and dispose the waste at licensed waste disposal facilities.

Use of Standard Formwork and Planning of Construction Materials Purchasing

5.6.14 Standard formwork should also be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork (i.e., metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid excessive ordering and wastage.

Provision of Wheel Washing Facilities

5.6.15 Wheel washing facilities is mandatory and should be placed at the site entrance before the trucks leave the works area. Dust disturbance due to transportation of trucks to the public road network could be minimised by such arrangement

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ASBESTOS-CONTAINING MATERIALS

5.6.16 Further asbestos assessment should be carried out when access to the Ex-Shing Ping School is accessible after decommissioning and before demolition. An AMP should be prepared. The AAP should be prepared and submitted to EPD for approval prior to commencement of demolition works in

accordance with the APCO. It is preferable to remove all ACM before actual demolition of building structures.

5.6.17 A registered asbestos removal contractor should be employed to remove all ACM in accordance with the approved AAP which will be prepared in due course in accordance with the *Code of Practice (COP) on Asbestos Control for Safe Handling of Low Risk ACM* and *Asbestos Work Using Full Containment or Mini Containment Method* published by EPD. A registered asbestos consultant should also be employed to supervise abatement works. For the disposal of ACM, the contractor should observe the COP on *Handling, Transportation and Disposal of Asbestos Waste under the Waste Disposal (Chemical Waste) (General) Regulation*.

CHEMICAL WASTE

5.6.18 When chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as flammable, oxidising, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

5.6.19 Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.

GENERAL REFUSE

5.6.20 General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site. An enclosed and covered area should be provided to reduce the occurrence of 'wind-blown' light material.

5.7 MITIGATION MEASURES OF ADVERSE ENVIRONMENTAL IMPACTS DURING OPERATION PHASE

MUNICIPAL SOLID WASTE

5.7.1 During operational phase, the major waste anticipated would be municipal solid waste generated from housing residents. It is recommended that future property management of the housing development adopt a waste reduction programme and employ a reputable cleaner / waste collector to provide routine cleaning to minimise odour, pest and litter impacts associated with the generation of domestic refuse. With the recommendation, adverse impact from waste management implications is not anticipated during operational phase.

5.8 EVALUATION ON WASTE MANAGEMENT IMPLICATIONS

5.8.1 The types of wastes generated during the construction and operational phases have been assessed, recommendations have been provided to minimise waste arising, and offsite disposal of each type of waste have been suggested.

CONSTRUCTION PHASE

5.8.2 C&D materials will inevitably be produced during the construction phase of the Project. Wastes generated from construction activities include inert and non-inert C&D materials, chemical waste and general refuse. Mitigation measures have been proposed following the avoidance-minimisation-recycling-reuse-treatment-disposal hierarchy.

5.8.3 Wastes generated during construction phase can be minimised through careful planning during the detailed design and with good site practice during construction. The potential for reuse of inert C&D materials within the Project will be rigorously explored throughout the course of the Project in an effort to minimise offsite disposal. C&D materials is suggested to be recycled onsite as much as possible. Various waste management measures and good site practices have been provided to reduce the volume of waste.

OPERATION PHASE

5.8.4 During operational phase, no significant waste implication is expected from the housing residents and building operation. The quantity of general refuse (MSW) arising from the operational phase can be minimised by implementing an effectual waste handling system and waste reduction programme, and by hiring a reputable waste collector.

5.8.5 Provided that MSWs are handled, transported and disposed following the relevant legislative requirements and with implementation of the recommended mitigation measures, there would be no significant environmental impact anticipated.

6 LAND CONTAMINATION

6.1 INTRODUCTION

6.1.1 This section examines any potential contaminated land issues which may arise during the construction phase and to propose remediation measures if necessary.

6.1.2 Contaminated land refers to land which has been polluted by hazardous substances as a result of industrial or commercial operations carried out on and around the site over a number of years. Very often, these contaminants pose hazardous risks or cause detrimental effects to the land users or the nearby environment.

6.2 LEGISLATION, STANDARDS & GUIDELINES

6.2.1 The relevant legislation, standards and guidelines applicable to the present study of contaminated land issues for the Project Site include:

- EPD's Practice Guide for Investigation and Remediation of Contaminated Land, August 2011 (Practice Guide);
- EPD's Guidance Note for Contaminated Land Assessment and Remediation, August 2007 (Guidance Note); and
- EPD's Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management, December 2007 (Guidance Manual).

6.2.2 Number of potentially contaminating historical land uses should be considered, including oil installations, gas works, metal workshops, car repair and dismantling workshops, which have the potential to cause or have caused land contamination

6.2.3 The methodology for conducting the study of contaminated land issues will be carried out in accordance with the Practice Guide and Guidance Manual. In addition to the above, references will also be made from the Guidance Note.

6.3 ASSESSMENT APPROACH AND CRITERIA

6.3.1 Desktop review, site reconnaissance and a review of historical and current land uses will provide information and guidance to characterise and identify if potential contamination exists or may be present during the construction and operation of the Project. Under the Guidance Note, a land contamination assessment shall include at minimum the following:

a) Provide a clear and detailed account of present land use and relevant past land use activities that may lead to potential land contamination;

b) Identify areas of potential contamination and associated impacts, risks or hazards to human health and the environment; and

c) Conclude and provide recommendation if further works regarding land contamination issues are required for the Project.

6.3.2 The assessment area the land contamination assessment covers the area where the scope of works is proposed. According to the Practice Guide, desktop review and site appraisal shall precede to determine the need for site investigation, and to provide the information to support a contamination assessment, which the findings will subsequently determine if site remediation is required.

6.3.3 As land contamination is often linked to past uses of land and is more likely to have occurred when land is or was used or zoned for industrial, agricultural or commercial purposes, the review of historical land use and site appraisal include consideration of information such as, but not limited to:

a) Desktop review of existing and historical survey maps;

b) Interpretation of existing and historical aerial photographs;

c) Review of land use record, permitted uses of existing private lots; and

d) Site inspection and its vicinity to verify the gathered information.

6.3.4 The site inspection is carried out to identify any physical clues of contamination, such as the presence of industrial-related activities or building structures, underground storage tanks (USTs), chemical drums or oil stains, unnatural colors / odours and abandoned piping / mechanical components at the site.

6.4 DESCRIPTION OFTHE ENVIRONMENT

6.4.1 The Project is located in Ping Che Road, Ta Ku Ling in Fanling with an area of approximately 13,207 m^2, as shown in **Figure 6.1**. It is bordered by Ta Kwu Ling District Rural Committee N.T. on the southeast, Sing Ping Village on the east running to northeast, Caritas Fung Wong Fung Ting Home on the north, Ta Kwu Ling Playground on the south and open storage areas on the southwest. It is currently and has been always zoned as GIC under OZP No. S/NE-TKL/14.

6.4.2 The proposed development comprises of placing one (1) 4-storey residential block; one (1) 1-storey Multi-purpose Amenity block; and one (1) 1-storey Elderly Service Center providing a total of approximately 596 units, housing approximately 916 persons.

6.4.3 The site is currently occupied by vacant areas where vegetation growths ranging from trees to grasses, woodland, and the abandoned structure of the ex-Sing Ping School.

6.5 IDENTIFICATION OF ENVIRONMENTAL IMPACTS

DESKTOP REVIEW AND HISTORY OF SITE

6.5.1 Detailed desktop reviews have been conducted to review past and present land uses, activities and installations in the vicinity of the Project Site boundary that may pose potential for contamination to the land.

6.5.2 Existing information from historical resources and available environmental reports for areas located within the vicinity of the Project Site have been reviewed, including the following:

a) Hong Kong Geological Survey Mays (GSMs);

b) Relevant aerial photos and maps obtained from Lands Department;

c) Land use information from the North District Land Office (DLO);

d) Mapping Hong Kong, A Historical Atlas, Government Information Services, 1992; and

e) History of Sing Ping School – http://www.popd.hk/10782/

6.5.3 According to the Geological Map of Hong Kong Web-based Edition – 2006, published by the Geotechnical Engineering Office, and aerial photos indicate that the Site is situated on Tai Mo Shan Formation formed during the Jurassic Period.

REVIEW OF AERIAL PHOTOGRAPHS

6.5.4 Historical aerial photographs have been reviewed to assess the historical uses of the Project Site. Based on the review of aerial photographs from the Lands Department, the Project Site was vacant before 1963. The ex-Sing Ping School was the Project Site's first and current occupant since 1963. The key findings are summarised in **Table 6.1**. Historical aerial photographs are presented in **Appendix 6.1**.

Table 6.1 Key Findings of Aerial Photographs

Year	Height (Feet)	Photo Reference Number	Site Description
1956	16,700	F22_564-0101	Project Site located on vacant land. Surrounding land used for agricultural purposes.
1963	13,500	V81A_857-0018R	According to historical sources, the ex-Sing Ping School was established in the early 1960s. The school structure (in blue) was observed constructed on Project Site. No changes to surrounding areas.
1973	2,000	07697	No changes to Project Site. Ta Kwu Ling District Rural Committee N.T. (in turquoise) has been constructed. Surrounding areas observed were farmlands and village establishment.
1983	4,000	48013	No changes to Project Site. Ta Kwu Ling Playground (in yellow) has been established.
1990	2,000	A21840	No changes to Project Site from 1984 to 1990.
1996	3,500	A43676	No changes to Project Site from 1991 to 1996.

Year	Height (Feet)	Photo Reference Number	Site Description
2006	4,000	CW72082	No changes to the Project Site from 1997 to 2006. Structure of the ex-Sing Ping School is still visible (in blue). Vegetation growth observed in the northwest (in orange) at the site.
2010	3,000	CW86469	Vegetation loss observed in the northwest of the Project Site (in orange). Strip of land on the eastern border of the Project Site (in green) has been cleared.
2012	2,000	CW93687	Eastern border of the Project Site covered with vegetation (in green).
2014	6,000	CS53622	Vegetation was removed in the eastern border of the Project Site (in green).
2019	6,900	E074047C	No changes to Project Site and resemble to present day. Some vegetation growth observed in the northwest (in orange), structure of ex-Sing Ping School (in blue) and vegetation removed (in green) are still visible.

6.5.5 According to the 1956 aerial photograph, the site was situated on natural vegetation and surrounded by agricultural land. By 1963, the Sing Ping School was observed in the south while the north underwent vegetation removal. There is no change in land use since 1963 until present day. No industrial or polluting activities are observed within or near proximity of Project Site boundary.

SITE INSPECTION

6.5.6 Site inspection was conducted on 11 August 2020 to verify existing land uses at Project vicinity and to identify potential sources and signs of contamination, such as presence of industrial activities, chemicals, oil and hazardous waste handling and storage locations, bulk storage tanks, sumps, pipelines, staining, discolouration, abnormal odours, distressed vegetation etc. The site photographs are presented in **Appendix 6.2**.

6.5.7 Upon initial site inspection, ex-Sing Ping School is the sole occupant, and the site is surrounded by residential buildings to the north and east; including Sing Ping Village and Caritas Fung Wong Fung Ting Home. Institutional buildings are located south of the Project Site including the Ta Kwu Ling District Rural Committee and the Ta Kwu Ling Playground (**Photos 1 to 2 & 6**).

6.5.8 The eastern and northern portion of the Project Site was inaccessible (including the vacant structures of ex-Sing Ping School), although site inspection was conducted from outside the Project boundary through the metal fence (**Photos 3 to 5, 13 to 15**). No sources of contamination were identified in the outer regions of the ex-Sing Ping School (**Photos 7 to 9**). Footpaths and roads within the Project Site Boundary were accessible but no stains were observed (**Photos 10 & 11**). The western portion of the Project Site was accessible during the site inspection (**Photos 16 to 18**). No sources of potential contamination were identified on the vacant area (**Photos 19 to 26**).

6.5.9 No hotspots or signs of past or present contamination such as stains, oil spills or

chemical use were identified during site inspection. There is an absence of potentially contaminating sources such as underground storage tank, transformers, generators and no polluting activities and sources were observed within the Project Site areas during site inspection (**Photos 31 to 33**).

INFORMATION RECEIVED FROM GOVERNMENT DEPARTMENTS

6.5.10 Various HKSAR Government Departments listed below have been approached on the historical land use, chemical storage, and accident records for further identify potential land contamination of the land. Replies from the government departments are included in **Appendix 6.3** and are summarised below:

a) Environmental Protection Department (EPD)

A request letter was sent to EPD on 17 August 2020 to identify historical records of chemical spillage / leakage. A reply from EPD dated 27 August 2020 and 22 October 2020 indicated that there is no reported chemical spillage incident in EPD's record.

b) Fire Services Department (FSD)

To identify the registration records of Dangerous Goods (DG) and the historical records of DG spillage / leakage, a letter was sent to FSD on 2 September 2020. The reply from FSD dated 21 September 2020 indicated that no records of DG license, fire incidents or incidents of spillage / leakage of DG were found in connection to the Project Site.

6.5.11 In order to identify current and previous chemical waste producers (CWPs) on the Project Site, a request has also been made to EPD to obtain a list of valid and invalid CWPs nearby the Project Site. A list of the CWPs within 300m buffer zone is presented in **Appendix 6.4**.

6.5.12 According to the EPD, there is no historical records of chemical spillage / leakage and historical records of usage and/or storage of chemicals and dangerous goods in the assessment area. No hotspots or signs of past or present contamination such as stains, oil spills or chemical use are identified during site inspection. The review of CWPs concluded that no CWP has been registered at the Project Site, and none of the CWPs are located next to the Project Site (also verified by site inspection that no industrial activities are located at or adjacent to the site), potential contamination to soil and/or groundwater is not anticipated.

6.6 EVALUATION OF ENVIRONMENTAL IMPACTS

6.6.1 In view of site history, no potential land contamination impact associated with the site would be anticipated. Since some areas were inaccessible during site inspection and this desktop review is conducted during the feasibility study of the Project; any changes to land use may occur in areas which are not identified as potentially contaminated sites at this stage before the development of the Project. It is therefore deemed necessary to conduct site

re-appraisal for the inaccessible areas prior to the development of the site.

6.7 MITIGATION MEASURES

6.7.1 As no potential land contamination sites have been identified, no mitigation measure is required.

6.8 EVALUATION ON LAND CONTAMINATION ISSUES

6.8.1 Desktop review on land contamination issues of the Project Site has been conducted in this preliminary review exercise. The potential contaminated area at the Project Site is deemed according to historical and current land uses and activities potentially leading to soil and/or groundwater contamination. The ex-Sing Ping School has been the sole occupant at the site since 1963, no potential contamination activities exist on the Project Site and no hotspots or stains leading to potential contamination were identified during the site inspection.

6.8.2 Based on the review of historical aerial photographs, government records and site inspection, no suspected land contamination due to past or present land use was identified in the Project Site area. No land contamination impacts are expected during the construction phase of the Project. Further contaminated soil sampling and testing is therefore deemed not required

6.8.3 However, site re-appraisal should be conducted prior to the development of the Site when the inaccessible areas are available.

7 CONCLUSION

7.1.1 The environmental impacts in the aspects of noise, air quality, water quality and waste management are assessed in the Preliminary Environmental Review.

NOISE IMPACT

7.1.2 No adverse impact to the NSRs would be anticipated during the construction phase with implementation of the proposed mitigation measures.

7.1.3 During operation, external fixed noise impact on the Proposed Development from potential fixed noise sources within the 300m noise assessment area is considered minimal, as neither air-cooled chillers nor water-cooling towers were identified during on-site visit on 25th August 2020. The Proposed Development would also utilize a number of small power split type outdoor units instead of noisy fixed plants such as air-cooled chillers or water-cooling towers. As such, the fixed noise impact on nearby NSRs by the Proposed Development is considered insignificant.

7.1.4 For the traffic noise impact, both blocks of transitional housing towers would comply with the 70 dB(A) noise criterion as stipulated in Chapter 9 of HKPSG, given that mitigation measure is adopted properly. The maximum noise level induced by road traffic is 70 dB(A).

AIR QUALITY IMPACT

7.1.5 With the implementation of appropriate mitigation measures, the air quality impact during construction can be reduced to insignificant level. For operation phase, impact of emission from road traffic upon the project is minimized when the fresh air intakes of the proposed building meet the buffer distance as stated in HKPSG.

WATER QUALTIY IMPACT

7.1.6 No adverse impact of water quality during construction phase is anticipated with recommended mitigation measures are properly implemented. As all the wastewater effluent is anticipated to be conveyed to public sewer, no potential impact on nearby WSRs during the operation phase will be anticipated.

WASTE MANAGEMENT

7.1.7 The major waste types generated by the construction activities will include C&D materials from construction of new buildings and superstructures works;

chemical waste from maintenance and servicing of construction site and equipment and general refuse from the workforce.

7.1.8 During the operation phase, the key waste types generated will include chemical and general waste. Provided that all these identified wastes are handled, transported and disposed in strict accordance with the relevant legislative and recommended requirements and that the recommended good site practices and mitigation measures are properly implemented, no adverse environmental impact is expected during both the construction and operation phase.

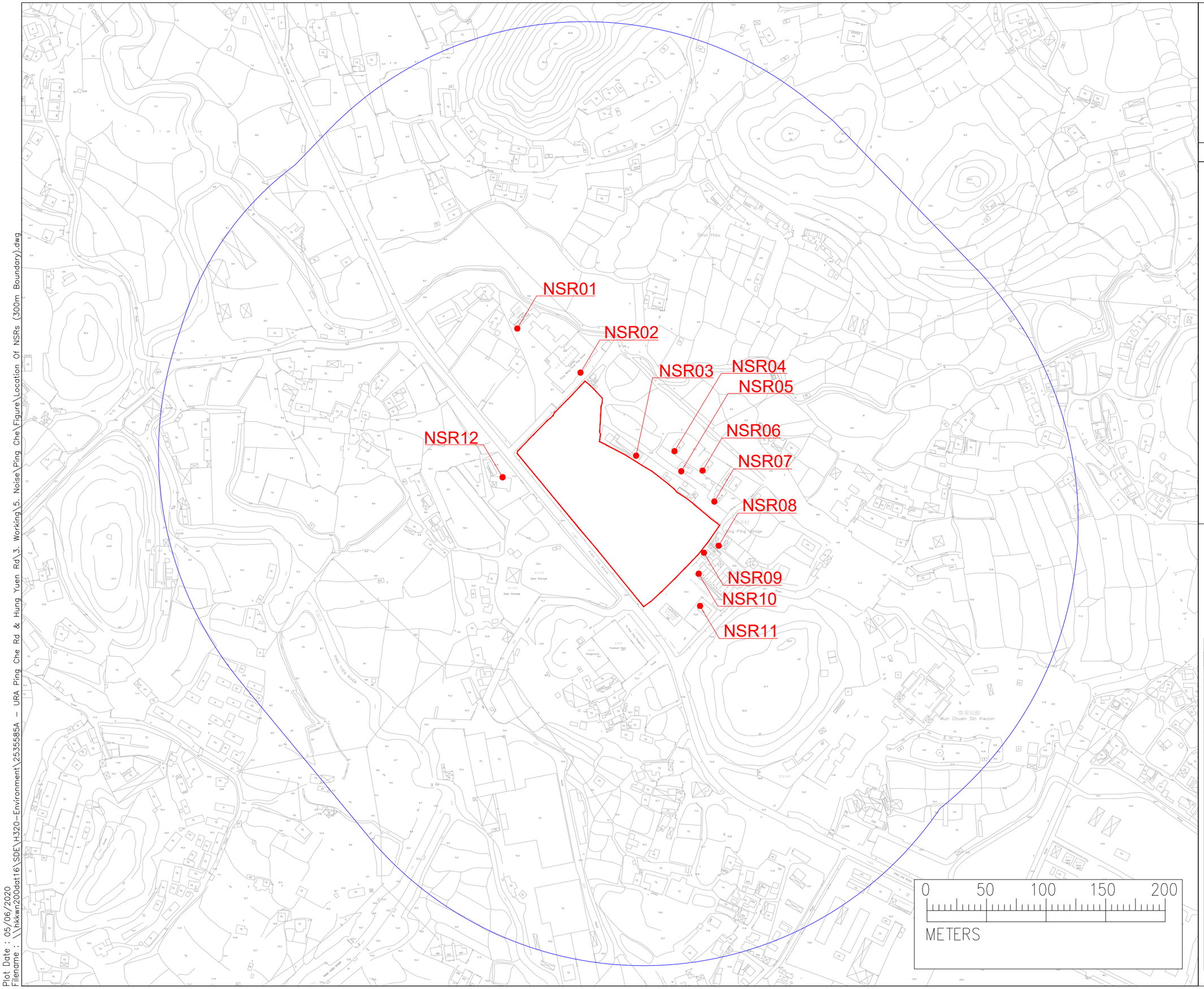
LAND CONTAMINATION

7.1.9 Desktop review on land contamination issues of the Project Site has been conducted in this preliminary review exercise. The ex-Sing Ping School has been the sole occupant at the site since 1963, no potential contamination activities exist on the Project Site and no hotspots were identified during the site inspection. No polluting activities at or in the proximity of the site would pose potential contamination to the site.

7.1.10 Based on the review of historical aerial photographs, government records and site inspection, no suspected land contamination due to past or present land use was identified in the Project Site area. No land contamination impacts are expected during the construction phase of the Project. Further contaminated soil sampling and testing is therefore deemed not required.

7.1.11 However, site re-appraisal should be conducted prior to the development of the site when the inaccessible areas are available.

FIGURES



KEY PLAN

NOTES :

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

LEGEND :

- REPRESENTATIVE NOISE SENSITIVE RECEIVER
- PROJECT SITE BOUNDARY
- 300M NOISE ASSESSMENT BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

Drawing title

LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Drawing no.	Rev.
FIGURE 2.1	0

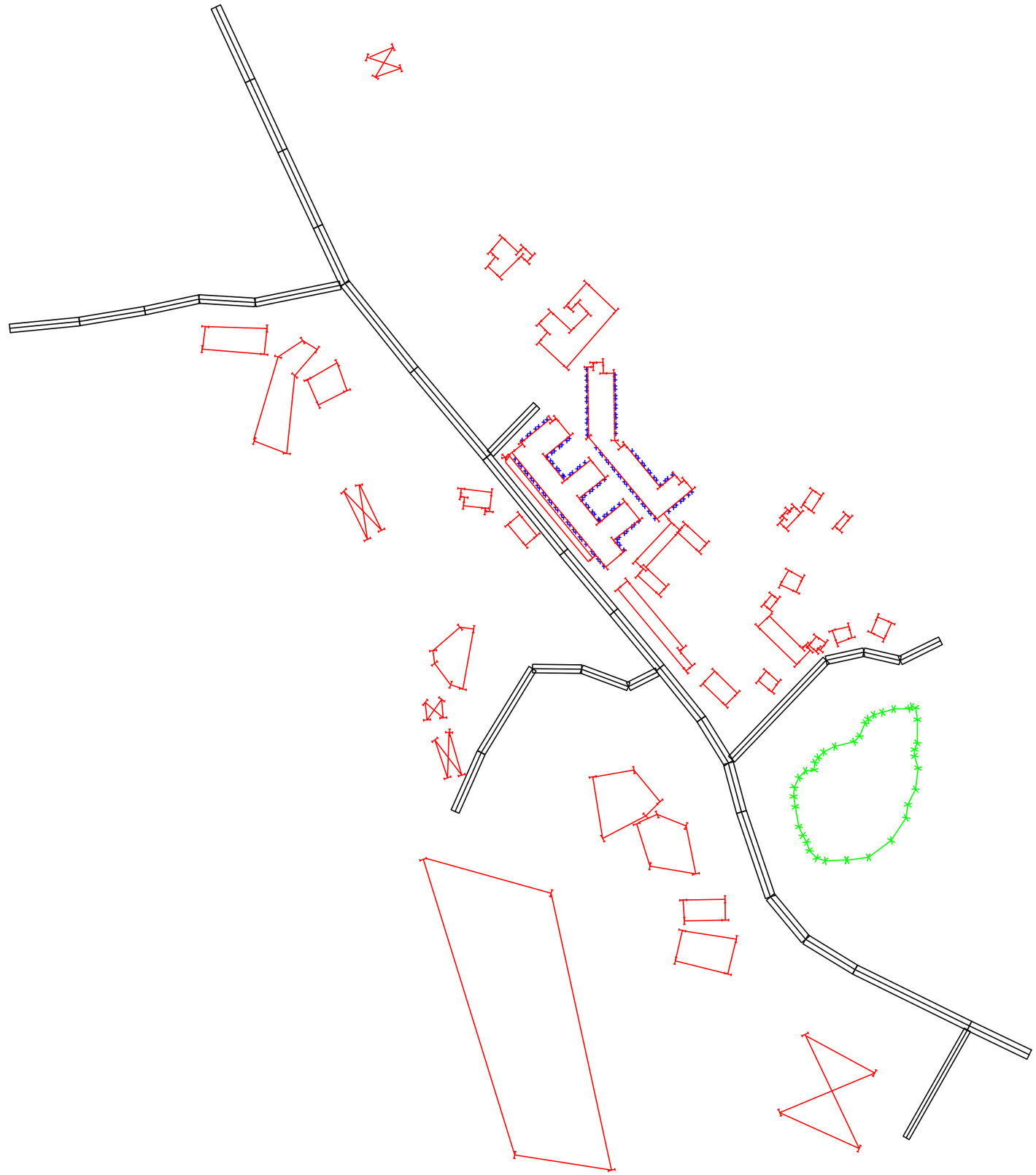
Drawn	Date	Checked	Approved
AL	AUG 2020	CCK	CCK

Scale

Status

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Plot Date : 05/06/2020
Filename : \\hkkwn200dat16\SDE\H320-Environment\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location Of NSRs (300m Boundary).dwg



KEY PLAN

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD, FANLING

Drawing title

COMPUTER PLOT OF ROAD TRAFFIC NOISE MODEL

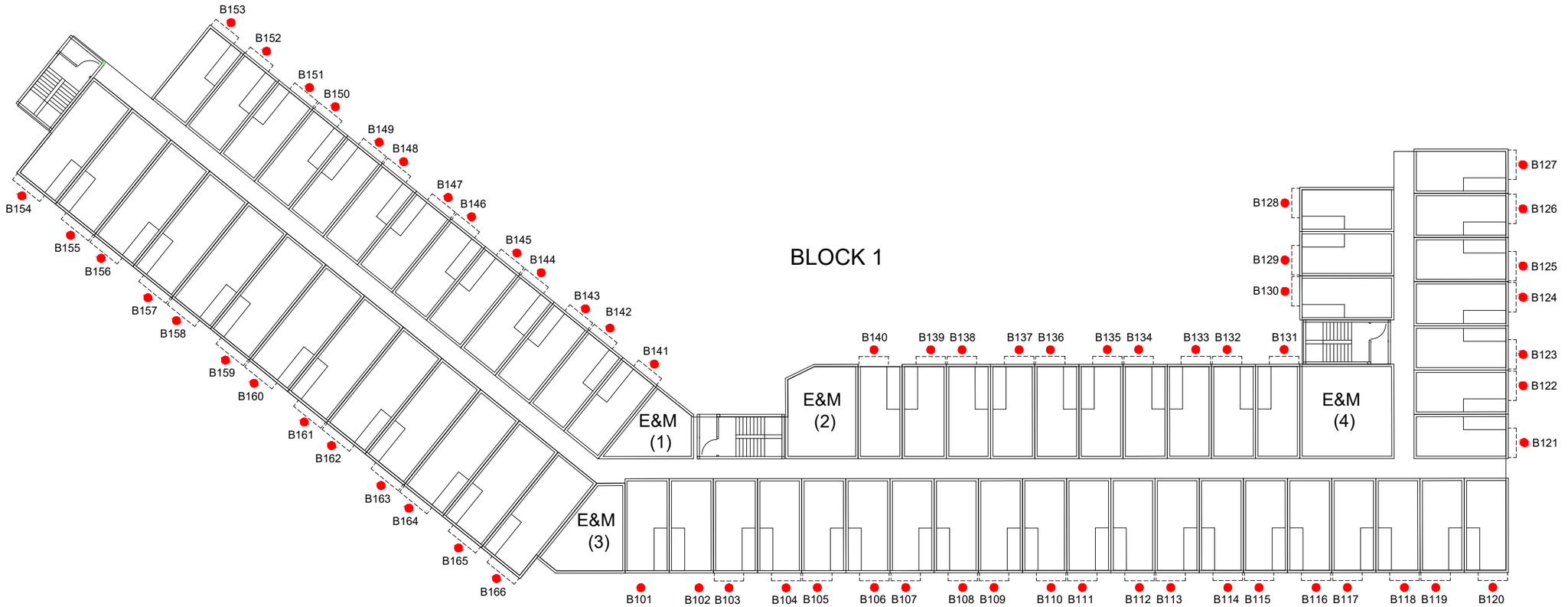
Drawing no.	Rev.
FIGURE 2.2	1

Drawn	Date	Checked	Approved
SC	NOV 2021	CCK	CCK

Scale	Status

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Plot Date : 05/06/2020
Filename : W:\7. Projects\Project_H321_Env\(2535551-2535600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location Of NAPs_20211112_v3.dwg



BLOCK 1

KEY PLAN

NOTES :

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

LEGEND :

● NOISE ASSESSMENT POINT (NAP)

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD, FANLING

Drawing title

LOCATION OF NOISE ASSESSMENT POINTS

BLOCK 1

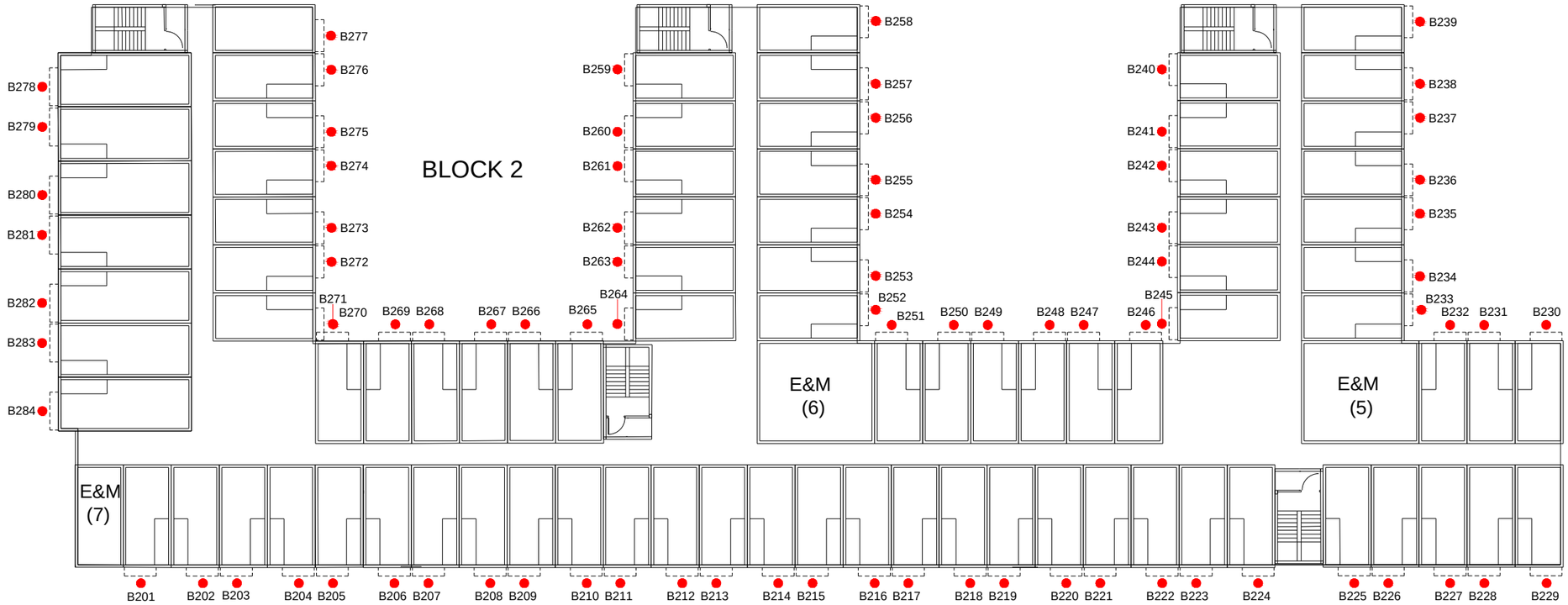
Drawing no.	Rev.
FIGURE 2.3a	1

Drawn	Date	Checked	Approved
SC	OCT 2021	CCK	CCK

Scale | Status

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Plot Date : 05/06/2020
Filename : W:\7. Projects\Project_H321_Env\(2535551-2536600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location Of NAPs_20211008a.dwg



KEY PLAN

NOTES :

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

LEGEND :

● NOISE ASSESSMENT POINT (NAP)

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD, FANLING

Drawing title

LOCATION OF NOISE ASSESSMENT POINTS

BLOCK 2

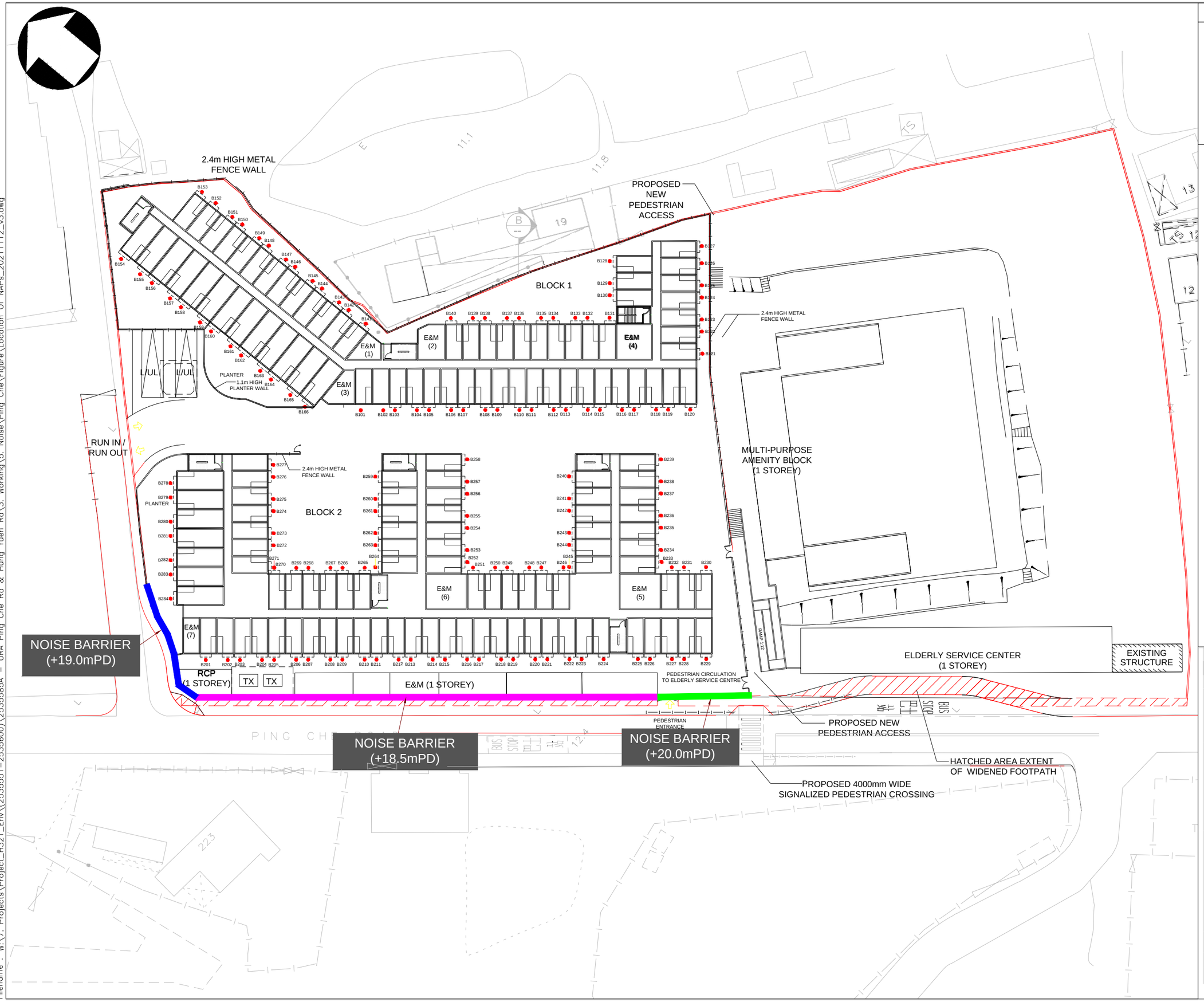
Drawing no.	Rev.
FIGURE 2.3b	1

Drawn	Date	Checked	Approved
SC	NOV 2021	CCK	CCK

Scale | Status

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Filename : W:\7. Projects\Project_H321_Env\(2535551-2535600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location Of NAPs_20211112_v3.dwg



KEY PLAN

NOTES :

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

LEGEND :

- PROPOSED NEW NOISE BARRIER HEIGHT (+19.0)
- PROPOSED NEW NOISE BARRIER HEIGHT (+18.5mPD)
- PROPOSED NEW NOISE BARRIER HEIGHT (+19.5mPD)
- SITE BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD, FANLING

Drawing title

NOISE IMPACT ASSESSMENT MITIGATION MEASURE

Drawing no.	Rev.
FIGURE 2.4	1

Drawn	Date	Checked	Approved
SC	NOV 2021	CCK	CCK

Scale | Status

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Plot Date : 05/06/2020
Filename : W:\7. Projects\Project_H321_Env\(2535551-2536600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location Of NAPs_20211112_v3.dwg

A02 TONG FUNG

A01 LEE UK TSUEN

A03 CARITAS NURSERY SCHOOL – TA KWU LING

A04 CARITAS FUNG WONG FUNG TING HOUSE

A05 SING PING VILLAGE

A06 SING PING SAN TSUEN CHILDREN'S PLAYGROUND

A07 TA KWU LING DISTRICT RURAL COMMITTEE N.T.

A08 TA KWU LING PLAYGROUND

A09 WUN CHUEN SIN KWOON

A11 TAI PO TIN (UPPER)

A12 TAI PO TIN (LOWER)

A10 PING CHE HA

0 50 100 150 200
METERS

LEGEND :

PROJECT BOUNDARY

500M STUDY AREA

Axx REPRESENTATIVE AIR SENSITIVE RECEIVER

Rev	Description	By	Date

Consultant

wsp

Project Title

PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSE PROJECTS AT PING CHE ROAD

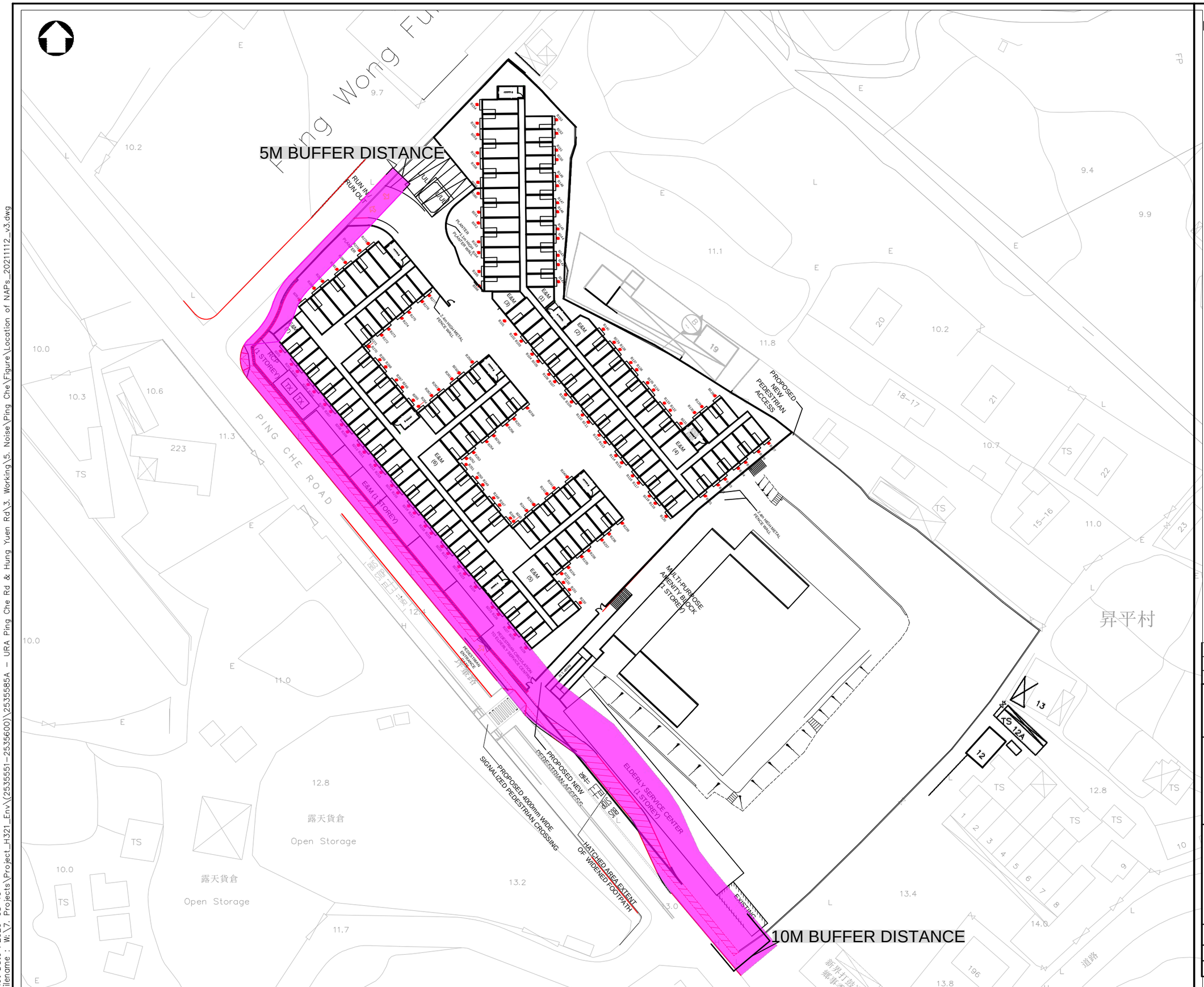
Drawing Title

AIR QUALITY IMPACT ASSESSMENT STUDY AREA

Drawing no.		Rev.
FIGURE 3.1		0
Drawn: DH	Date: AUG2020	Checked: MW	Approved: CCK
Scale: AS SHOWN		Status: –	

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Plot Date : 2020-08-19
Filename : \\Hkkwn200dat16\sde\H320-Environment\2535585A – URA Ping Che Rd & Hung Yuen Rd\3. Working\6. Air\Ping Che Road\Ping Che Road Air v1.dwg



LEGEND :

- PROJECT BOUNDARY
- BUFFER DISTANCE FROM ROAD KERB

Rev	Description	By	Date

Consultant

wsp

Project Title

PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSE PROJECTS AT PING CHE ROAD

Drawing Title

BUFFER DISTANCE REQUIREMENT FOR VEHICULAR EMISSION IMPACT

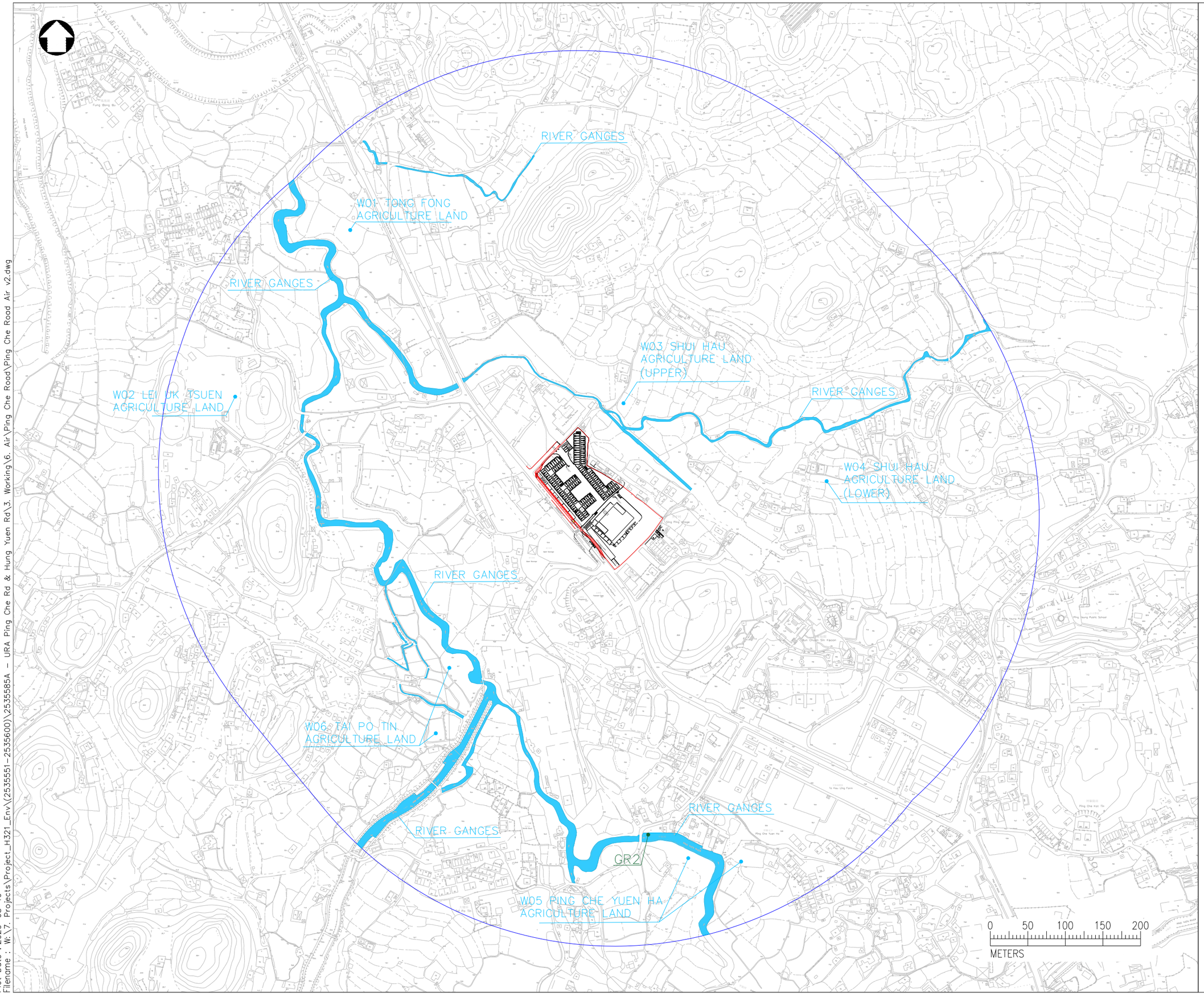
Drawing no.	Rev.
FIGURE 3.2	1

Drawn	Date	Checked	Approved
SC	OCT2021	CCK	CCK

Scale	Status
-	-

© COPYRIGHT RESERVED

Plot Date : 2020-08-19
Filename : W:\7. Projects\Project_H321_Env\(2535551-2535600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location of NAPs_20211112_v3.dwg



LEGEND :

- PROJECT BOUNDARY
- 500M STUDY AREA
- XXX REPRESENTATIVE WATER SENSITIVE RECEIVER
- XXX RIVER MONITORING STATION

Rev	Description	By	Date

Consultant

wsp

Project Title

PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSE PROJECTS AT PING CHE ROAD

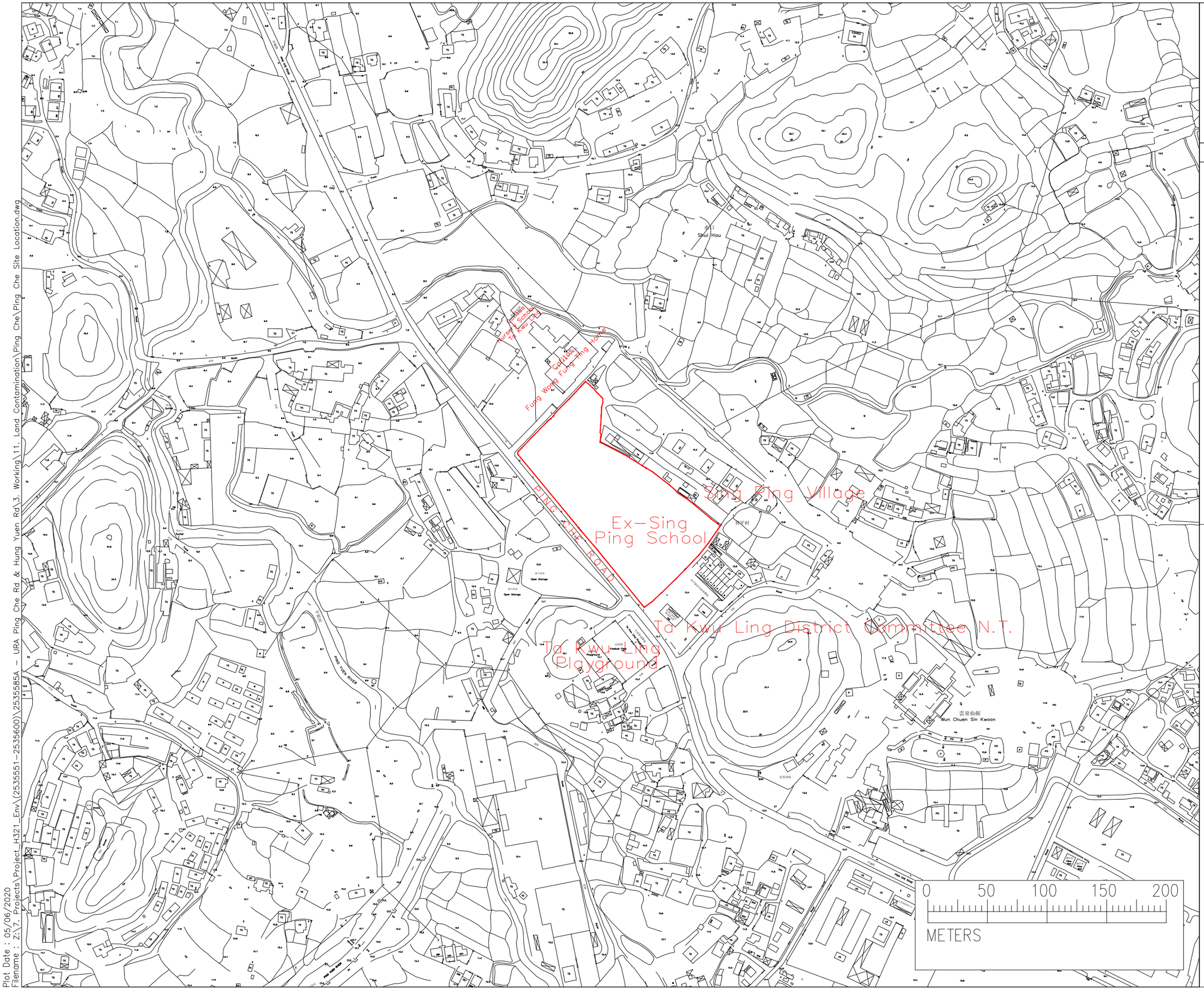
Drawing Title

WATER QUALITY IMPACT ASSESSMENT STUDY AREA

Drawing no.		Rev.
FIGURE 4.1		0
Drawn: JH	Date: NOV2020	Checked: MW / Approved: CCK
Scale: AS SHOWN	Status: –	

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Plot Date : 2020-08-19
Filename : W:\7. Projects\Project_H321_Env\(2535551-2535600)\2535585A – URA Ping Che Rd & Hung Yuen Rd\3. Working\6. Air\Ping Che Road\Ping Che Road Air v2.dwg



KEY PLAN

NOTES :

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

LEGEND :

PROJECT SITE BOUNDARY

Rev	Description	By	Date

Consultant

wsp

Project title

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD, FANLING

Drawing title

PROJECT SITE LOCATION AND LAND CONTAMINATION ASSESSMENT AREA

Drawing no.			Rev.
FIGURE 6.1			0
Drawn	Date	Checked	Approved
AL	AUG 2020	CCK	CCK
Scale		Status	

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Plot Date : 05/06/2020
Filename : Z:\7. Projects\Project_H321_Env\(2535551-2535600)\2535585A - URA Ping Che Rd & Hung Yuen Rd\3. Working\11. Land Contamination\Ping Che\Ping Che Site Location.dwg

APPENDIX

1.1

INDICATIVE BLOCK PLAN AND SECTIONS

NOTES:

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LEGEND

- SITE BOUNDARY
- DOMESTIC FLAT (1P-2P)
- DOMESTIC FLAT (3P-4P)
- DOMESTIC FLAT (DISABLE - AT G/F)
- NON-DOMESTIC USE
- E/M

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

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211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES

DRAWING TITLE

MASTER LAYOUT PLAN

DRAWN BY	CHECKED BY
KC	RC
SCALE	DATE
1:600	2021.11.12
JOB No.	DRAWING No.
2024	PCR-A-01

PROPOSED NEW PEDESTRIAN ACCESS

BLOCK 1

BLOCK 2

E&M (1)

E&M (2)

E&M (3)

E&M (4)

E&M (5)

E&M (6)

E&M (7)

E&M (1 STOREY)

RCP (1 STOREY)

TX

TX

UNDERGROUND HOLDING TANK (Dimensions subject to detailed design)

L/UL

L/UL

PLANTER

1.1m HIGH PLANTER WALL

RAMP UP 1:40

7300

1500

RUN IN / RUN OUT

+11.50

EMERGENCY CRASH GATE (FOR EVA ONLY)

6000

EVA

2.4m HIGH METAL FENCE WALL

5200

6.45m HIGH NOISE BARRIER (+19.0mPD)

8500

1500

PROPOSED LOCAL WIDENING OF JUNCTION

10.88

1.45m HIGH NOISE BARRIER ABOVE FLAT ROOF (+19.0mPD)

5.95m HIGH NOISE BARRIER (+18.5mPD)

0.95m HIGH NOISE BARRIER ABOVE FLAT ROOF (+18.5mPD)

2900

3075

3000

HATCHED AREA EXTENT OF WIDENED FOOTPATH

0.95m HIGH NOISE BARRIER ABOVE FLAT ROOF (+18.5mPD)

PEDESTRIAN ENTRANCE GATE

PEDESTRIAN CIRCULATION TO ELDERLY SERVICE CENTRE

6.95m HIGH NOISE BARRIER (+19.5mPD)

PROPOSED NEW PEDESTRIAN ACCESS

HATCHED AREA EXTENT OF WIDENED FOOTPATH

PROPOSED CAUTIONARY PEDESTRIAN CROSSING

MULTI-PURPOSE AMENITY BLOCK (1 STOREY)

ELDERLY SERVICE CENTER (1 STOREY)

EXISTING STRUCTURE

RAMP 1:13

2000

2000

PING CHE ROAD

BUS STOP

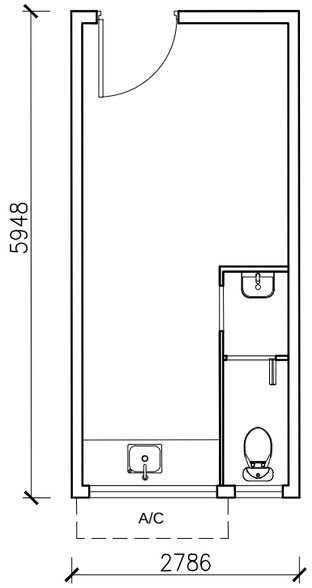
LAY-BY

Sing Ping Village

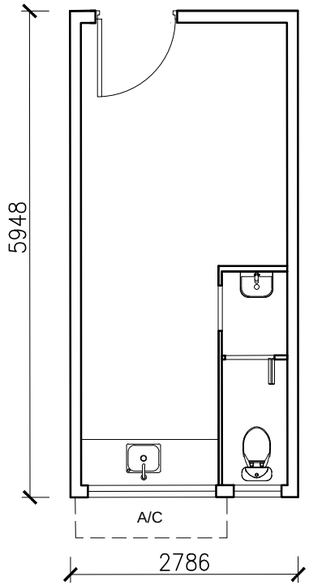
Ta Kwu Ling Pl

Football Field

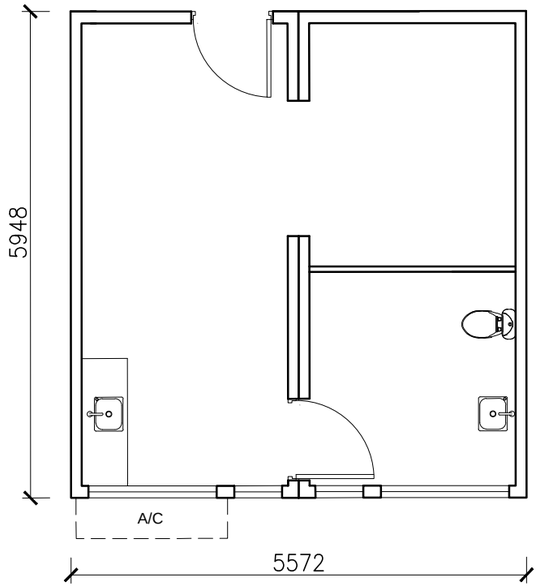
+11.80
+11.1
+13.39
+13.65
+12.55
+12.35
+15.05
+19.20
+15.20
+13.80
+13.40
+13.00
+17.80
+12.72
+13.37
+12.40
+11.00
+11.75
+17.55
+12.55
+11.33
+12.55
+13.00
+13.37



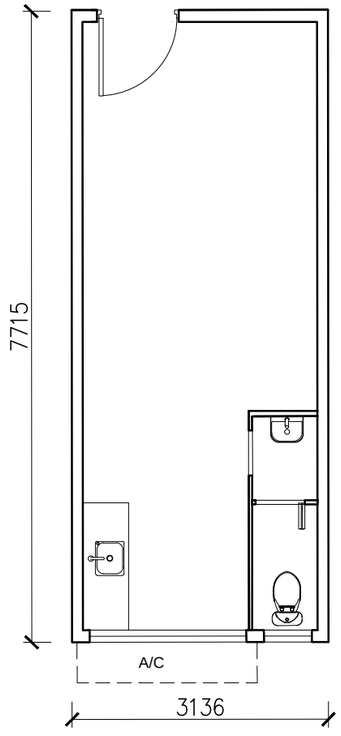
1P UNIT
(16.57 m²)



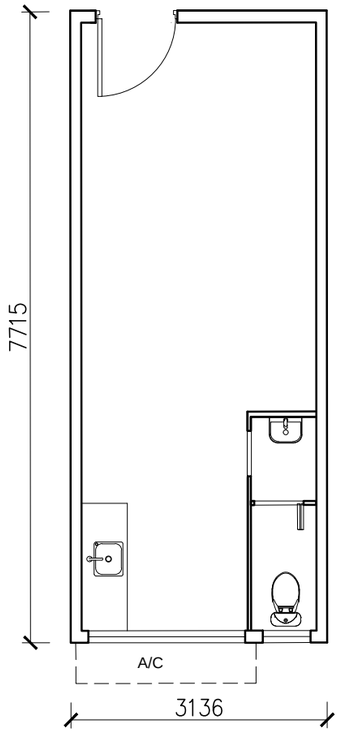
2P UNIT
(16.57 m²)



ACCESSIBLE UNIT
(33.14 m²)



3P UNIT
(24.24 m²)



4P UNIT
(24.24 m²)

NOTES:

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REVISION

NO	DATE	DESCRIPTION

ARCHITECT

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Email: mail@studiorca.com
STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

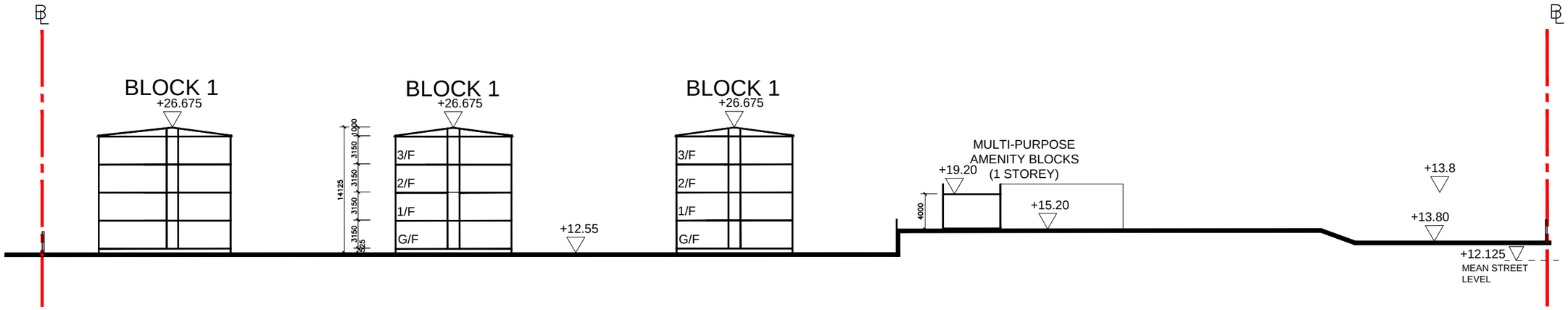
PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT
GOVERNMENT LAND IN DD82,
PING CHE, TA KWU LING,
NEW TERRITORIES

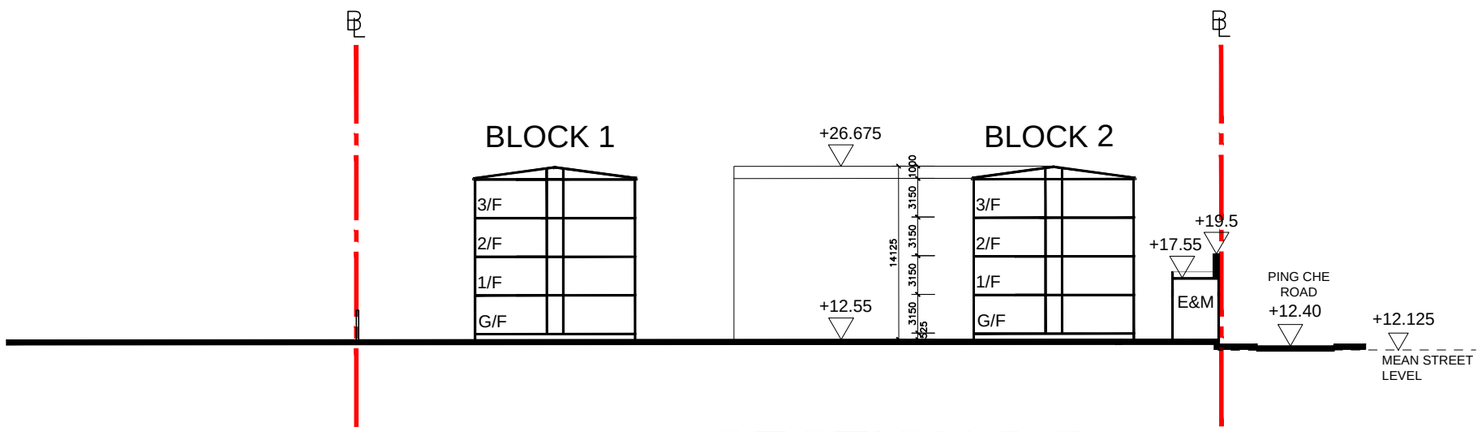
DRAWING TITLE

TYPICAL UNIT LAYOUT PLAN

DRAWN BY	CHECKED BY
KC	RC
SCALE	DATE
1:600	2021.11.01
JOB No.	DRAWING No.
2024	PCR-A-04



SECTION A-A



SECTION B-B

NOTES:

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REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

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Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES

DRAWING TITLE

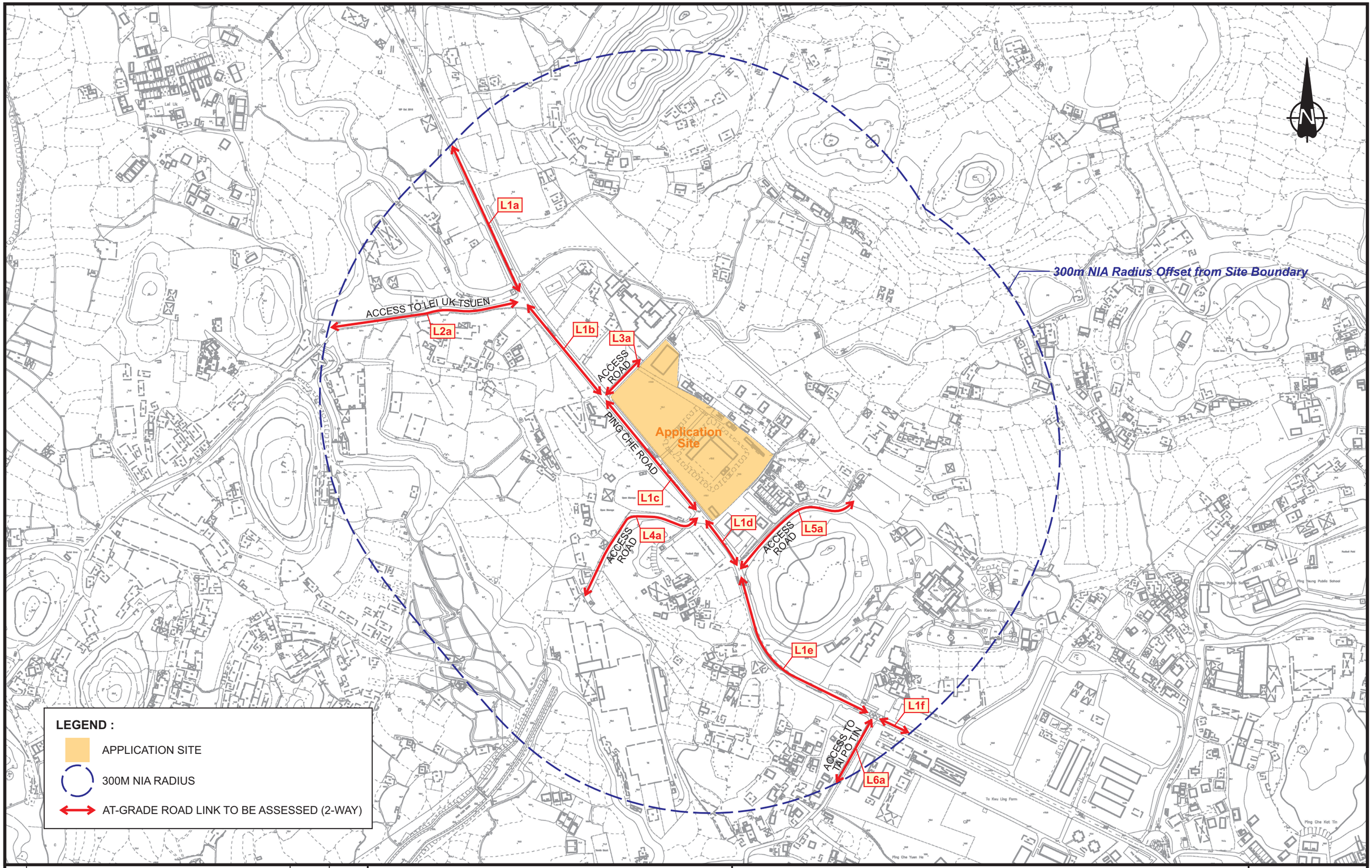
SECTION AA & BB

DRAWN BY	CHECKED BY
KC	RC
SCALE	DATE
1:600	2021.11.01
JOB No.	DRAWING No.
2024	PCR-A-05

APPENDIX

2.1

TRAFFIC FORECAST IN YEAR 2030



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TRANSITIONAL HOUSING PROJECT
AT PING CHE ROAD -
TRAFFIC IMPACT ASSESSMENT

Drawing Title

INDEX PLAN OF IDENTIFIED ROAD LINKS FOR NIA

Designed	Checked	Scale	Date	Drawing No.	Rev.
LKY	KFM	NTS	JUL 2020	6.1	-

SYSTRA MVA

CHK50520110/PCR/TIA/F61.CDR/LLH/30JUL20

Original Size : A3

Proposed Transitional Housing Development at Ping Che Road - Traffic Forecast for NIA

Index[1]	Road Section	From	To	Direction	2030 AM Peak		2030 PM Peak	
					Peak Hour Traffic Flow - Round up to nearest 10 (veh/hr)	HV%[2]	Peak Hour Traffic Flow - Round up to nearest 10 (veh/hr)	HV%[2]
L1a	Ping Che Road	Access Road to Tong Fong	Access Road to Lei Uk	Two-way	350	29%	260	26%
L1b	Ping Che Road	Access Road to Lei Uk	Access Road to Caritas Care Home	Two-way	490	43%	360	39%
L1c	Ping Che Road	Access Road to Caritas Care Home	Access Road to Playground	Two-way	550	40%	400	37%
L1d	Ping Che Road	Access Road to Playground	Access Road to Wun Chuen Sin Kwoon	Two-way	560	39%	410	38%
L1e	Ping Che Road	Access Road to Wun Chuen Sin Kwoon	Access Road to Tai Po Tin	Two-way	570	38%	420	38%
L1f	Ping Che Road	Access Road to Tai Po Tin	Ping Yuen Road	Two-way	570	37%	440	37%
L2a	Access Road to Lei Uk	Ping Che Road	Lei Uk	Two-way	390	43%	310	40%
L3a	Access Road to Caritas Care Home	Ping Che Road	Caritas Care Home	Two-way	110	10%	80	3%
L4a	Access Road to Playground	Ping Che Road	Playground	Two-way	40	25%	40	23%
L5a	Access Road to Wun Chuen Sin Kwoon	Ping Che Road	Wun Chuen Sin Kwoon	Two-way	30	0%	20	15%
L6a	Access Road to Tai Po Tin	Ping Che Road	Tai Po Tin	Two-way	90	19%	90	12%

Notes:

1. Please refer to Figure 7.1 for index plan of assessed road sections.
2. Vehicles with an unladen weight of 1,525 kg or more are categorized as heavy vehicles (HV), which includes light/medium/heavy goods vehicles (LGV/MGV/HGV), container trucks, public light bus (PLB), non-franchised buses (NB), and franchised buses (FB)

APPENDIX

2.2

ROAD TRAFFIC NOISE RESULTS
(BASE CASE)

Project: **Proposed Transitional Housing Development at Government Land in DD 82, Ping Che, Ta Kwu Ling, New Territories**
Block: **Block 1**
Scenario: **Base Case - AM Peak**

Floor	B101	B102	B103	B104	B105	B106	B107	B108	B109	B110	B111	B112	B113	B114	B115	B116	B117	B118	B119	B120	B121	B122	B123	B124	B125
3/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	56	59	60	61	60	59	59	59	59
2/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	58	59	60	59	58	58	58	57
1/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	58	59	60	58	58	58	57	57
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	58	58	59	58	58	57	57	57
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B126	B127	B128	B129	B130	B131	B132	B133	B134	B135	B136	B137	B138	B139	B140	B141	B142	B143	B144	B145	B146	B147	B148	B149	B150
3/F	58	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
2/F	57	57	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
1/F	56	56	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
G/F	56	56	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B151	B152	B153	B154	B155	B156	B157	B158	B159	B160	B161	B162	B163	B164	B165	B166
3/F	<=55	<=55	<=55	65	65	65	65	65	65	65	64	64	63	62	60	58
2/F	<=55	<=55	<=55	65	65	65	65	65	65	65	64	64	63	62	60	57
1/F	<=55	<=55	<=55	63	65	65	65	65	65	65	64	64	63	62	60	57
G/F	<=55	<=55	<=55	63	65	65	65	65	65	65	64	64	63	62	60	57
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Summary of B1	
Total Number of Residential Unit	264
Total Number of Exceedance Unit	0
Total Number of Compliance Unit	264
Compliance Rate	100%

Remarks:
[1] Noise Assessment Point Level= Floor Slab Level +1.2m

Project: **Proposed Transitional Housing Development at Government Land in DD 82, Ping Che, Ta Kwu Ling, New Territories**
Block: **Block 2**
Scenario: **Base Case - AM Peak**

Noise Exceedance

Floor	B201	B202	B203	B204	B205	B206	B207	B208	B209	B210	B211	B212	B213	B214	B215	B216	B217	B218	B219	B220	B221	B222	B223	B224	B225	B226	B227	B228
3/F	**74**	**73**	**73**	**73**	**73**	**73**	**73**	**73**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**	**74**
2/F	70	69	68	68	68	67	67	67	67	67	67	67	67	68	68	68	68	68	68	68	69	69	69	69	**71**	**72**	**73**	**74**
1/F	67	64	63	62	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	62	63	65	68	**71**	**73**	**74**
G/F	66	63	61	59	59	57	57	57	56	56	56	56	56	56	56	56	56	56	56	56	57	60	61	64	68	**71**	**74**	**74**
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Floor	B229	B230	B231	B232	B233	B234	B235	B236	B237	B238	B239	B240	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252	B253	B254	B255	B256
3/F	**74**	62	<=55	<=55	<=55	59	57	58	59	60	59	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
2/F	**74**	60	<=55	<=55	<=55	<=55	<=55	<=55	58	58	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
1/F	**74**	58	<=55	<=55	<=55	<=55	<=55	<=55	57	58	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
G/F	**74**	57	<=55	<=55	<=55	<=55	<=55	<=55	57	57	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B257	B258	B259	B260	B261	B262	B263	B264	B265	B266	B267	B268	B269	B270	B271	B272	B273	B274	B275	B276	B277	B278	B279	B280	B281	B282	B283	B284
3/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	69	69	70	70	70	**71**
2/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	69	69	70	70	**71**	**71**
1/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	69	69	70	70	70	**71**	**72**
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	69	69	70	70	**71**	**71**	**72**
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N

Summary of B2	
Total Number of Residential Unit	336
Total Number of Exceedance Unit	49
Total Number of Compliance Unit	287
Compliance Rate	85%

Remarks:
[1] Noise Assessment Point Level= Floor Slab Level +1.2m

APPENDIX

2.3

ROAD TRAFFIC NOISE RESULTS (MITIGATED CASE)

Project: **Proposed Transitional Housing Development at Government Land in DD 82, Ping Che, Ta Kwu Ling, New Territories**
Block: **Block 1**
Scenario: **Mitigation Case - AM Peak**

Floor	B101	B102	B103	B104	B105	B106	B107	B108	B109	B110	B111	B112	B113	B114	B115	B116	B117	B118	B119	B120	B121	B122	B123	B124	B125
3/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	57	59	59	59	58	58	57	57	57
2/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	56	59	59	59	57	57	56	56	56
1/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	58	58	58	56	56	56	<=55	<=55
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	58	58	58	56	<=55	<=55	<=55	<=55
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B126	B127	B128	B129	B130	B131	B132	B133	B134	B135	B136	B137	B138	B139	B140	B141	B142	B143	B144	B145	B146	B147	B148	B149	B150
3/F	57	56	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
2/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
1/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B151	B152	B153	B154	B155	B156	B157	B158	B159	B160	B161	B162	B163	B164	B165	B166
3/F	<=55	<=55	<=55	65	65	65	65	65	65	65	64	64	63	62	60	58
2/F	<=55	<=55	<=55	64	65	65	65	65	65	65	64	64	63	62	60	57
1/F	<=55	<=55	<=55	63	64	65	65	65	65	65	64	64	63	62	60	57
G/F	<=55	<=55	<=55	63	64	65	65	65	65	65	64	64	63	62	60	57
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Summary of B1	
Total Number of Residential Unit	264
Total Number of Exceedance Unit	0
Total Number of Compliance Unit	264
Compliance Rate	100%

Remarks:
[1] Noise Assessment Point Level= Floor Slab Level +1.2m

Project: **Proposed Transitional Housing Development at Government Land in DD 82, Ping Che, Ta Kwu Ling, New Territories**
Block: **Block 2**
Scenario: **Mitigation Case - AM Peak**

Floor	B201	B202	B203	B204	B205	B206	B207	B208	B209	B210	B211	B212	B213	B214	B215	B216	B217	B218	B219	B220	B221	B222	B223	B224	B225	B226	B227	B228
3/F	70	70	69	69	69	69	68	68	69	69	69	69	69	69	69	69	69	69	70	70	70	70	70	70	70	70	69	69
2/F	65	64	64	63	63	63	63	63	63	63	63	64	64	64	64	64	64	64	64	65	65	65	66	66	66	67	67	68
1/F	57	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	59	61	62	64	65	66	67	67
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	56	59	61	64	65	66	67	67
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B229	B230	B231	B232	B233	B234	B235	B236	B237	B238	B239	B240	B241	B242	B243	B244	B245	B246	B247	B248	B249	B250	B251	B252	B253	B254	B255	B256
3/F	70	63	<=55	<=55	<=55	59	58	59	60	60	60	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
2/F	69	60	<=55	<=55	<=55	<=55	<=55	56	58	59	59	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
1/F	69	59	<=55	<=55	<=55	<=55	<=55	<=55	57	58	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
G/F	69	58	<=55	<=55	<=55	<=55	<=55	<=55	57	58	58	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Floor	B257	B258	B259	B260	B261	B262	B263	B264	B265	B266	B267	B268	B269	B270	B271	B272	B273	B274	B275	B276	B277	B278	B279	B280	B281	B282	B283	B284
3/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	68	68	69	69.0	69.4	70
2/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	68	68	69	68.4	67.9	66
1/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	68	69	69	69	67.7	61.3
G/F	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	<=55	68	68	69	69	69	67.9	61.1
Criterion	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Summary of B2	
Total Number of Residential Unit	336
Total Number of Exceedance Unit	3
Total Number of Compliance Unit	336
Compliance Rate	100%

Remarks:
[1] Noise Assessment Point Level= Floor Slab Level +1.2m

APPENDIX

6.1

HISTORIAL AERIAL PHOTOGRAPHS
PING CHE ROAD

Aerial Photographs

1956 (Photo reference: F22_564-0101) 16,700 ft.



Observation: Project Site located on vacant land. Surrounding land used for agricultural purposes.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

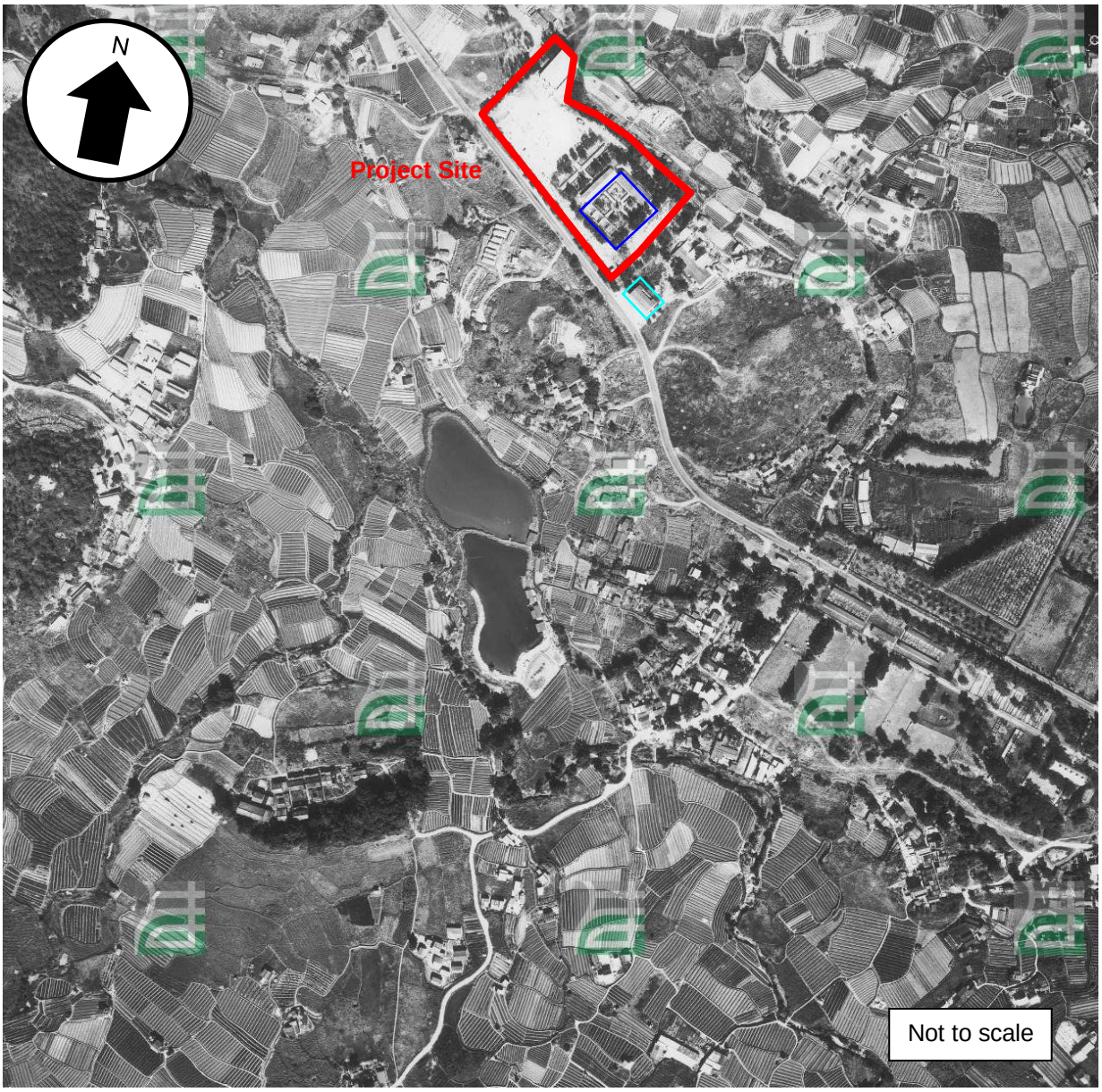
1963 (Photo reference: V81A_857-0018R) 13,500 ft.



Observation: According to historical sources, the ex-Sing Ping School was established in the early 1960s. The school structure (in blue) was observed constructed on Project Site. No changes to surrounding areas.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

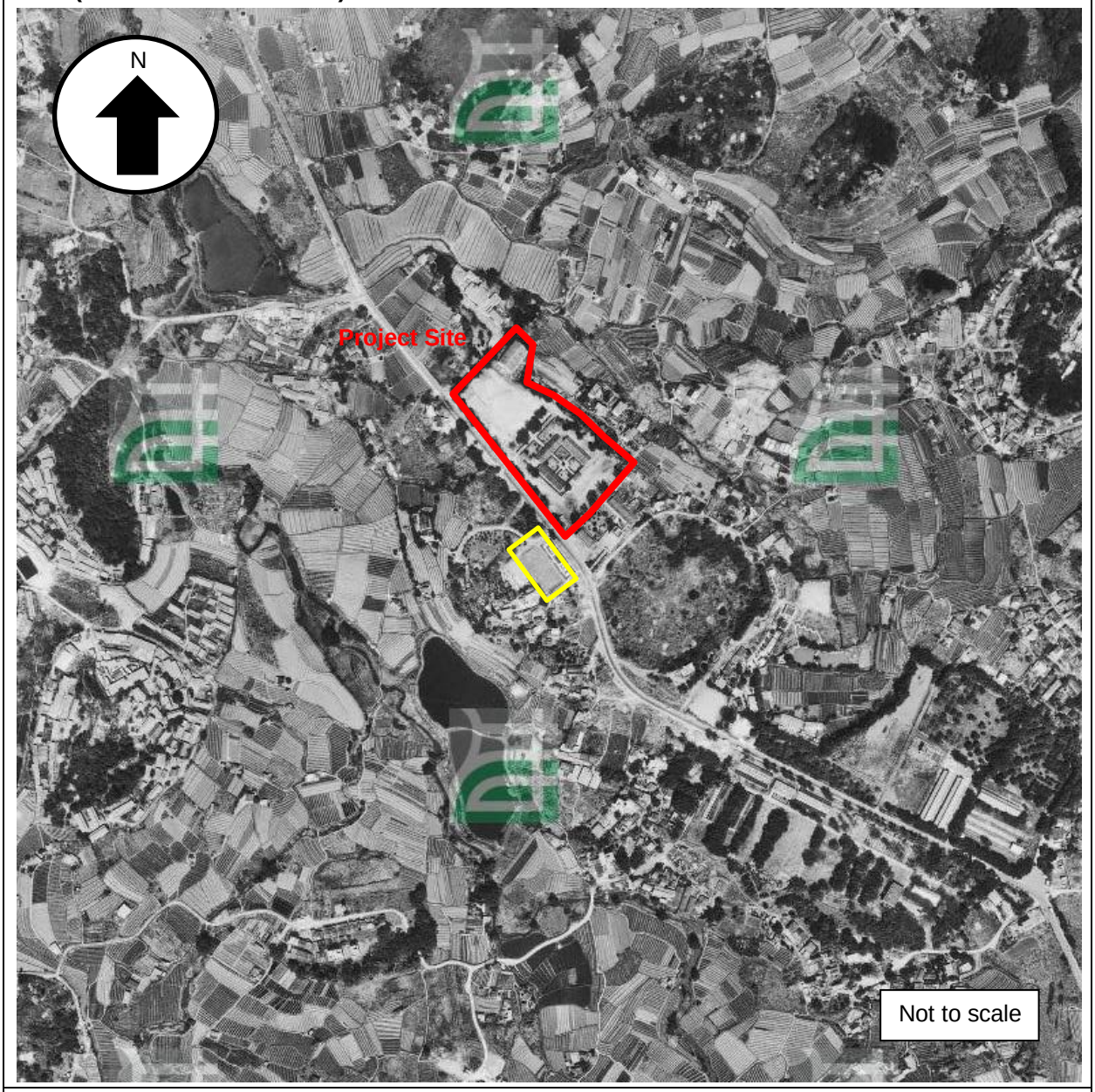
1973 (Photo reference: 07697) 2000 ft.



Observation: No changes to Project Site. Ta Kwu Ling District Rural Committee N.T. (in turquoise) has been constructed. Surrounding areas observed were farmlands and village establishment.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

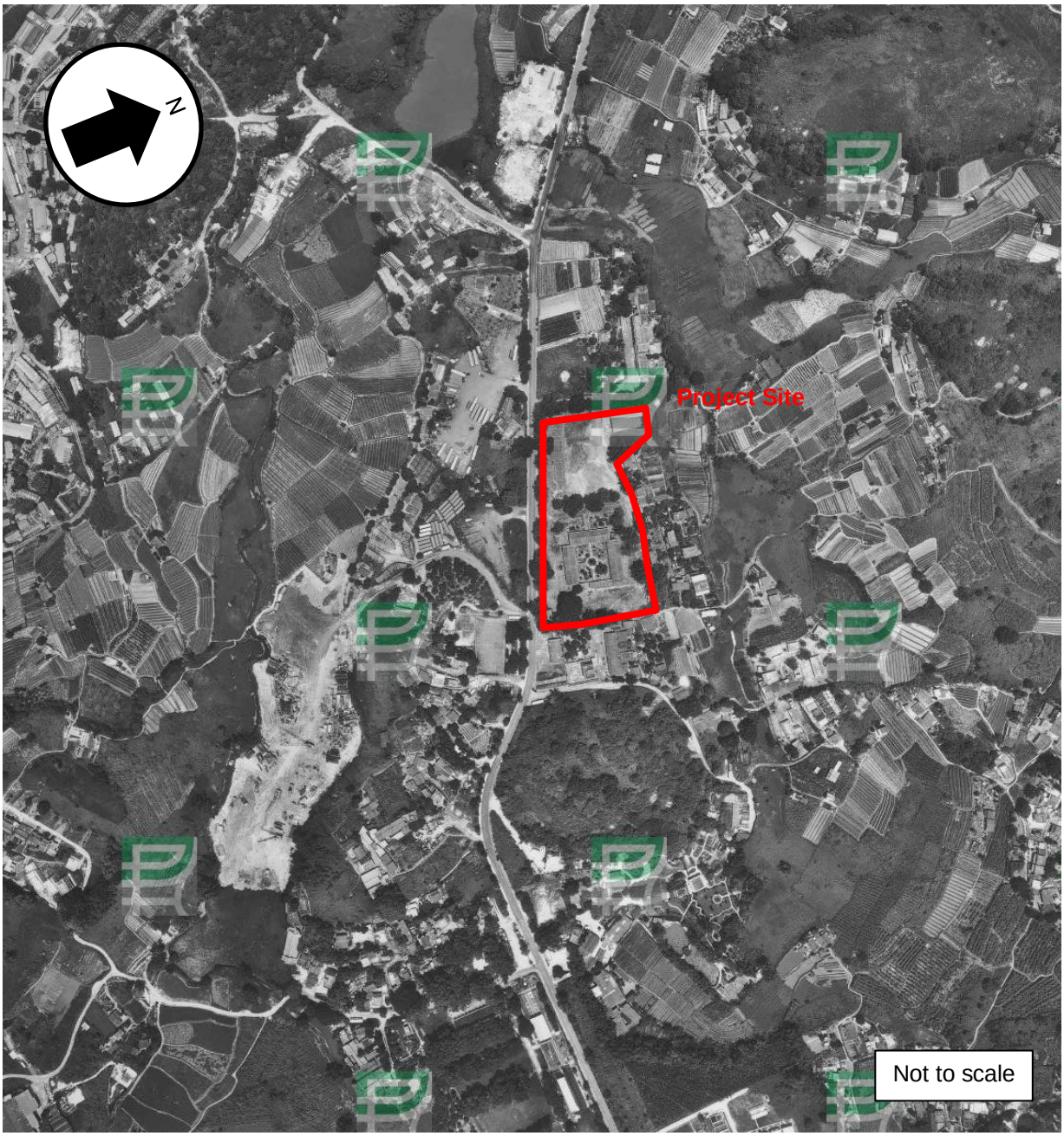
1983 (Photo reference: 48013) 4000 ft.



Observation: No changes to Project Site. Ta Kwu Ling Playground (in yellow) has been established.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

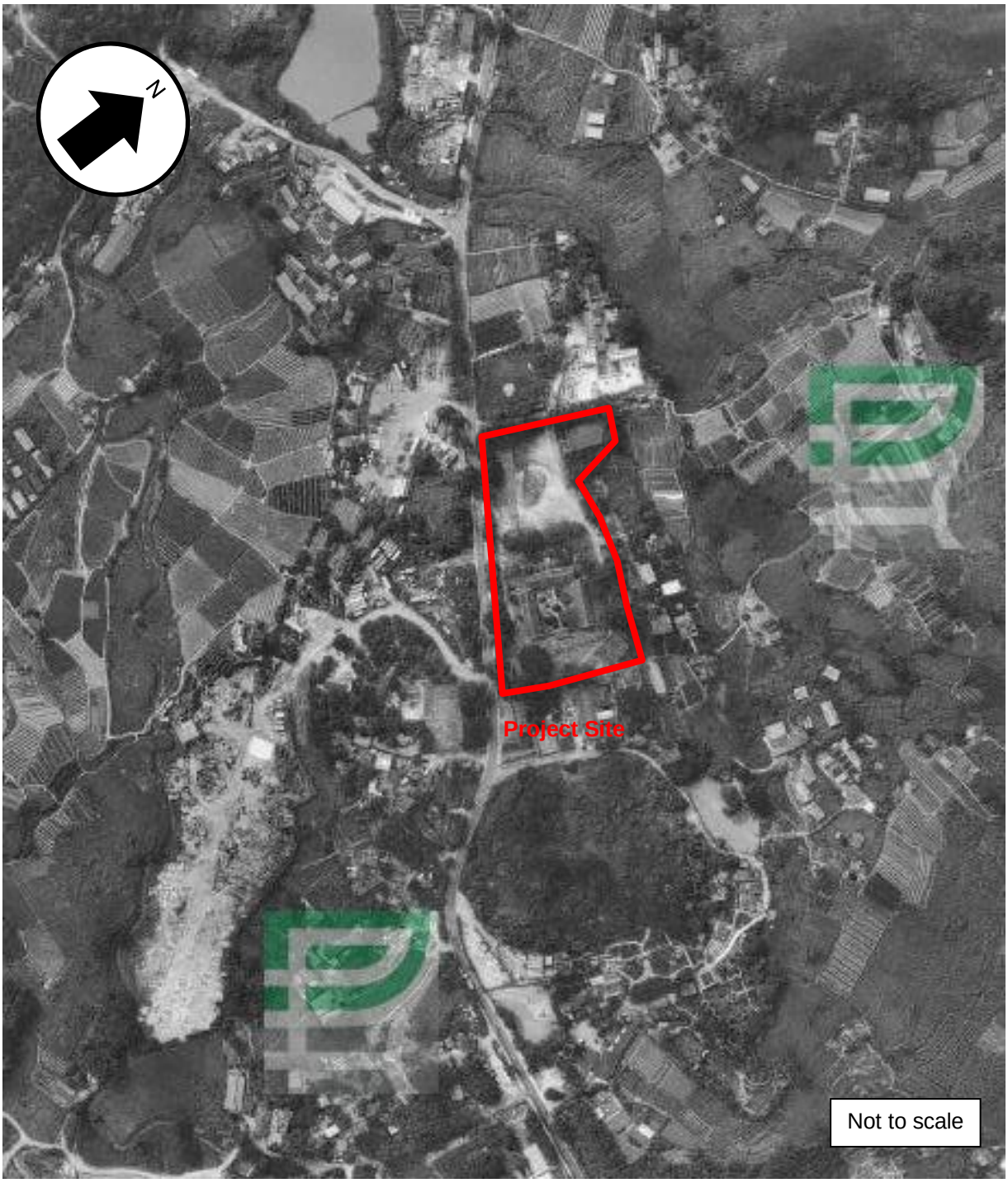
1990 (Photo reference: A21840) 2000 ft.



Observation: No changes to Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

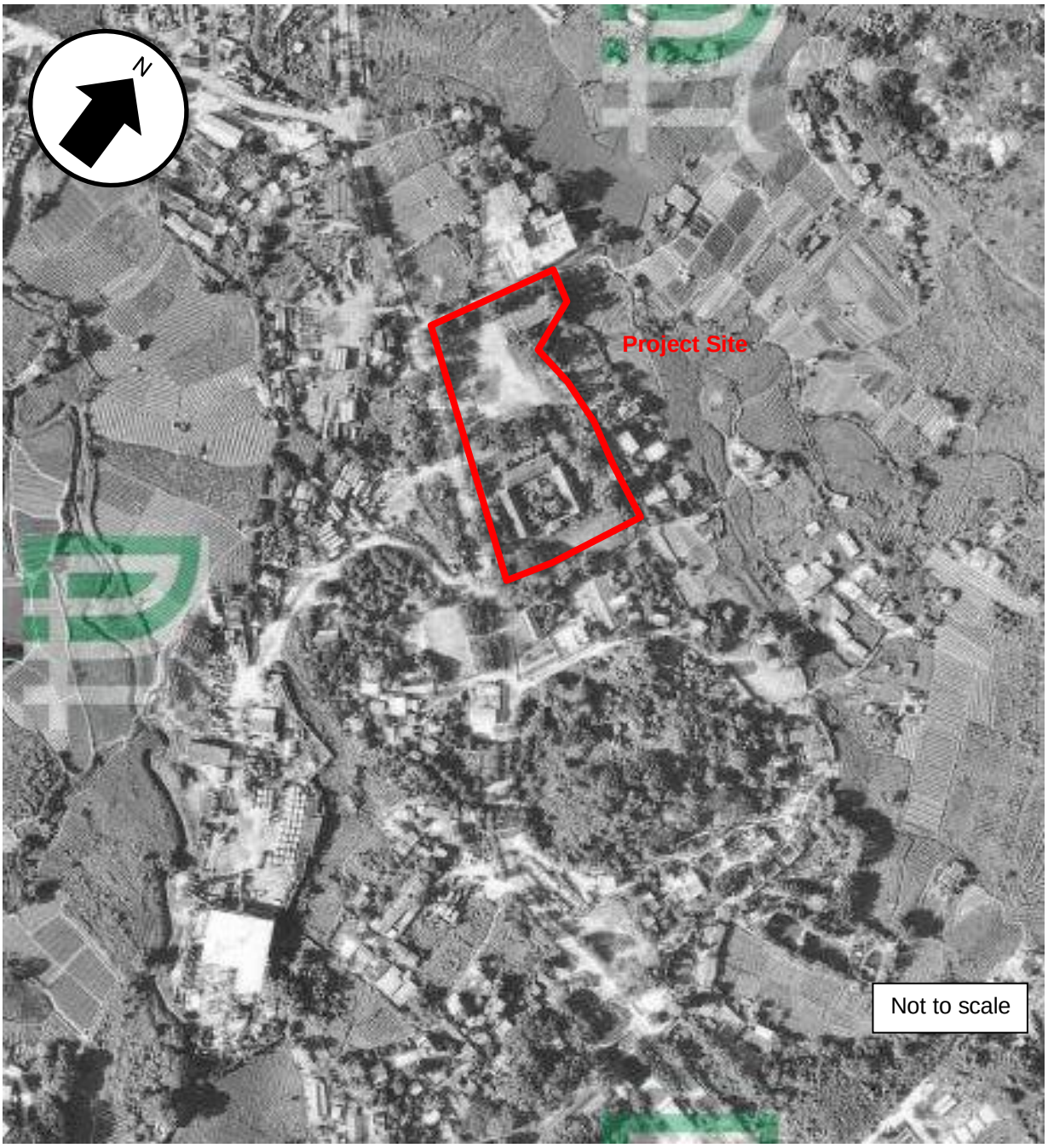
1992 (Photo reference: A31704) 4000 ft.



Observation: No changes to Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

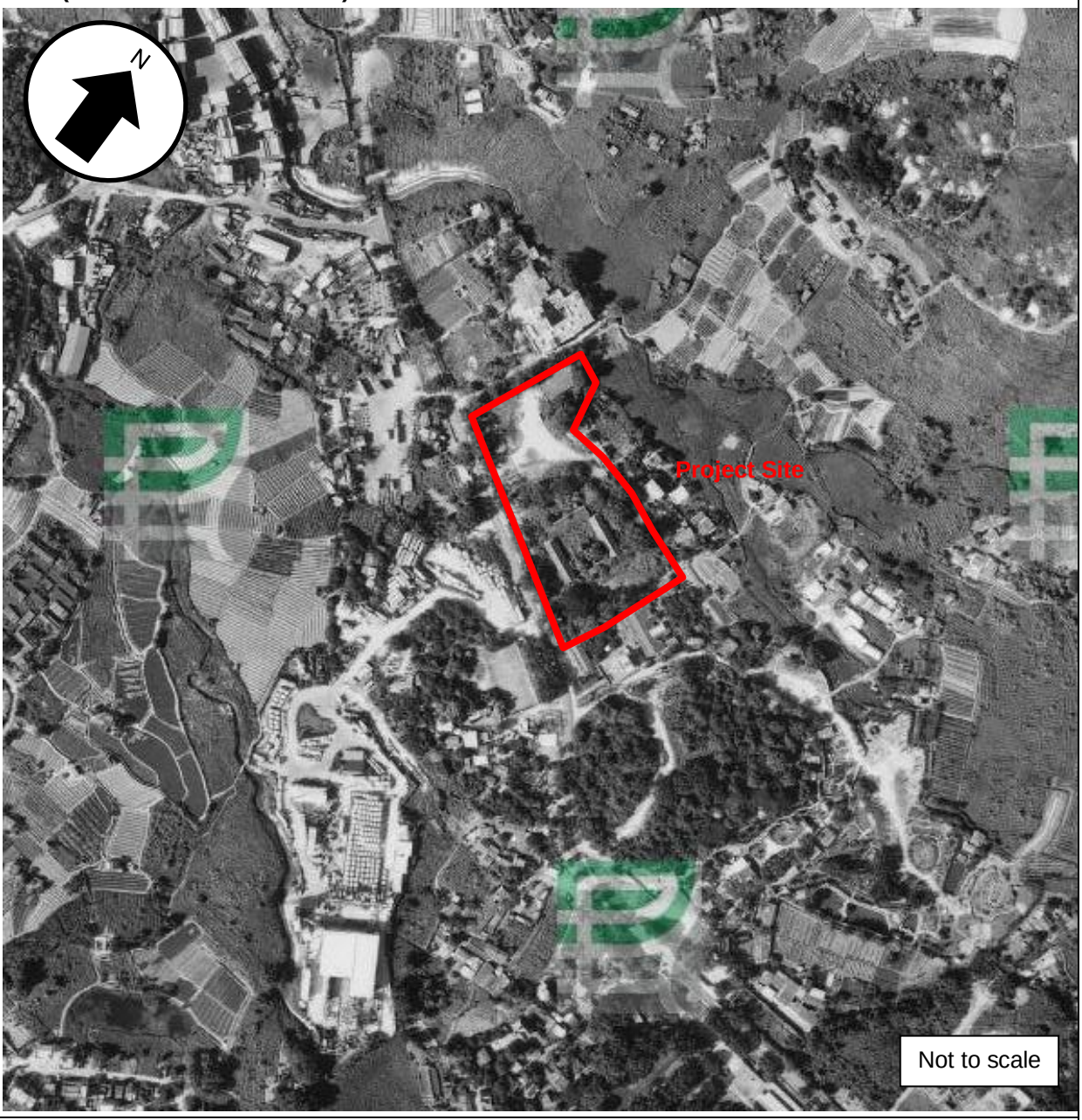
1993 (Photo reference: A36442) 4000 ft.



Observation: No changes to Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

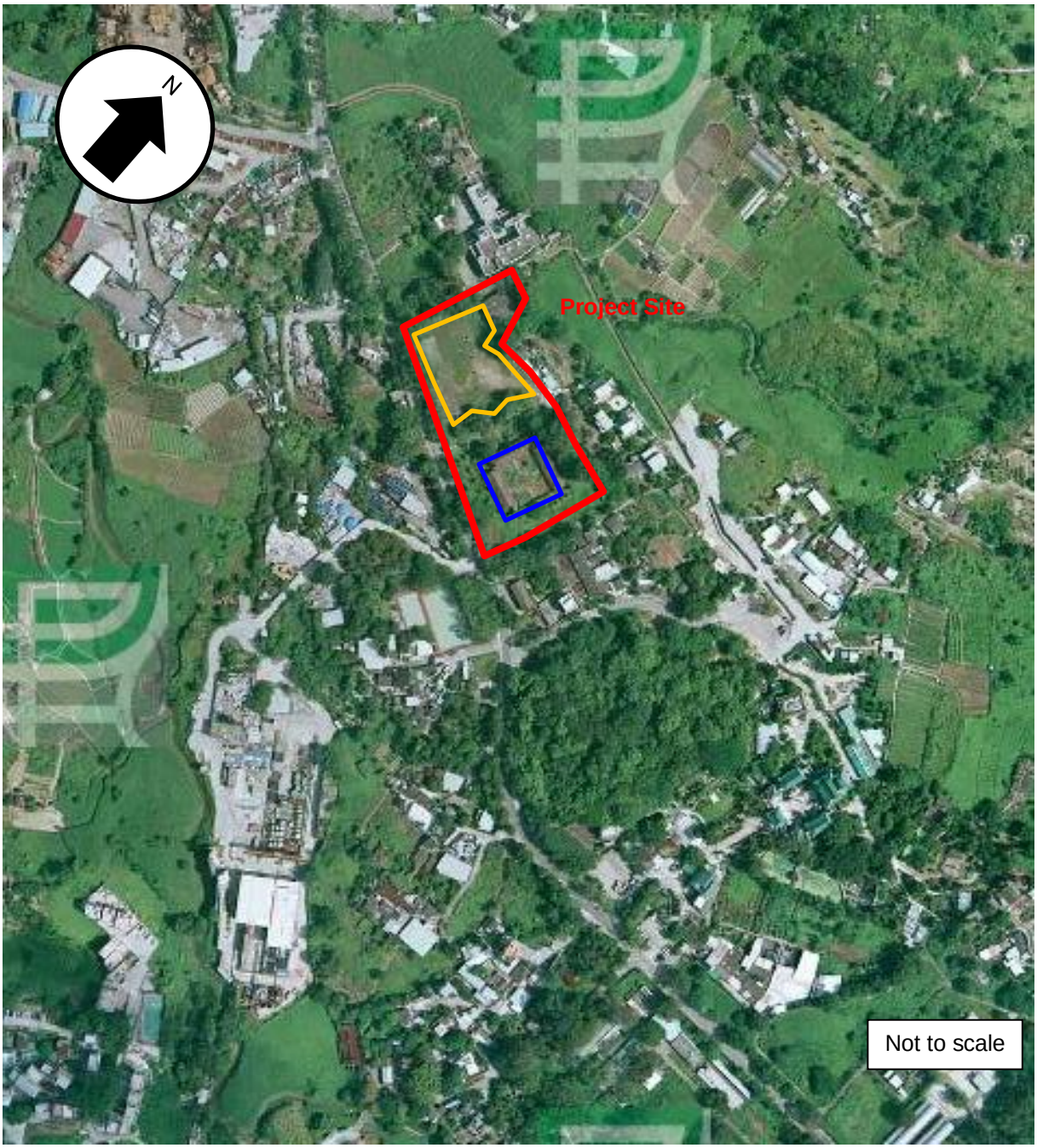
1996 (Photo reference: A43676) 3500 ft.



Observation: No changes to Project Site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

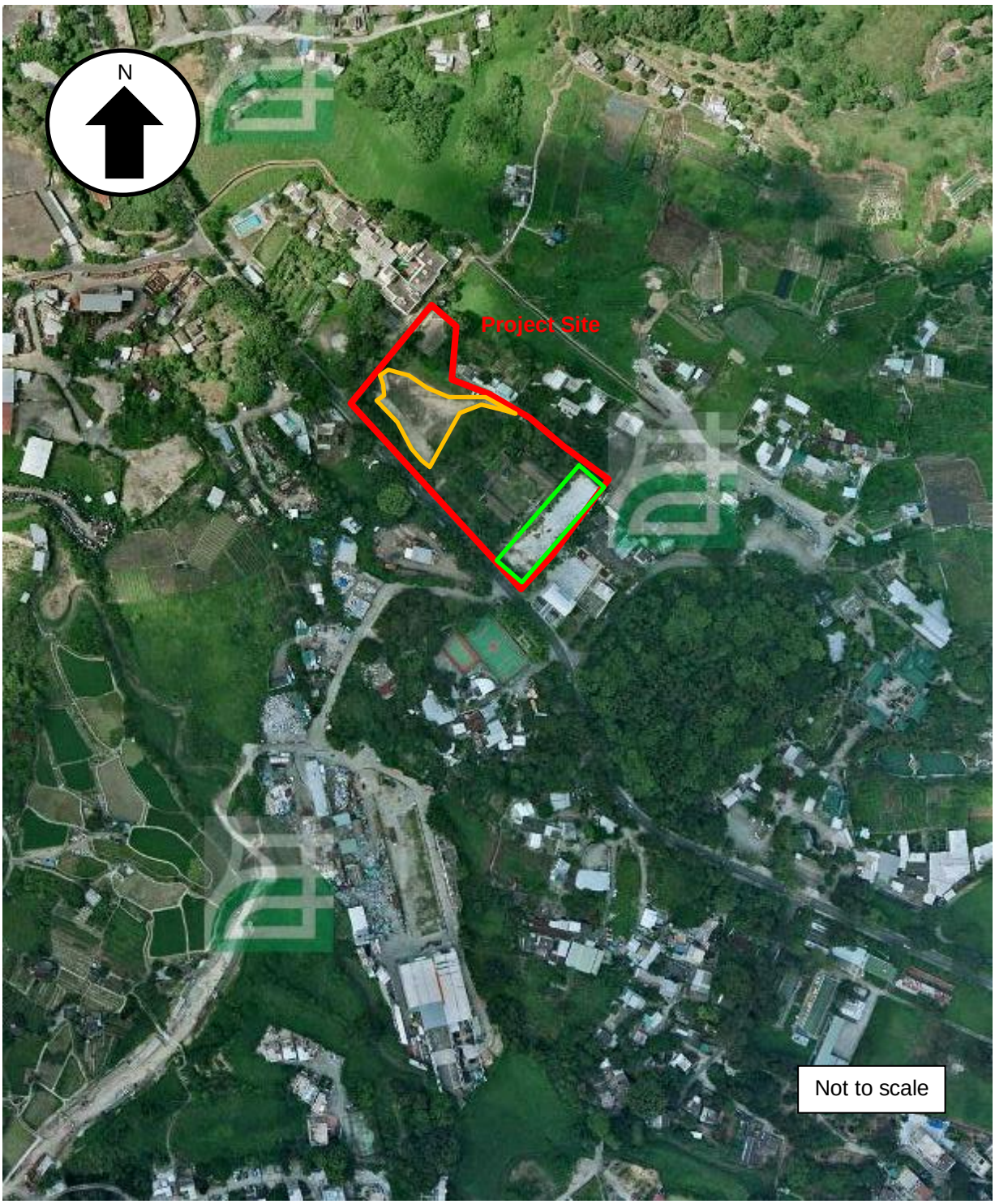
2006 (Photo reference: CW72082) 4000 ft.



Observation: No changes to the Project Site. Structure of the ex-Sing Ping School is still visible (in blue). Vegetation growth observed in the northwest (in orange) at the site.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

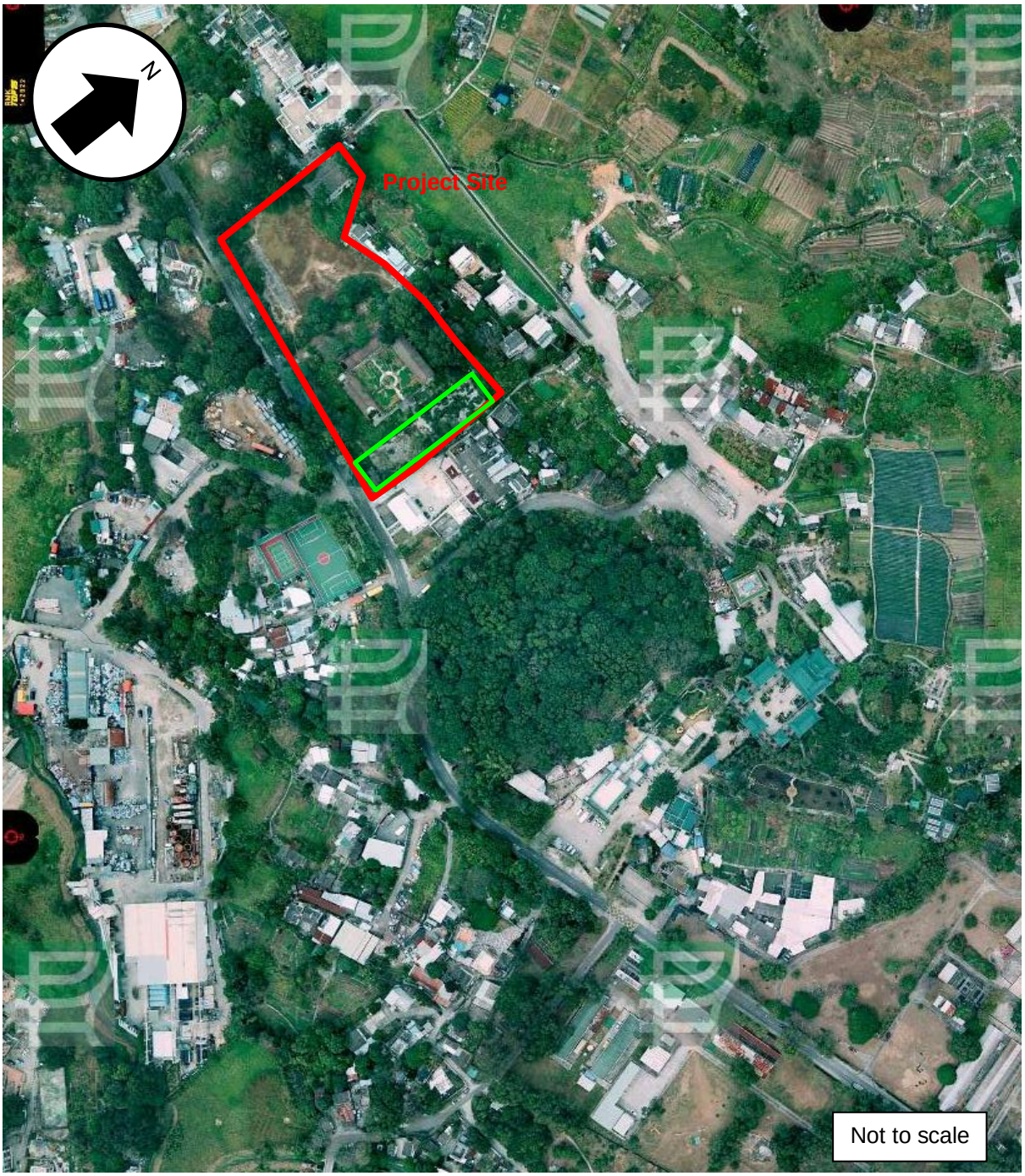
2010 (Photo reference: CW86469) 3000 ft.



Observation: Vegetation loss observed in the northwest of the Project Site (in orange). Strip of land on the eastern border of the Project Site (in green) has been cleared.

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

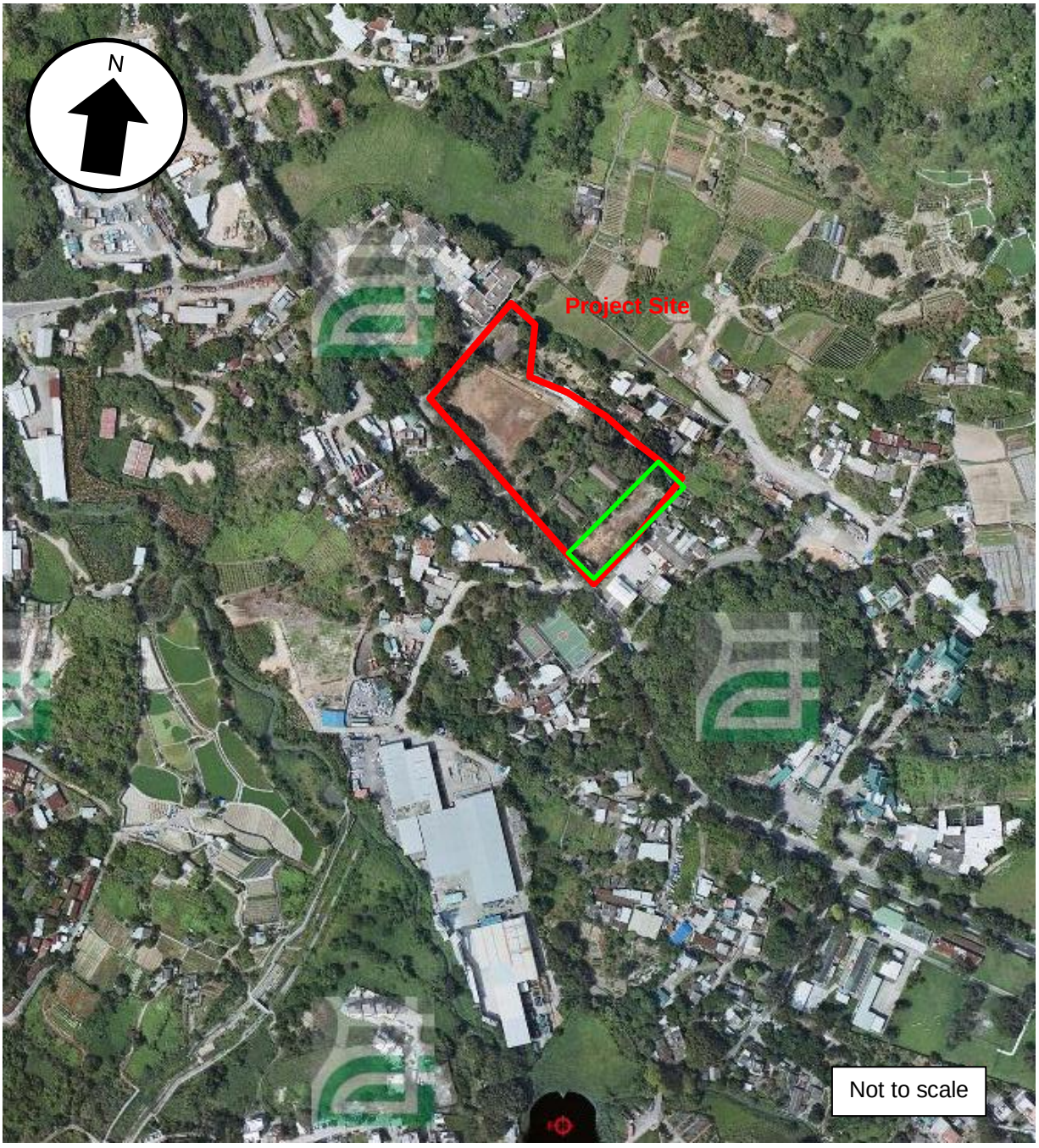
2012 (Photo reference: CW93687) 2000 ft.



Observation: Eastern border of the Project Site covered with vegetation (in green).

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

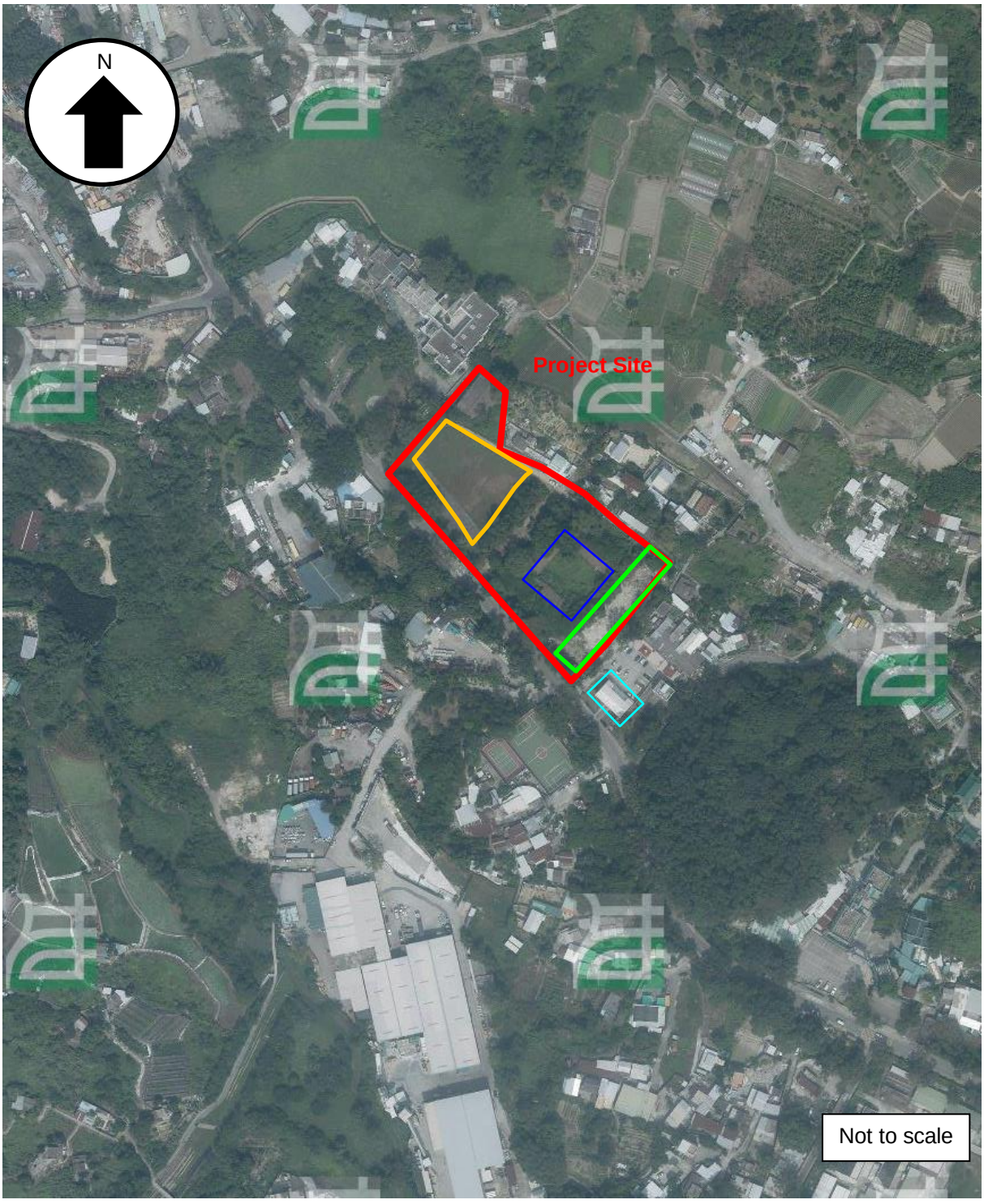
2014 (Photo reference: CS53622) 6000 ft.



Observation: Vegetation was removed in the eastern border of the Project Site (in green).

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

2019 (Photo reference: E074047C) 6900 ft.



Observation: No changes to Project Site and resemble to present day. Some vegetation growth observed in the northwest (in orange), structure of ex-Sing Ping School (in blue) and vegetation removed (in green) are still visible. Adjacent to the Project Site is the Ta Kwu Ling District Rural Committee N.T. (in turquoise).

'Not to scale' refers to the identification of the 'Project Site' on the aerial photo.

APPENDIX

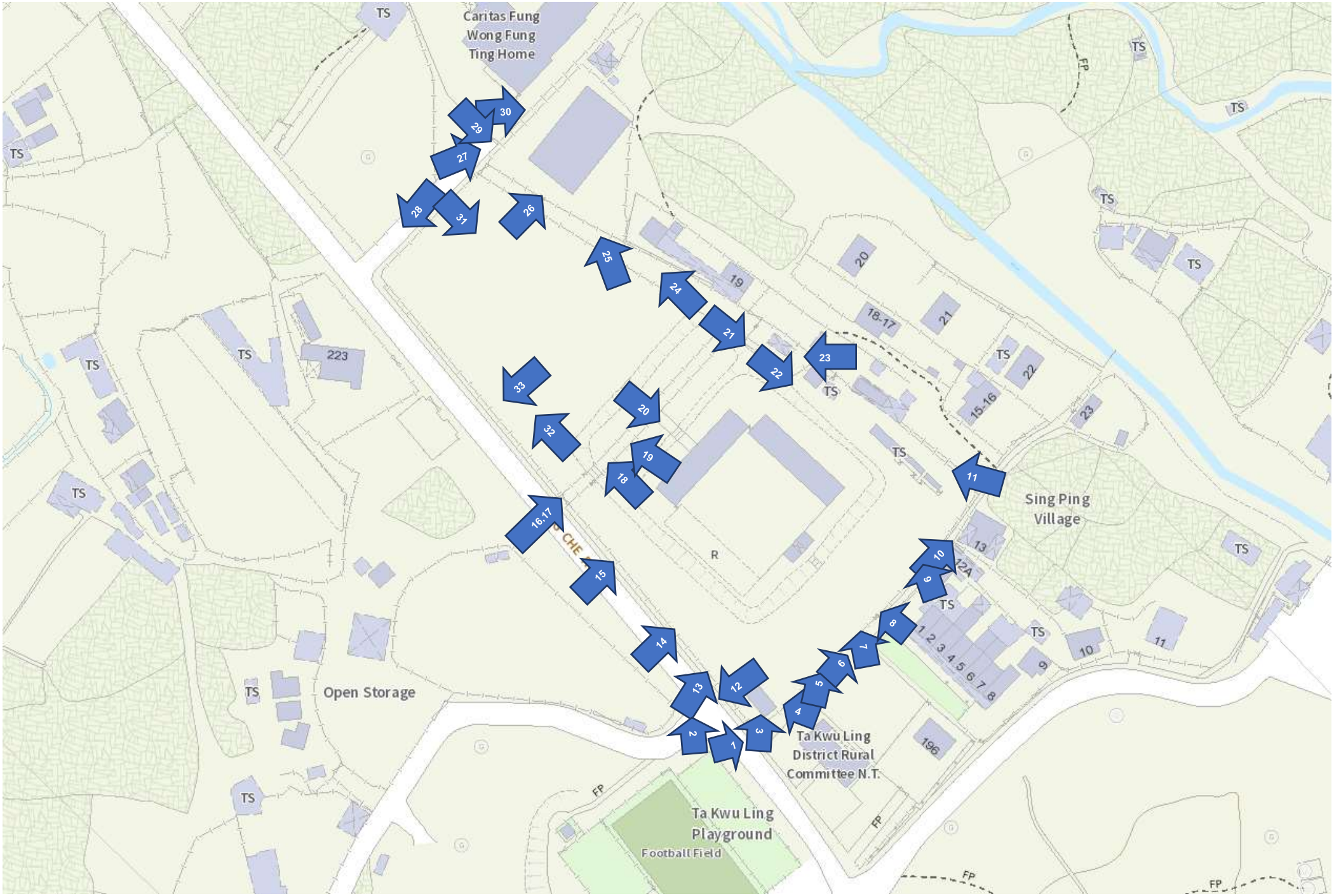
6.2

PING CHE SITE INVESTIGATION PHOTOS

Site Inspection Checklist

Ping Che Road	
1 General Site Details	
Date of Site Inspection:	11 August 2020
Site Client:	URA
Property Address:	Ping Che Road (next to Sing Ping Village)
Person conducting the questionnaire:	Name: Steffi To Position: Assistant Engineer
Authorized owner/client representative (if applicable):	Government Land
2 Site Activities	
Number of employees: Full Time: Part Time: Temporary/Seasonal:	N/A
Maximum no. of people on-site at any time:	N/A
Typical hours of operation:	N/A
Number of shifts:	N/A
Days per week:	N/A
Weeks per year:	N/A
Scheduled plant shut down:	N/A
The main sources of energy at the site:	N/A
3 Site Description	
Total site area:	13,300 m^2
What area of the site is covered by buildings (%):	30%
List of current and previous owners:	Government
Is site plan available:	No
Are there any other parties on-site as tenants or sub-tenants?	No
Surrounding land use, facilities or types of industry:	
North:	Residential
South:	Industrial, Recreational
East:	Institutional
West:	Residential
Topography of the area:	Flat terrain
Size and location of the nearest residential communities:	Sing Ping Village, Caritas Fung Wong Fung Ting Home. Unknown population.
Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands, or Sites of Scientific Interest?	No
4 Investigation	
What are the main activities/operations at the Site?	Vacant land
How long have the occupants been occupying the site?	Since 1963 (now disused)
Were the current occupants the first occupant on site?	Yes
Prior to the current occupancy, who occupied the site?	N/A
What were the main activities/operations during their occupancy?	School
Have there been any major changes in operations carried out at the site in the last 10 years?	No
Have any polluting activities been carried out in the vicinity of the site in past?	No
Has the site ever been used as a petrol filling station/car service garage?	No

Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	No
Do the occupants have any registered hazardous installations as defined under relevant ordinances?	N/A
Are any chemicals used in the occupants' daily operations? Where do they store these chemicals?	N/A
Material inventory lists, including quantities and locations available?	N/A
Has the site produced a separate hazardous substance inventory?	N/A
Has there ever been any incidents or accidents involving any of these materials?	N/A
How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	N/A
Do the occupants have any underground storage tanks?	N/A
Are there any disused underground storage tanks?	Unknown
Do the occupants have regular check for any spillage and monitoring of chemicals handled?	N/A
How are the wastes disposed of?	N/A
Have the occupants ever received any notices of violation of environmental regulations or received public complaints?	N/A
Have any spills occurred on site?	Unknown
Do the occupants have any records of major renovation of the site or re-arrangement of underground utilities, pipe work/underground tanks?	N/A
Are there any known contaminations on site?	No
Has the site ever been remediated?	No
5 Observations	
Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	No chemicals observed during site inspection
What are the conditions of the bund walls and floors?	N/A
Are any surface water drains located near to drum storage and unloading areas?	N/A
Are any solid or liquid waste (other than wastewater) generated at the site?	N/A
Is there a storage site for the wastes?	N/A
Is there an on-site landfill?	N/A
Was any stressed vegetation noted on site during the site reconnaissance?	No
Were any stained surfaces noted on-site during the site reconnaissance?	No
Are there any potential off-site sources of contamination?	No
Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No
Are there any sumps, effluent pits, interceptors or lagoons on site?	No
Any noticeable odours during site walkover?	No
Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	No


Caritas Fung Wong Fung Ting Home
Sing Ping Village
Open Storage
Ta Kwu Ling District Rural Committee N.T.
Ta Kwu Ling Playground
Football Field
CHE
TS
FP
R
223
196

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

Photo No.	Date	Photograph Description
1.	11 August 2020	 Overview of Ta Kwu Ling District Rural Committee N.T.
2.	11 August 2020	 Overview of Ping Che Road.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

3.	11 August 2020	 Ex-Sing Ping School structure on southern corner of Project Site.
4.	11 August 2020	 Ex-Sing Ping School structure on southern corner of Project Site.

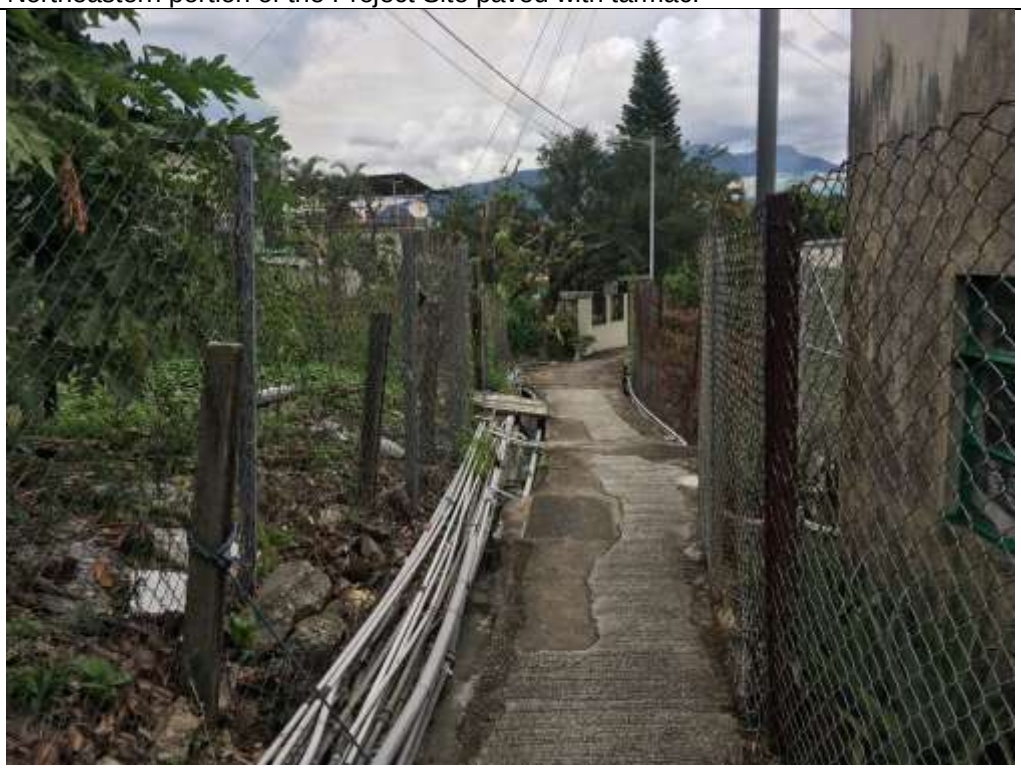
	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

5.	11 August 2020	 Eastern portion of Project Site partially paved with concrete among vegetation growth.
6.	11 August 2020	 Overview of parking lot between Sing Ping San Tsuen Children's Playground and Ta Kwu Ling District Rural Committee N.T.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

7.	11 August 2020	 Eastern portion of Project Site partially paved with concrete among vegetation growth.
8.	11 August 2020	 Government Land Signage in front of ex-Sing Ping School structure.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

9.	11 August 2020	 Northeastern portion of the Project Site paved with tarmac.
10.	11 August 2020	 Overview of footpath between the Project Site and Sing Ping Village.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

11.	11 August 2020	 Overview of Ex-Sing Ping School structure from northern Project Boundary.
12.	11 August 2020	 Overview of road leading to the Project Site.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

13.	11 August 2020	 Overview of Ex-Sing Ping School structure from southern corner of Project Site.
14.	11 August 2020	 Southern side of Ex-Sing Ping School covered by trees and grassy vegetation.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

15.	11 August 2020	 Government Land Signage on southern side of Ex-Sing Ping School.
16.	11 August 2020	 Signage of Ex-Sing Ping School.

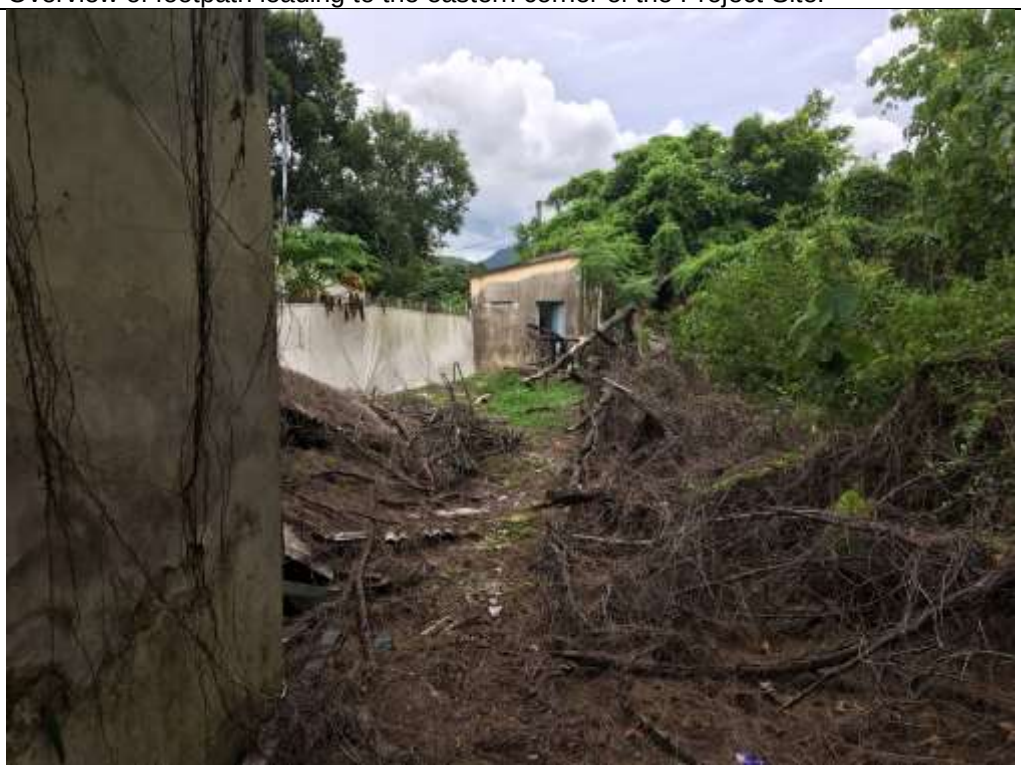
	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

17.	11 August 2020	 Former entrance to ex-Sing Ping School.
18.	11 August 2020	 Overview of western half of the Project Site. Area is vacant and covered with grassy vegetation.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

19.	11 August 2020	 Government Land signage on western half of Project Site.
20.	11 August 2020	 Overview of main entrance to Ex-Sing Ping School.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

21.	11 August 2020	 Overview of footpath leading to the eastern corner of the Project Site.
22.	11 August 2020	 Remaining structures of ex-Sing Ping School on eastern corner of the Project Site.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

23.	11 August 2020	 Overview of footpath behind Ex-Sing Ping School.
24.	11 August 2020	 Overview of road across the western portion of the Project Site.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

25.	11 August 2020	 Overview of northwestern structure of ex-Sing Ping School from road (Photo 24).
26.	11 August 2020	 View of interior of northwestern structure of ex-Sing Ping School.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

27.	11 August 2020	 Overview of northwestern structure of ex-Sing Ping School from road leading to Caritas Home complex.
28.	11 August 2020	 Overview of road leading to Caritas Home complex.

wsp	**PHOTOGRAPHIC LOG – Site Inspection**	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

29.	11 August 2020	 Government Land Signage on northwestern portion of Project Site.
30.	11 August 2020	 Overview of northwestern structure of ex-Sing Ping School from footpath adjacent to Caritas Home complex.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

31.	11 August 2020	 Western portion of Project Site covered with vegetation.
32.	11 August 2020	 Southwestern portion of the Project Site partially covered with concrete. A Government Land Sign is located in the middle of the area.

	PHOTOGRAPHIC LOG – Site Inspection	
Client Name URA	**Site Location** Ping Che Road, Ta Kwu Ling	**Project No.** 2535585A

33.	11 August 2020	 Repaved concrete – the ground condition appeared to be crack-free and no stain observed.

APPENDIX

6.3

GOVERNMENT RECORDS

本署檔號
OUR REF:
來函檔號
YOUR REF: 2535585A-EN-17753/20
電　話
TEL. NO. : 2158 5832
圖文傳真
FAX NO : 2685 1133
電子郵件
E-MAIL:
網　址
HOMEPAGE: http://www.epd.gov.hk

Environmental Protection Department
Environmental Compliance Division
Regional Office (North)
10/F., Shatin Government Office,
1 Sheung Wo Che Road,
Sha Tin, New Territories,
Hong Kong.

環境保護署
環保法規管理科
區域辦事處(北)
香港新界沙田
上禾輋路一號
沙田政府合署 10 樓

By Post

27 August 2020

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

(Attn.: Mr. CHAN Chun Kwok, Associate)

Dear Sir,

Provision of Comprehensive Planning Consultancy Service for Transitional Housing Projects at Ping Che Road
Request for Information – Historical Records of Chemical Spillage/Leakage

I refer to your letter dated 17 August 2020 regarding the captioned.

This Regional Office has no record of accidents of chemical spillage/leakage within the Ping Che Road site. You may need to check with other relevant parties/departments for such information as appropriate.

Should you have any queries on the matter, please contact the undersigned at 2158 5832.

Yours faithfully,

(Ms. Karen HUI)
Regional Office (North)
for Director of Environmental Protection

本署檔案
OUR REF : EP910/G1/1/YLW
來函檔案
YOUR REF :
TEL NO : 2158 5825
圖文傳真
FAX NO : 2650 6033
網　址
HOMEPAGE : http://www.epd.gov.hk/

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

環境保護署
環保法規管理科
區域辦事處(北)
香港新界沙田
上禾輋路一號
沙田政府合署十樓

22 October 2020

WSP
7/F., One Kowloon,
1 Wang Yuen Street,
Kowloon Bay, Hong Kong.

Dear Sir/Madam,

Provision of Comprehensive Planning Consultancy Service for Transitional Housing Projects at Ping Che Road and Hung Yuen Road
Request for Information – Historical Records of Chemical Spillage / Leakage

I refer your letter dated 17 August 2020 about the captioned. Our reply is as below:-

(a) For the register of Chemical Waste Producers, a registry is available at our Territory Control Office at Wan Chai. Please contact our Mr. Dennis LEUNG, Senior Environmental Protection Inspector, at Tel : 2835 1027 for details;

(b) For the records of reported accidents of spillage/leakage of chemicals at the area specified in the Site Location Plan of your letter, please be informed that there is NO reported chemical spillage incident in our record.

Please contact me should you have any questions.

Yours faithfully,

(William WONG)
for Director of Environmental Protection

消 防 處
香港九龍尖沙咀東部康莊道 1 號
消防總部大廈

FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 **OUR REF.** : (187) in FSD GR 6-5/4 R Pt. 28
來函檔號 **YOUR REF.** : 2535585A-EN-17792/20
電子郵件 **E-mail** : hkfsdenq@hkfsd.gov.hk
圖文傳真 **FAX NO.** : 2739 5879
電 話 **TEL NO.** : 2733 7741

21 September 2020

EDMS		
Received On	25 SEP 2020	
Project No.		
Scanned	Y / N	
Distribution	Signature	Remarks
ichan chun kwok		
Rescan		
DWG / CD Kept by		

WSP (Asia) Limited
7/F One Kowloon,
1 Wang Yuen Street,
Kowloon Bay, Hong Kong.
(Attn: Mr. CHAN Chun-kwok)

Dear Mr. CHAN,

Provision of Comprehensive Planning Consultancy Service for Transitional Housing Projects at Ping Che Road and Hung Yuen Road
Request for Information of Dangerous Goods & Incident Records

I refer to your letter of 2.9.2020 regarding the captioned request and reply below in response to your questions:-

Please be advised that neither records of dangerous goods license, fire incidents nor incidents of spillage / leakage of dangerous goods were found in connection with the given conditions of your request at the subject location.

If you have further questions, please feel free to contact the undersigned.

Yours sincerely,

(KONG Wai-chung)
for Director of Fire Services

APPENDIX

6.4

CHEMICAL WASTE PRODCUER (CWP)

Ping Che Road CWPs within 300m buffer zone as of 13 May 2020

Business	Address	Operation	Validity
Caritas Fung Wong Fung Ting Home	DD82 Lot 1562, Sing Ping Village	Social Service	Valid
Lam Kee Car Shed	Lot 9380D, Ping Che Road	Motor Cars	Valid
Lam Geotechnics Limited	Lot 1343, DD82, Ping Che Road	Plant Store	Valid
Sunnic Engineering Limited	DD82, Lot 1099SA 1100 & 1101, Ping Che Road	Land Piling	Valid
Dafu Environmental Protection Technology Co. Ltd.	188 Tai Po Tin, Ping Che Road	Recycling of Electronic Components, Metalware, Plastic, Circuit Boards, Waste Paper	Valid
Golk Concrete Limited	188 Ping Che Road	Production and Supply of Ready Mixed Concrete	Valid
Ping Nam Trading Ltd.	DD82 1355 Flat 504 Tai Po Tin	Recycling and Wholesale of Electronic and Metal Products	Valid
Warm Sunshine Rehabilitation Home Limited	200 Tai Po Tin Village	Rehab Centre	Valid
Hung Tai Trading Company Limited	188 Tai Po Tin, DD84, Lot 12, 13, 24	Recycling and Wholesale of electronic and metal products	Valid
Triangular Force Construction Company Engineering Limited	DD82, Lot 1344	Construction and Engineering	Valid
May Moon Environmental Recycle Co. Limited	DD77	Metal take back and recycling	Valid
Yang Tai Trading (Hong Kong) Company Limited	DD84, Lot 14SA and SB	Trading of metals, electronic recycling, dismantling	Valid
Recycling Solutions International Limited	DD84, Lot 22(P), 24(P)	Recycling of Plastic Materials	Valid
Hung Lung Metal Trading Limited	DD84, Lot 14A and B	CORP	Valid
Ecotech Recycling Social Enterprise Limited	DD84 Lot 13	Plastic Recycling	Valid
H.K. Kong Lek Art Company HK Bamboo Co.	Ping Che Road	Trading and Transportation	Invalid
Department of Health	Rural Committee Office Building, Ping Che Road	Dispensary	Invalid
Chiu Hing Construction and Transportation Co. LTd.	DSD Site at Ping Che, Contract DC/2007/2008, River in Ta Kwu Ling and Tai Po Tin	Building Contractor, Transportation Merits	Invalid
Nareco (HK) Limtied	DD82, Lot 1358 and DD84 Lot 6B, 4C	Manufacturing and trading of reinforced fibre	Invalid

Appendix 6

SEWERAGE IMPACT ASSESSMENT

Sewerage Impact Assessment (SIA)

Proposed Transitional Housing Development at Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories

Subject: Sewerage Impact Assessment (SIA) Report

Date: 23 November 2021

Revision 4

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2 OUTLINE OF EXISTING SITE CONDITIONS AND SEWERAGE CHARACTERISTICS 2
3 STANDARDS AND REGULATIONS ON WATER QUALITY 3
4 ASSESSMENT METHODOLOGY 4
5 SEWAGE IMPACT ASSESSMENT 6
6 RECOMMENDED MITIGATION MEASURES 8
7 CONCLUSION 9

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Appendix 4.2 Detailed Calculation of Sewage Flow and Loading
Appendix 4.3 Detailed Calculation of Allowable Flow Rate of Existing Foul Sewers

Quality Management

Issue/revision	0	1	2	3	4
Remarks	N/A	N/A	N/A	N/A	N/A
Date	20 August 2020	16 October 2020	29 October 2021	12 November 2021	23 November 2021
Prepared by	Anby Lau	Anby Lau	Jessica Yu	Jessica Yu	Jessica Yu
Signature					
Checked by	C.K.Chan	C.K.Chan	C.K.Chan	C.K.Chan	C.K.Chan
Signature					
Authorised by	James Xiong	James Xiong	James Xiong	James Xiong	James Xiong
Signature					
Project number	2535585A	2535585A	2535585A	2535585A	2535585A
Revision	0	1	2	3	4

SIGNATURES

PREPARED BY



Jessica Yu

Assistant Consultant

REVIEWED BY



C.K.Chan

Associate

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1 INTRODUCTION

1.1 This Sewerage Impact Assessment (SIA) is prepared in support of a Section 16 Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ "Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site"). The Application Site is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

1.2 The Application Site Area is approximately 13,207m^2. The Proposed Transitional Housing Development comprises of two (2) 4-storey residential blocks; one (1) 1-storey Multi-purpose Amenity block; and one (1) 1-storey Elderly Service Center providing a total of approximately 596 units, housing approximately 916 persons. The total non-domestic is approximately 849m^2. The tentative intake year will be 2023.

1.3 The scope of the sewerage impact assessment includes catchment study of the Application Site and its neighbouring zones, capacity checking of the existing sewerage system, discussion on potential sewerage impact on the existing sewerage system and any recommendation on feasible mitigation measures, if applicable.

2 OUTLINE OF EXISTING SITE CONDITIONS AND SEWERAGE CHARACTERISTICS

2.1 The Application Site is located adjacent to No. 198 Ping Che Road, Fanling. The area of the Application Site is approximately 13,207m^2.

2.2 Currently, there is no existing Terminal Manhole within the Proposed Development diverting sewage generated from the Proposed Development to the existing public sewerage system. As such, a new Terminal Manhole TM-01 will be proposed.

2.3 The newly proposed Terminal Manhole TM-01 will be connected to Manhole 1 (FMH1003561) through a newly proposed 225mm sewer, with a slope of 1/100. See **Appendix 4.1.**

2.4 The main sewerage flow runs along a series of foul sewer with size of 300 mm in diameters, passing through Ping Che Road from South to North.

3 STANDARDS AND REGULATIONS ON WATER QUALITY

3.1 Water quality in Hong Kong is subject to the provisions of the Water Pollution Control Ordinance (Cap 358), 1980 (WPCO). Territoral Water has been subdivided into ten Water Control Zones (WCZ) and four supplementary water control zones. The Application Site is located in the Deep Bay Water Control Zone. A Technical Memorandum on Standards for Effluents discharged into Drainage and Sewerage Systems, Inland and Coastal Water (TMES) has been issued, which requires licensing of all discharges into all public sewers and drains. The water quality standards will have to be complied during the operation stages.

3.2 In addition, as stipulated in the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations 40(2), 41(1), 90 and recap in ProPECC PN 5/93, domestic sewage should be discharged to a foul water sewer during the operational phase.

4 ASSESSMENT METHODOLOGY

4.1 The assessment has been carried out in accordance with the guidelines set out in EPD Report No. EPD/TP 1/05 Guidelines for Estimating Sewage Flows (GESF) for Sewerage Infrastructure Planning Version 1.0 ("GESF").

4.2 The existing demand for the sewerage system was identified to estimate the potential sewerage impact on the existing sewerage system associated with the proposed redevelopment. The existing sewerage system collects sewage from the existing gravity sewers within the vicinity of the Application Site.

4.3 The Application Site is located at the midstream of the existing sewerage system with its closest existing foul sewer located alongside Ping Che Road. Hence, sewerage flow from both the upstream and downstream portions are included to evaluate the cumulative impact. **Appendix 4.1** shows an overview of the existing sewerage system near the Application Site.

4.4 With respect to the drainage record plans obtained from Drainage Services Department (DSD), no existing Terminal Manhole and foul sewer are present to divert sewage generated from the Proposed Development to the existing public sewerage network. Hence, a new Terminal Manhole (TM-01) and a new 225mm sewer are proposed to cope with the sewage discharged from the Proposed Development. The newly proposed sewer, which has a proposed slope of 1/100, will connect the Terminal Manhole (TM) to existing Manhole 1 (FMH1003561) in the current public sewerage system.

4.5 The main sewerage flow runs along a series of sewer with size of 300mm in diameters, passing through Ping Che Road from South to North.

4.6 Catchment from residential towers within the Application Site, Zone A, Zone B and Zone C will be discharged to respective manholes, as shown in **Appendix 4.2**. Locations of the manholes are shown in respective drainage record plans demonstrated in **Appendix 4.1.**

4.7 Based on the information of the existing foul sewers from DSD, the allowable flow rate of the existing sewers was calculated by using the Colebrook-White Equation. With reference to Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF), the Global Unit Flow Factors indicated in **Table 4.1** and the Global Peaking factors shown in **Table 4.2** are adopted for calculation.

Table 4.1 Global Unit Flow Factor (UFF)

Type	Units Flow Factors (m^3/person/day)
Domestic (Public Rental)	0.19
Traditional Village	0.15
General Staff	0.28
Teacher	0.28
Student	0.04

Table 4.2 Global Peaking Factor

Population	Peaking Factor
More than 50000	$\text{Max}(\frac{7.3}{N^{0.15}}, 2.4)$
10,000 – 50,000	4
5,000 – 10,000	5
1,000 – 5,000	6
Less than 1,000	8

5 SEWAGE IMPACT ASSESSMENT

Population

5.1 The existing demand for the sewerage system was calculated to estimate the sewerage impact on the Application Site. The relevant areas are split into different zones for calculation, as shown in **Appendix 4.1.**

5.2 The number of housing units provided in the Proposed Development as well as the non-residential area are given by Project Proponent. Unit Flow Factor (UFF) used for calculation is based on Table 1 of the Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF), published by EPD in 2005. The UFF value adopted for specific types of housing can be referred to **Table 4.1**. For Zone A, Zone B, Zone C and Zone D, the population information is obtained through relevant official website, CentaMap and rough estimation from GeoInfo Map.

5.3 A private residential density of 2.9 people/unit is applied to village houses in accordance to "Average Domestic Household Size by District Council District and Year" (2016). For commercial activities, the estimated worker density (employee/100 m^2) is 3.4 for general staff.

5.4 In order to be more conservative on the sewage estimation, the number of village population is marked up by 5% to simulate the worst-case scenario.

Description of Zones

5.5 The area in the vicinity of the Application Site is split into 5 zones including the Application Site itself.

Application Site

5.6 The Proposed Development is expected to provide 782 housing units and 900m^2 GFA for non-domestic uses. Sewage from the Proposed Development will be discharged to the newly proposed Terminal Manhole (TM-01).

Zone A

5.7 Zone A only consists of Caritas Fung Wong Fung Ting Home and Caritas Nursery School (Ta Kwu Ling). The sewage generated from this building will be discharged to Manhole 1 (FMH1003561).

Zone B

5.8 Zone A only consists of clusters of villages in the South, the Baptist Convention of Hong Kong Baptist Assembly, Ta Kwu Ling Rural Centre Government Office and Ta Kwu Ling District Rural Committee N.T. The sewage generated from this building will be discharged to

Manhole 1 (FMH1003561).

Zone C

5.9 Zone C only consists of Tong Fong Village. The sewage generated from this building will be discharged to Manhole 12 (FMH1003572).

Zone D

5.10 Zone D only consists of Kan Tau Wai Village. The sewage generated from this building will be discharged to Manhole 16 (FMH1003576).

Sewage from Application Site

5.11 General activities such as toilet flushing, washing and kitchen waste are considered as the major source of sewage discharge from the Application Site. All sewage will be collected and sewers will be connected to the existing sewerage systems and directed to the government drainage network. The peak flow of the Application Site is calculated in accordance to the DSD Sewerage Manual Part and the GESF. Detailed calculation of sewerage flow and loading is given in **Appendix 4.2**. Detailed calculation of allowable flow rate of existing sewers is given in **Appendix 4.3**.

5.12 The estimated average sewerage flow from the Application Site is 0.0021 m^3/s, which occupies 47% of the total capacity of the proposed 225mm sewer connecting the proposed Terminal Manhole TM-01 and Manhole 1 (FMH1003561). Together with the flow from upstream and downstream sections, the induced peak sewerage flow in the existing sewerage system can increase to 0.470 m^3/s. The maximum occupancy of sewer estimated in the existing sewerage system is 91%, which occurs in the sewer connecting Manhole 15 (FMH1003576) and the Pumping Station.

6 RECOMMENDED MITIGATION MEASURES

6.1 The total discharge flow from the proposed development, upstream and downstream sections, utilizes 31.3% of the daily flow of Tong Fong Sewage Pumping Station. The total peak flow is 2706 m^3/day with the consideration of the peaking factor of 4 to the pumping station. The pumping station have insufficient capacity to cope with the sewerage generated from the proposed development, upstream and downstream sections.

6.2 In order to lower the burden of pumping station during peak hour, a holding tank is proposed to be built in the Proposed Development such that the stored sewage would only be discharged at non-peak hour (00:00-06:00). It is noted that the share capacity of downstream pumping station is capable to cater for 500 residents. The proposed development would be divided into two zones that the sewerage generated by the 500 residents would discharge to the existing sewerage system at normal practice while the generated by the remaining residents will be store in the holding tank.

6.3 Assuming the holding tank will use to temporarily store the sewage generated during the peak hour (18:00-22:00). The total flow from the remaining residents is 87.1 m^3/day (i.e. 182.1 m^3/day– 95 m^3/day = 87.1 m^3/day). The capacity of the holding tank is approximately 100 m^3 (i.e. 87.1 m^3/day x 4/24 hours x 6 (peaking factor) x 1.15 (marked up for 15%) = 100 m^3), which is capable to store at least 4 hours of sewage generated by the remaining residents. The pump will switch off during the peak hour.

6.4 The proposed holding tank will be operated and maintained by the project proponent. The following measures are suggested to ensure the proper operation of the tank:

- Power supply from the emergency supply
- Standby unit for major equipment such as the pump for maintenance
- Adequate spare parts for the tanks will have be made readily available by storage
- Regular inspection and maintenance for the holding tank shall be conducted by qualified personnel

6.5 As such, the Proposed Development is not expected to result in adverse impact on the existing sewerage system.

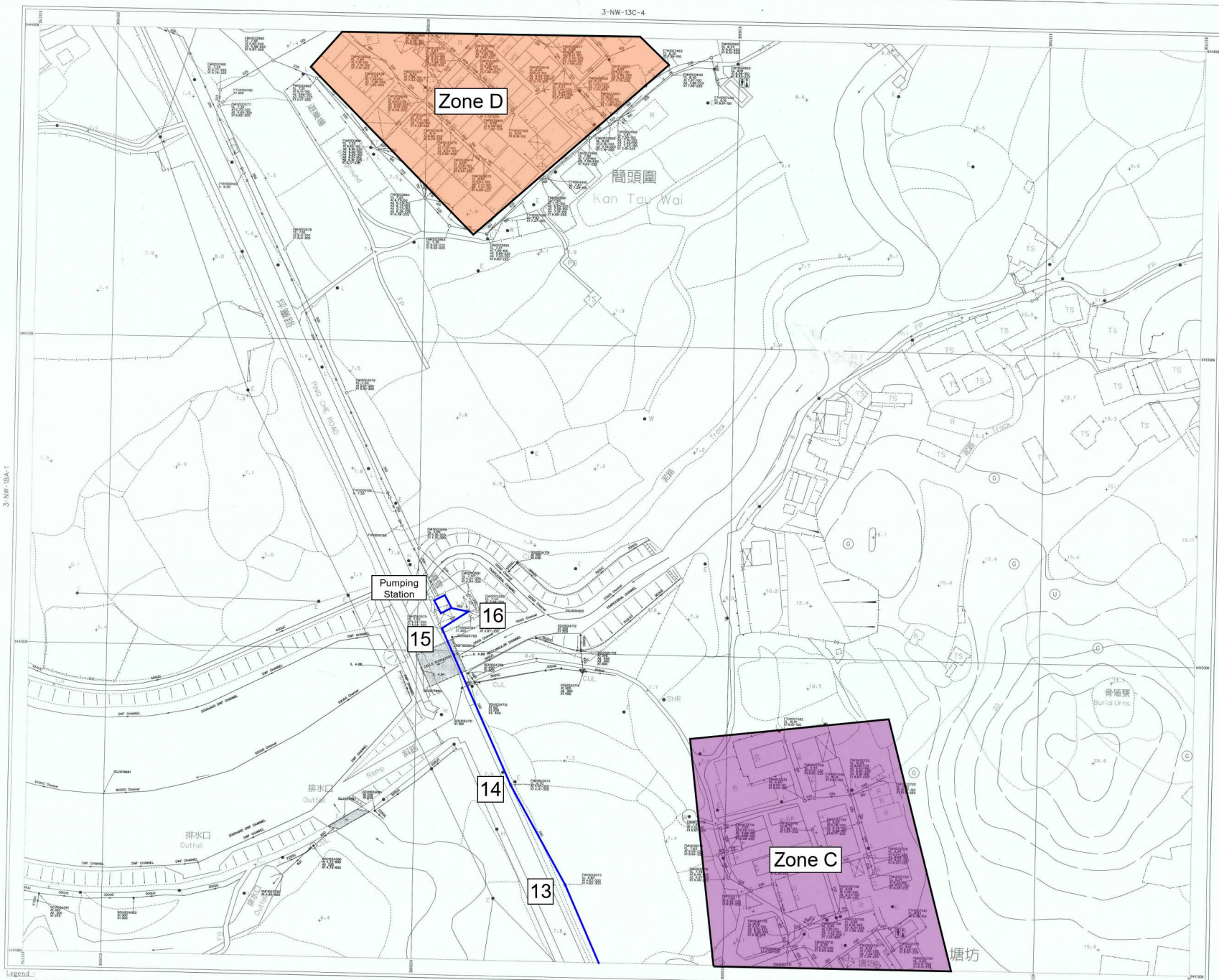
7 CONCLUSION

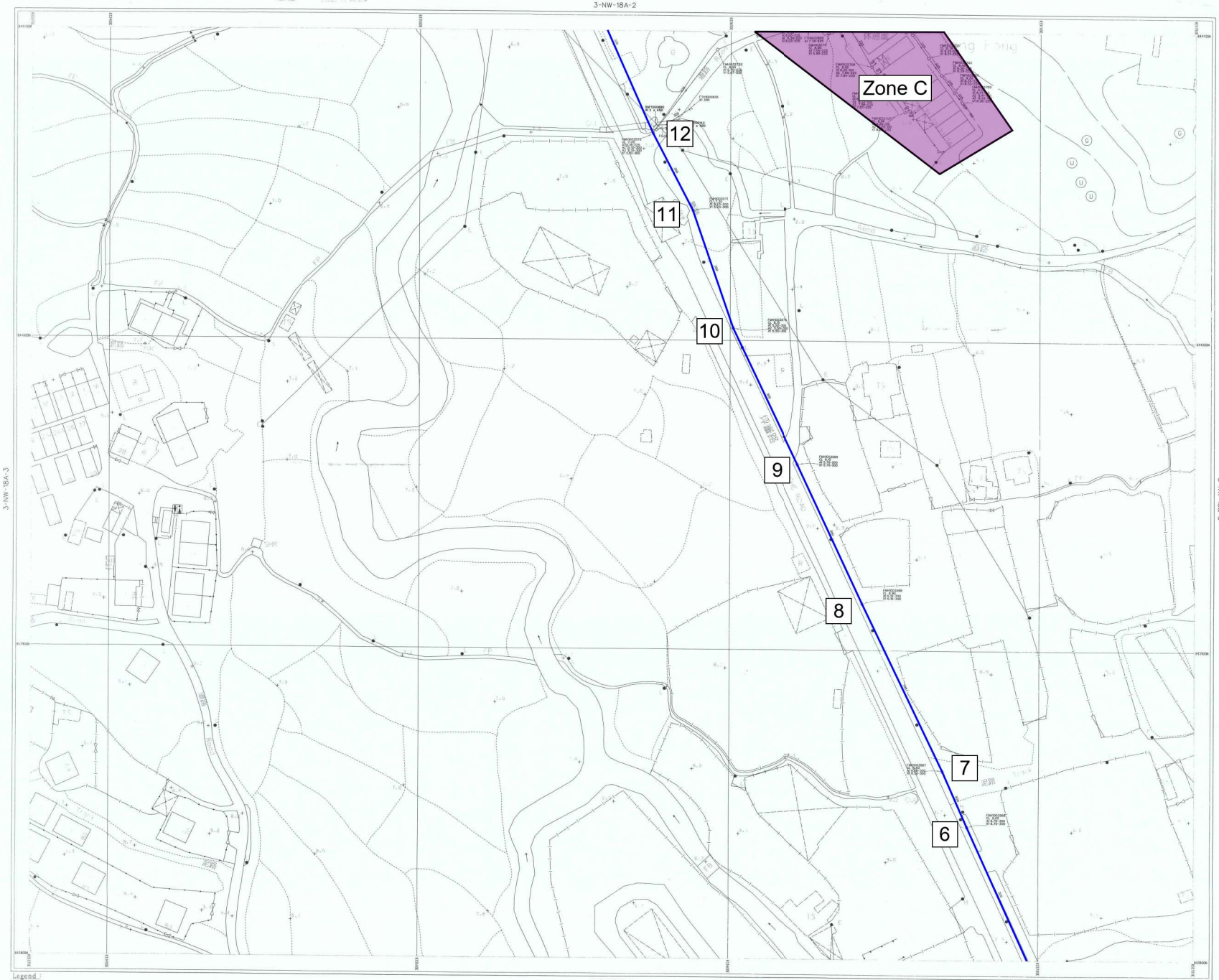
7.1 The sewerage impact assessment has been carried out for the Proposed Development. It is expected that the average sewerage flow of 0.0021 m^3/s will be generated under full operation of the Proposed Development. A newly proposed Terminal Manhole TM-01 and respective sewer will be built to connect the Proposed Development to the existing sewerage system. Thus, a holding tank will be built to lower the burden of pumping station. Review of the potential sewerage impact demonstrates that the existing sewerage system can provide adequate capacity to support the sewage generation associated with the Proposed Development. As such, no mitigation measures are needed for improvement.

Appendices

Appendix 4.1

Drainage Record from DSD


3-NW-13C-4
3-NW-18A-1
3-NW-18B-1
3-NW-18A-4
Zone D
Zone C
Pumping Station
16
15
14
13
簡頭圍
Kan Tau Wai
PING CHE ROAD
排水口
Outfall
骨灰龍
Burial Urns
塘坊
Legend :
Notes :
1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
900C - 900mm width Surface Channel
900SC - 900mm width Stepped Channel
900UC - 900mm width U Channel
900DWFC - 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ..... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.
Manhole number
Cover Level or Ground Level
225mm dia. Incoming Pipe Invert Level
375mm dia. Incoming Pipe Invert Level
525mm dia. Outgoing Pipe Invert Level
Metres
SCALE 1 : 500
Drainage Record Sheet Number
3-NW-18A-2
Last Updating : 17-01-2017
Map data renewed on June 2005
14 AUG 2020
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Legend :

Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   900C - 900mm width Surface Channel
   900SC - 900mm width Stepped Channel
   900UC - 900mm width U Channel
   900DWFC - 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

eg. Manhole number; Cover Level or Ground Level; 225mm dia. Incoming Pipe Invert Level; 375mm dia. Incoming Pipe Invert Level; 525mm dia. Outgoing Pipe Invert Level

SCALE 1 : 500

Metres 10 0 20 40 60 80 100 Metres

Drainage Record Sheet Number

3-NW-18A-4

Last Updating : 18-01-2013

Map data renewed on June 2015.

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3-NW-18A-4



Legend :

- Storm Water Manhole
- Storm Water Terminal Manhole
- Storm Water Special Manhole
- Sewer Manhole
- Sewer Terminal Manhole
- Sewer Special Manhole
- Combined Manhole
- Catchpit
- Desilting Opening
- Inspection Opening
- Dry Weather Flow Interceptor
- Sand Trap
- Inlet
- Outlet
- Gully Sump / Gully
- H/H Tapping Point (Storm/Sewer)
- G/O Overflow (Sewer/Combined)
- Interface Valve Chamber
- Oil/ Petrolinterceptor
- Valve
- Water Gauge
- Spot Level (Storm/Sewer)
- Tunnel/Box Culvert (Storm/Sewer)
- Drainage Reserve
- Tunnel Protection Zone
- Existing T-Junction (Storm/Sewer/Combined)
- Existing Pipe (Storm/Sewer/Combined)
- Existing Pipe (Storm/Sewer/Combined) (Planning / Identifying to be Abandoned)
- Rising Main (Storm/Sewer)
- Existing Rising Main (Storm/Sewer) (Planning / Identifying to be Abandoned)
- Vacuum Sewer
- Existing Vacuum Sewer (Planning / Identifying to be Abandoned)
- Abandoned Pipe
- Abandoned Pipe (Filled with Materials)
- Proposed Pipe (Storm/Sewer)
- Works in Progress Pipe (Storm/Sewer)
- Not Yet Commissioned Pipe (Storm/Sewer)
- Existing U Channel / Stepped Channel (Storm)
- Proposed U Channel / Stepped Channel (Storm)
- Works in Progress U Channel / Stepped Channel (Storm)
- Existing Submarine Outfall with Diffuser
- Proposed Submarine Outfall with Diffuser
- Works in Progress Submarine Outfall with Diffuser
- Slope Sign Board
- Slope Number
- Slope Boundary
- Harbour Area Treatment Scheme (Sewage Tunnel Protection Area (100m width))
- Harbour Area Treatment Scheme (Sewage Tunnel Outer Protection Area (200m width))

Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to ve. location on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   900C = 900mm width Surface Channel
   900SC = 900mm width Scupper Channel
   900UC = 900mm width U Channel
   900DWFC = 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.

eg. 5W1000 CL 6.85 IL (A1) 5.77 IL (A2) 5.77 IL (X1) 5.62

- Manhole number
- Cover Level or Ground Level
- 225mm dia. Incoming Pipe Invert Level
- 375mm dia. Incoming Pipe Invert Level
- 675mm dia. Outgoing Pipe Invert Level

6. Piling foundation on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the site foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information is correct.

Metres 10 0 20 40 60 80 100 Metres

SCALE 1 : 500

Drainage Record Sheet Number

3-NW-18C-2

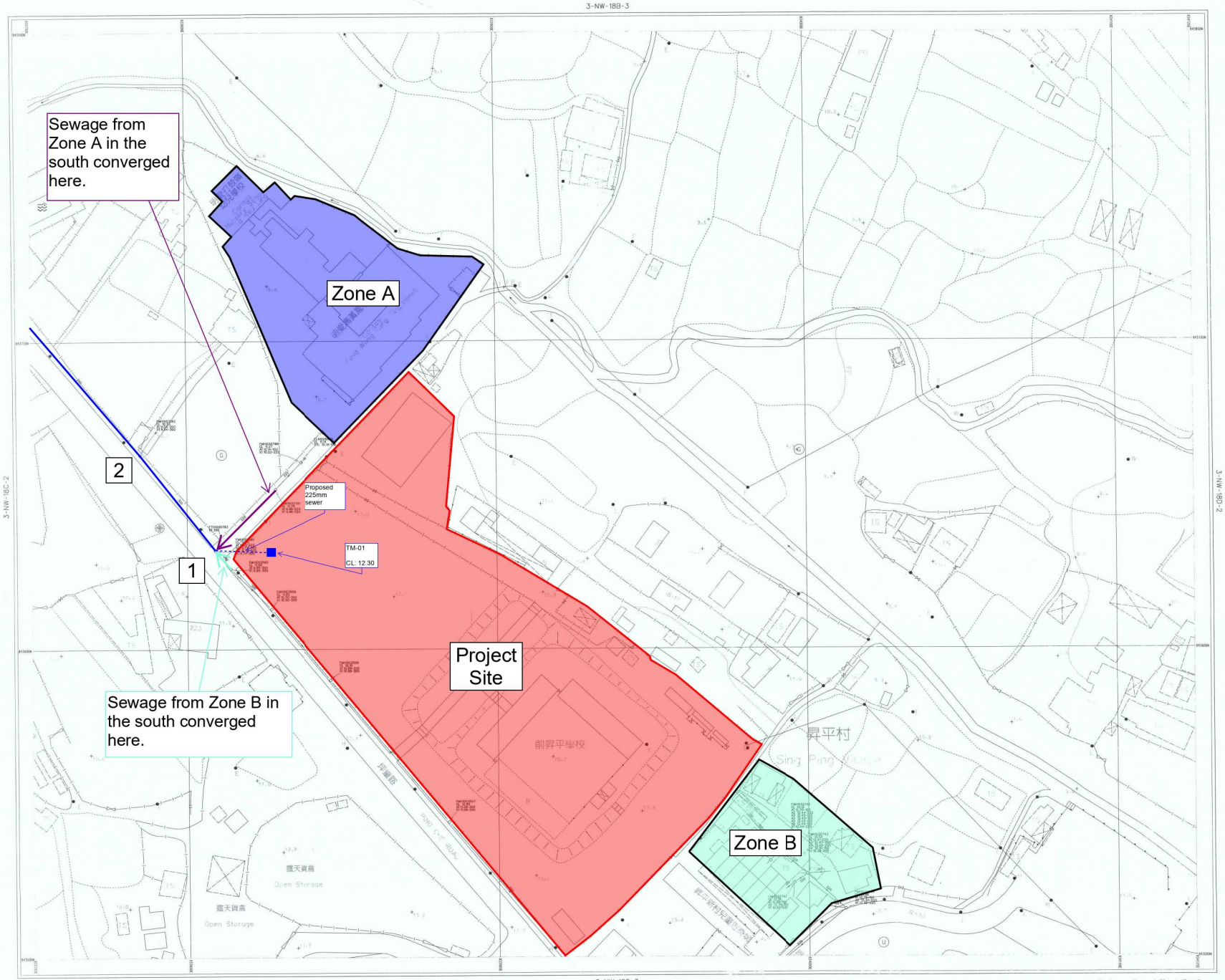
Last Updating : 16-10-2015

Map data renewed on June 2015

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3-NW-18B-3
3-NW-18C-2
3-NW-18D-2
3-NW-18D-3
Sewage from Zone A in the south converged here.
Zone A
2
1
Proposed 225mm sewer
TM-01
CL: 12.30
Project Site
Sewage from Zone B in the south converged here.
Zone B
昇平村
Sing Ping Village
前昇平學校
Open Storage
Legend
Notes :
1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
900SC - 900mm width Surface Channel
900SC - 900mm width Stepped Channel
900UC - 900mm width U Channel
900DWFC - 900mm width Dry Weather Flow Chan el
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage to be maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.
SCALE 1 : 500
Metres
Drainage Record Sheet Number
3-NW-18D-1
Last Updating : 08-01-2015
Map data renewed on March 2015
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Legend :

Notes :

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2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   900C - 900mm width Surface Channel
   900SC - 900mm width Stepped Channel
   900UC - 900mm width U Channel
   900DWFC - 900mm width Dry Weather Flow Channel
5. The Incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

SCALE 1 : 500

Metres 10 0 20 40 60 80 100 Metres

Drainage Record Sheet Number

3-NW-18D-3

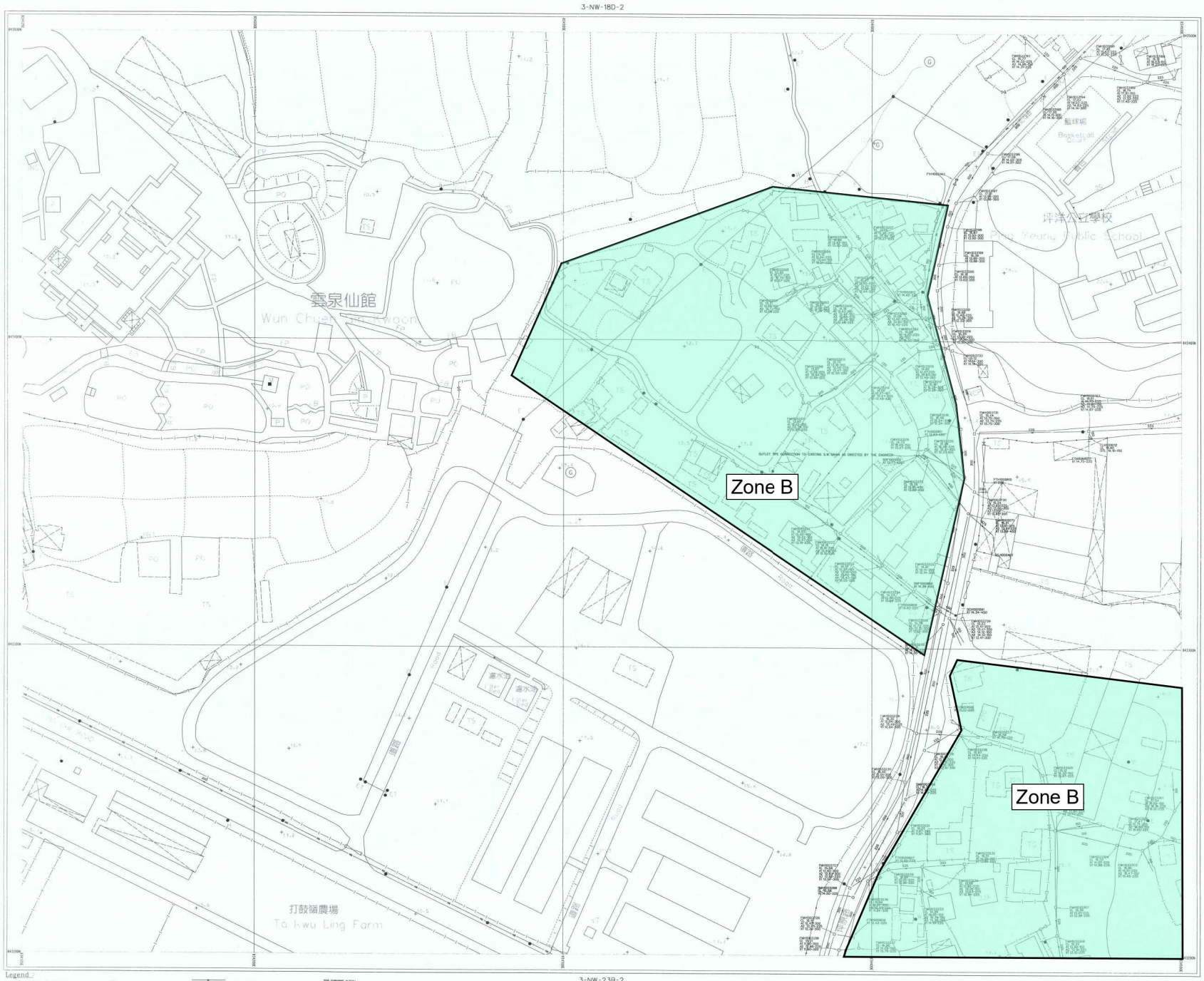
Last Updating : 18-11-2016

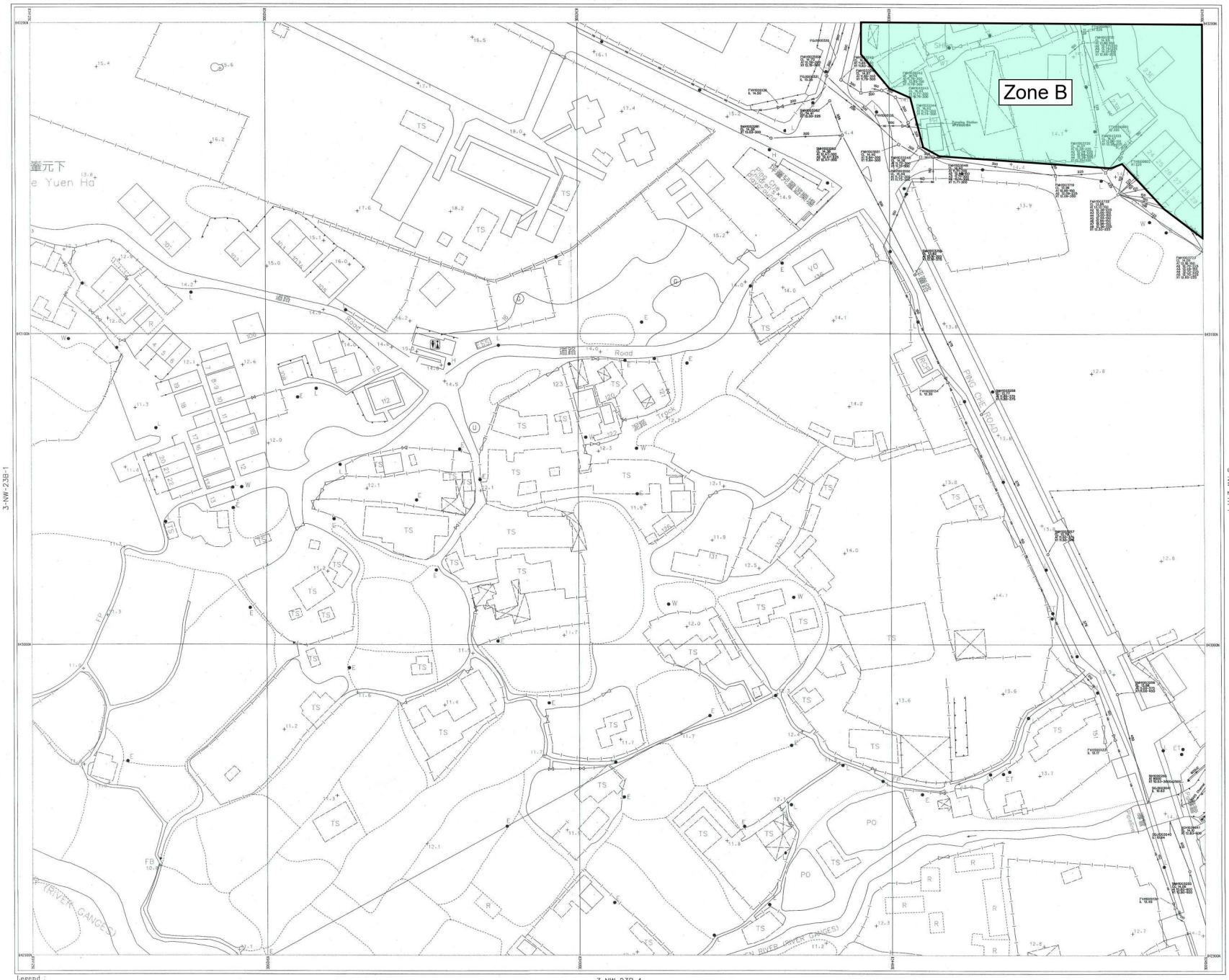
Map data renewed on March 2015

14 AUG 2020

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Drainage Services Department

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3-NW-18D-2
3-NW-18D-3
3-NW-19C-3
3-NW-23B-2
雲泉仙館
Wun Chuen Sin Koon
Basketball Court
Po Kong Public School
Zone B
Zone B
打鼓嶺農場
Ta Kwu Ling Farm
Legend :
Notes :
1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
900C = 900mm width Surface Channel
900SC = 900mm width Trapped Channel
900UC = 900mm width U Channel
900DWFC = 900mm width Dry Weather Flow Channel
5. The Incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ..., counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are correct.
Manhole number
Cover Level or Ground Level
225mm dia. Incoming Pipe Invert Level
375mm dia. Incoming Pipe Invert Level
575mm dia. Outgoing Pipe Invert Level
Metres
SCALE 1 : 500
Metres
Drainage Record Sheet Number
3-NW-18D-4
Last Updating : 24-06-2016
Map data renewed on March 2015
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Legend

Storm Water Manhole
Storm Water Terminal Manhole
Storm Water Special Manhole
Sewer Manhole
Sewer Terminal Manhole
Sewer Special Manhole
Combined Manhole
Cullvert
Cooking Opening
Inspection Opening
Dry Weather Flow Interceptor
Sand Trap
Inlet
Outlet
Gully Sump / Gully
M/H
G/G
GI/
Tipping Point (Storm/Sewer)
Overflow (Sewer/Combined)
Interface Valve Chamber
Oil/ Petrol Interceptor
Valve
Water Gauge
Spot Level (Storm/Sewer)
Tunnel/Box Culvert (Storm/Sewer)
Drainage Reserve
Tunnel/Protection Zone
Existing Y-Junction (Storm/Sewer/Combined)
Existing Pipe (Storm/Sewer/Combined)
Existing Pipe (Storm/Sewer/Combined) (Planning / Identifying to be Abandoned)
Rising Main (Storm/Sewer)
Existing Rising Main (Storm/Sewer) (Planning / Identifying to be Abandoned)
Vacuum Sewer
Existing Vacuum Sewer (Planning / Identifying to be Abandoned)
Abandoned Pipe
Abandoned Pipe (Filled with Materials)
Proposed Pipe (Storm/Sewer)
Works in Progress Pipe (Storm/Sewer)
Not Yet Commissioned Pipe (Storm/Sewer)
Existing U Channel / Stepped Channel (Storm)
Proposed U Channel / Stepped Channel (Storm)
Works in Progress U Channel / Stepped Channel (Storm)
Existing Submarine Outfall with Diffuser
Proposed Submarine Outfall with Diffuser
Works in Progress Submarine Outfall with Diffuser
Slope Sign Board
Slope Number
Slope Boundary
Harbour Area Treatment Scheme
Sewage Tunnel Protection Area (100m width)
Please note that proposed works within the HATS Sewage Tunnel Protection Area have to be complied with the requirements in the Environment, Transport and Works Bureau Technical Circular (Works) No.28/2003 or the Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers No. APP-121 issued by the Buildings Department.
Harbour Area Treatment Scheme
Sewage Tunnel Outer Protection Area (200m width)
Please note that proposed works within the HATS Sewage Tunnel Protection Area have to be complied with the requirements in the Environment, Transport and Works Bureau Technical Circular (Works) No.28/2003 or the Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers No. APP-121 issued by the Buildings Department.

Notes :

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2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
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   900SC - 900mm width Stepped Channel
   900UC - 900mm width U Channel
   900DWFC - 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.

eg. DM7300123 (Manhole number), A1 1.06 225 (Cover Level or Ground Level, 225mm dia. Incoming Pipe Invert Level), A2 1.29 375 (375mm dia. Incoming Pipe Invert Level), X1 1.14 525 (525mm dia. Outgoing Pipe Invert Level)

6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Metres

SCALE 1 : 500

10 0 20 40 60 80 100 Metres

Drainage Record Sheet Number

3-NW-23B-2

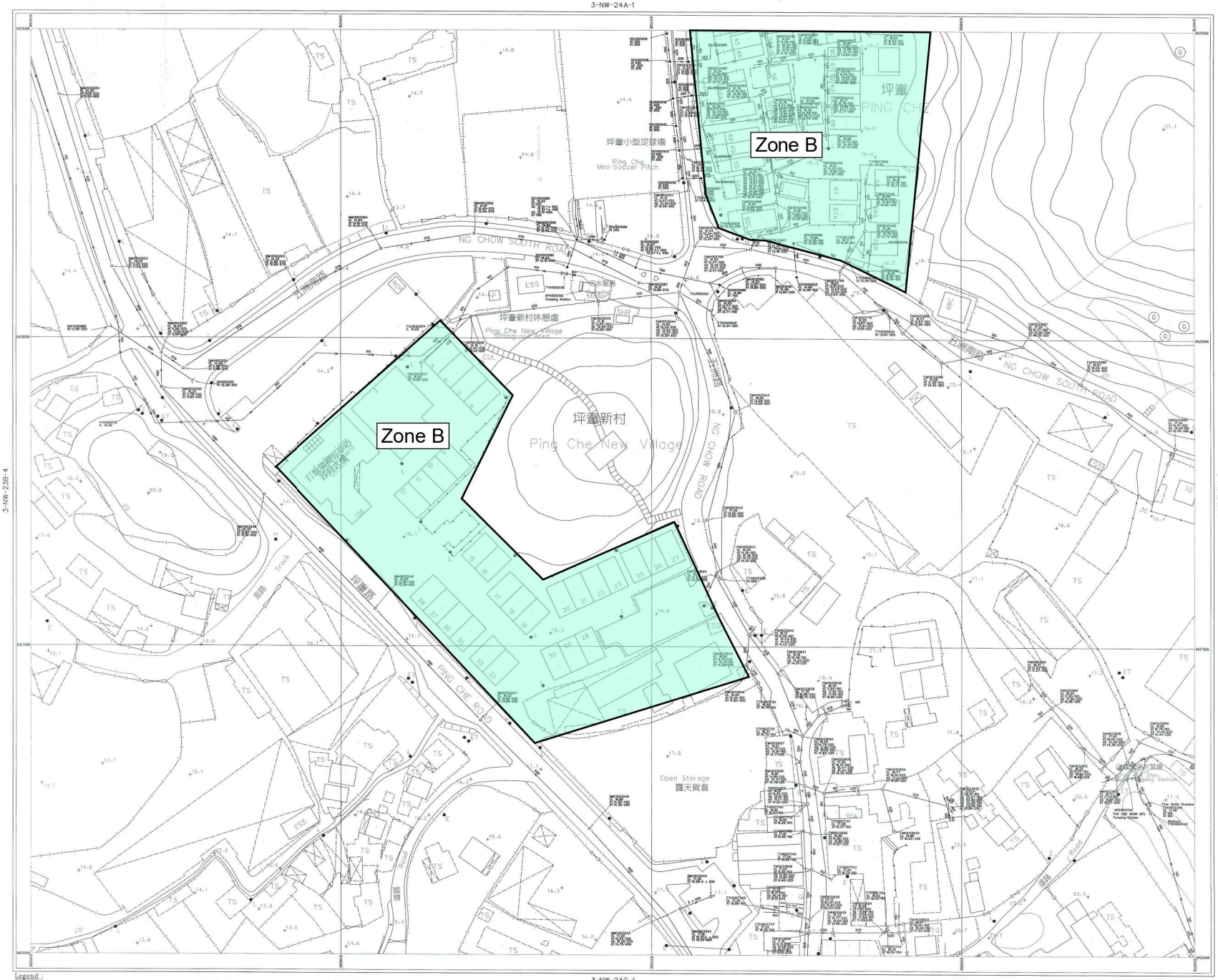
Last Updating : 22-12-2016

Map data renewed on May 2015

14 AUG 2020

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Legend :

Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   900C = 900mm width Surface Channel
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6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Drainage Record Sheet Number

3-NW-24A-3

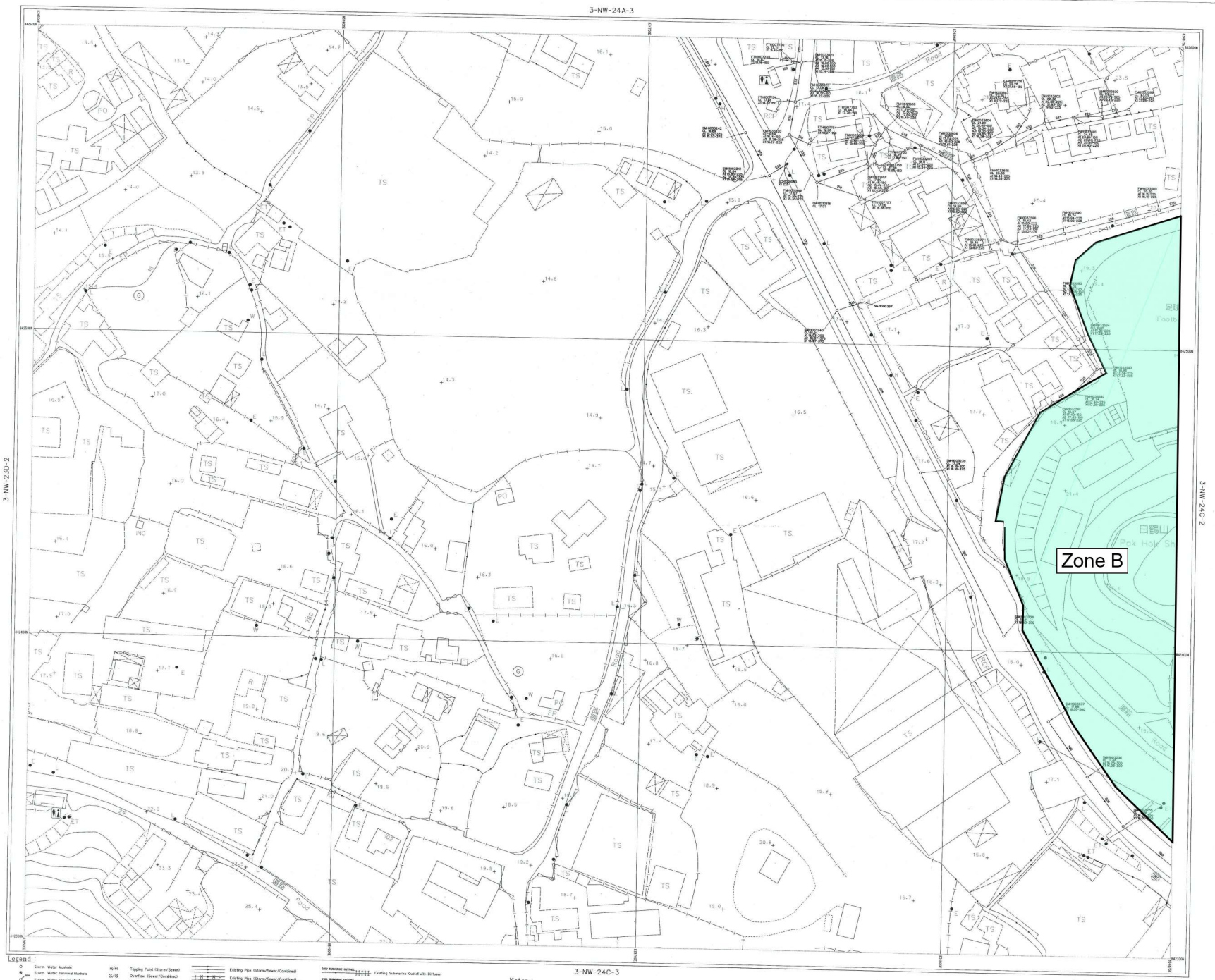
Last Updating : 31-12-2016

Map data renewed on May 2015

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Legend :

Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   900C - 900mm width Surface Channel
   900SC - 900mm width Stepped Channel
   900UC - 900mm width U Channel
   900DWFC - 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Metres

SCALE 1 : 500

Drainage Record Sheet Number

3-NW-24C-1

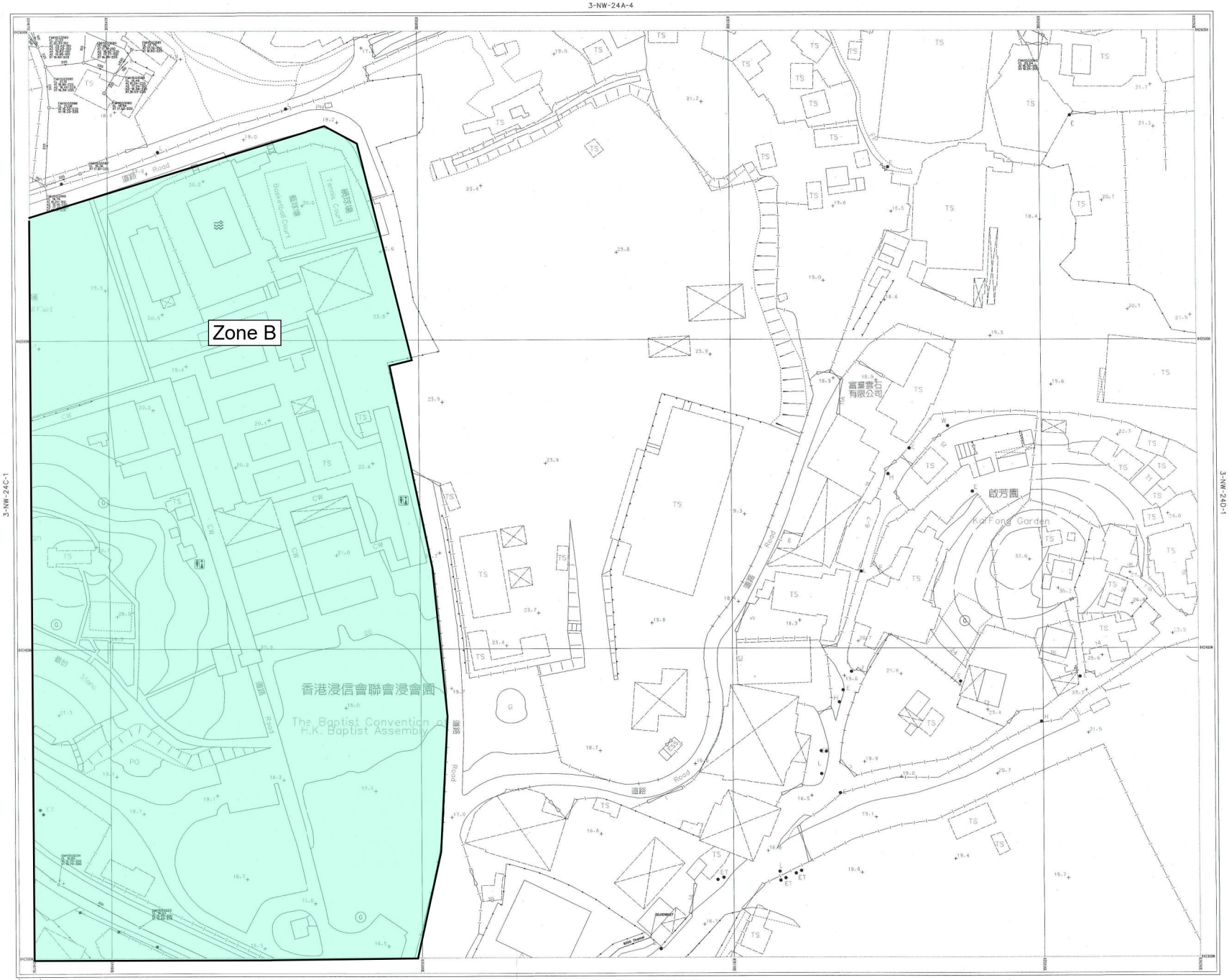
Last Updating : 31-10-2016

Map date renewed on March 2015

14 AUG 2020

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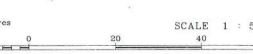
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Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1200mm:
   - 900C = 900mm width Surface Channel
   - 900SC = 900mm width Stepped Channel
   - 900UC = 900mm width U Channel
   - 900DWFC = 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, ... counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 .... counting clockwise from North.

eg.



6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as-built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Metres SCALE 1 : 500 Metres

10 0 20 40 60 80 100

Drainage Record Sheet Number

3-NW-24C-2

Last Updating : 31-10-2016

Map data renewed on March 2015

14 AUG 2020

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Drainage Services Department

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Appendix 4.2

Detailed Calculation of Sewage Flow and Loading

PROJECT : Proposed Transitional Housing Development At Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories **APPENDIX 4.2**

SEWERAGE IMPACT ASSESSMENT

Detailed Calculation of Sewage Flow and Loading

Area	Discharge Manhole No.	Buildings in Zone	Uses	No.of Units	GFA	Population	Global Unit Factor	Estimated Sewage Discharge (m^3/d) [2]	Total Discharge at Manhole (m^3/d)	Remarks
Project Site	TM-01	1P Unit	Residential	384	N/A	384	0.19	73.0	182.1	Development parameters are given by Project Proponent.
		2P Unit	Residential	130	N/A	260	0.19	49.4		
		3P Unit	Residential	60	N/A	180	0.19	34.2		
		4P Unit	Residential	20	N/A	80	0.19	15.2		
		Accessible Unit	Residential	2	N/A	12	0.19	2.3		
		Non-residential	Non-residential	N/A	849	29	0.28	8.1		
Zone A	1 (FMH1003561)	Caritas Fung Wong Fung Ting Home	Staff	N/A	N/A	66	0.28	18.5	18.5	Information provided by SWD
		Caritas Nursery School - Ta Kwu Ling	School	N/A	Student	135	0.04	5.4	11.6	Information provided by School Webpage
				N/A	Teacher	22	0.28	6.2		
Zone B [1]	1 (FMH1003561)	Villages in the South [3]	Residential	N/A	N/A	2087	0.15	313.1	424.7	See [3]
		The Baptist Convention of HK Baptist Assembly	Camping	N/A	N/A	368	0.15	55.2		Referenced from its official website
		Ta Kwu Ling Rural Centre Government Office	Community	N/A	1566	53	0.28	14.9		3-Storey, GFA measured roughly from GeoMap HK
		Ta Kwu Ling District Rural Committee N.T.	Community	N/A	304	10	0.28	2.9		2-Storey, GFA measured roughly from GeoMap HK
Zone C [2]	12 (FMH1003572)	Tong Fong Village	Residential	26	N/A	76	0.15	11.4	11.4	Number of Unit estimated roughly from HK GeoMap
Zone D [2]	16 (FMH1003576)	Kan Tau Wai Village	Residential	65	N/A	189	0.15	28.3	28.3	Number of Unit estimated roughly from HK GeoMap

Note:

[1] The total discharge generated from Zone B is marked up by 10% for conservative purpose.

[2] The number of village house and village population is marked up by 5% for conservative purpose.

[3] The total population is derived by deducting the population in Chuk Yuen Village, Tsung Yuen Ha, Ha Hueng Yuen, Heung Yuen Wai, Kau Liu Village, Kan Tau Wai Village and Wo Keng Shan Village from the regional population as provided in the CentaMap

Appendix 4.3

Detailed Calculation of Allowable Flow Rate of Existing Foul

PROJECT : Proposed Transitional Housing Development At Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories **APPENDIX 4.3**

SEWERAGE IMPACT ASSESSMENT

Detailed Calculation of Allowable Flow Rate of Existing Foul Sewers

From Manhole No.	To Manhole No.	Diameter, D (m) [1]	Length, L (m) [1]	Inlet invert level (mPD) [1]	Outlet invert level (mPD) [1]	Roughness Values, ks (m) [2]	Slope, s	Velocity, V (m/s)	Capacity, Q (m^3/s)	Average Discharge through Manhole (m^3/s)	Average Flow from previous section (m^3/s)	Catchment Inflow Factor(PCIF)	Total Average Flow (m^3/s)	Contribution Population	Peaking Factor	Total Peak Flow (m^3/s)	Percentage of capacity	Remarks
Main Flow																		
1 (FMH1003561)	**2 (FMH1003562)**	0.300	38.40	9.74	9.04	0.006	0.018	1.484	0.105	0.0074	0.0000	1	0.0074	2359	6	0.0442	42%	Zone A, Zone B, Project Site
2 (FMH1003562)	**3 (FMH1003563)**	0.300	61.36	9.04	8.45	0.006	0.010	1.077	0.076	0.0000	0.0074	1	0.0074	2359	6	0.0442	58%	
3 (FMH1003563)	**4 (FMH1003564)**	0.300	28.58	8.45	8.26	0.006	0.007	0.896	0.063	0.0000	0.0074	1	0.0074	2359	6	0.0442	70%	
4 (FMH1003564)	**5 (FMH1003565)**	0.300	57.55	8.26	7.86	0.006	0.007	0.916	0.065	0.0000	0.0074	1	0.0074	2359	6	0.0442	68%	
5 (FMH1003565)	**6 (FMH1003566)**	0.300	59.15	7.10	6.70	0.006	0.007	0.903	0.064	0.0000	0.0074	1	0.0074	2359	6	0.0442	69%	
6 (FMH1003566)	**7 (FMH1003567)**	0.300	18.11	6.70	6.56	0.006	0.008	0.966	0.068	0.0000	0.0074	1	0.0074	2359	6	0.0442	65%	
7 (FMH1003567)	**8 (FMH1003568)**	0.300	58.83	6.56	6.16	0.006	0.007	0.906	0.064	0.0000	0.0074	1	0.0074	2359	6	0.0442	69%	
8 (FMH1003568)	**9 (FMH1003569)**	0.300	48.03	6.16	5.76	0.006	0.008	1.003	0.071	0.0000	0.0074	1	0.0074	2359	6	0.0442	62%	
9 (FMH1003569)	**10 (FMH1003570)**	0.300	47.29	5.76	5.50	0.006	0.005	0.814	0.058	0.0000	0.0074	1	0.0074	2359	6	0.0442	77%	
10 (FMH1003570)	**11 (FMH1003571)**	0.300	38.76	5.50	5.23	0.006	0.007	0.917	0.065	0.0000	0.0074	1	0.0074	2359	6	0.0442	68%	
11 (FMH1003571)	**12 (FMH1003572)**	0.300	26.84	5.23	5.10	0.006	0.005	0.764	0.054	0.0000	0.0074	1	0.0074	2359	6	0.0442	82%	
12 (FMH1003572)	**13 (FMH1003573)**	0.300	62.24	5.10	4.62	0.006	0.008	0.965	0.068	0.0001	0.0074	1	0.0075	2401	6	0.0450	66%	Zone C
13 (FMH1003573)	**14 (FMH1003574)**	0.300	35.29	4.62	4.41	0.006	0.006	0.847	0.060	0.0000	0.0075	1	0.0075	2401	6	0.0450	75%	
14 (FMH1003574)	**15 (FMH1003575)**	0.300	53.91	4.41	4.04	0.006	0.007	0.910	0.064	0.0000	0.0075	1	0.0075	2401	6	0.0450	70%	
15 (FMH1003575)	**16 (FMH1003576)**	0.300	8.96	4.04	3.97	0.006	0.008	0.971	0.069	0.0000	0.0075	1	0.0075	2401	6	0.0450	66%	
16 (FMH1003576)	**Pumping Station**	0.300	4.50	3.97	3.95	0.006	0.004	0.732	0.052	0.0003	0.0075	1	0.0078	2506	6	0.0470	91%	Zone D
Proposed Sewer Connecting Terminal Manhole to the Public Sewerage System																		
TM-01	**1 (FMH1003561)**	0.225	TBD			0.006	0.010	0.899	0.036	0.0021	0.0000	1	0.0021	675	8	0.0169	47%	Project Site

Note:

1. Information of the invert levels and diameters of foul sewers and existing manholes are given in the DSD's Drainage Record Plan.
2. The roughness value is assumed to be 0.006 for slimed concrete pipe in poor condition (Table 5 in DSD's "Sewerage Manual Part 1")
3. The velocity is calculated using the Colebrook-White Equation, which can be applied to analyze a wide range of flow conditions.

For circular pipes flowing full,

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

Where

V = mean velocity

g = gravitational acceleration(m/s^2)

R = hydraulic radius (m)

D = internal pipe diameter (m)

ks = hydraulic pipeline roughness (m)

V = kinematic viscosity of fluid (m^2/s)

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

Appendix 7

DRAINAGE IMPACT ASSESSMENT

Proposed Transitional Housing Development at Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories

Subject: Drainage Impact Assessment (DIA) Report

Date: 15 Nov. 2021

Revision 2

QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks				
Date	21 August 2020	21 Oct 2021	15 Nov 2021	
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Project number	2535585A	2535585A	2535585A	
Report number	001	001	001	

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 The Project Site was zoned as "Government Institution or Community (GIC)' under OZP No. S/NE-TKL/14. The area of the Project Site is approximately 13,300 m^2. Transitional Housing would be developed at Ping Che Road with 596 units.

1.1.2 The design intent for the Project which will: (i) Provide a better living environment for residents; (ii) Improve design from current transitional housing in terms of modular design. A 2.8 m wide modular design is proposed as opposed to the more typical 2.5 m wide module; (iii) Maximise lighting in units including natural light penetration to toilet and kitchen, and (iv) enable lighting into corridors of the domestic blocks.

1.2 OUTLINE DESCRIPTION OF THE PROJECT

Project Title:	Transitional Housing Development at Ping Che Road
Location:	At Ping Che Road, near Sing Ping Village
Site Area:	Approximately 13,300 square meters (sq.m)

1.3 SCOPE OF REPORT

1.3.1 The drainage impact assessment includes a catchment study of the subject site; capacity checking of existing stormwater pipes; estimation of surface runoff induced by the new development; proposing discharge points connecting to the existing channels and pipes in compliance with DSD's design requirements; discussing potential drainage impacts on the existing drainage system; and recommending feasible mitigation measures.

1.4 STRUCTURE OF THE REPORT

1.4.1 This DIA report consists of the following chapters:

Chapter 1	-	Outlines the project background and the scope of work.
Chapter 2	-	Presents the site conditions and existing drainage conditions.
Chapter 3	-	Describes the methodology and design criteria of surface runoff calculation and drainage impact assessment.
Chapter 4	-	Presents recommended mitigation measures
Chapter 5	-	Provides conclusions and recommendations.

2 OUTLINE OF EXISTING SITE CONDITIONS AND DRAINAGE CHARACTERISTICS

2.1 EXISTING SITE CONDITIONS

2.1.1 The Project Site is located at Ping Che Road, near Sing Ping Village. The area of the Project Site is approximately 13,300 square meters. The ratio of paved area to unpaved area is 3:7.

2.2 EXISTING DRAINAGE CONDITIONS

2.2.1 It is noted that there is no Drainage Services Department ("DSD") managed stormwater drain in close proximity to the Site. A 2m nullah is located approximately 40 m northeast of the Site.

2.3 PROPOSED CONDITIONS

2.3.1 The Proposed Transitional Housing Development comprises of two (2) 4-storey residential blocks; one (1) 1-storey Multi-purpose Amenity block; and one (1) 1-storey Elderly Service Center providing a total of approximately 596 units

2.3.2 As shown in Appendix A1, four new manholes (STM01 to STM04) are proposed to collect flow from the project site (Catchment A). And the flow would finally discharge to the downstream existing open channel.

3 PROPOSED SURFACE RUNOFF AND DRAINAGE IMPACT ASSESSMENT

3.1 ASSESSMENT METHODOLOGY

Catchment Area

3.1.1 Three catchment areas for this DIA were identified based on the geographical characteristics of the Project Site and its nearby areas (as shown in Appendix A1 Catchment Layout Plan).

3.1.2 The area of Catchment A is 13,300 m^2. Before redevelopment, Catchment A (Project Site) is consisted of 3,990 m^2 paved areas and 9,310 m^2 unpaved areas.

3.1.3 After redevelopment, Catchment A is consisted of 10,640 m^2 paved areas (increasing 6,650 m^2 than before development) and 2,660 m^2 unpaved areas (decreasing 6,650 m^2 than before development).

3.1.4 The area of Catchment B is 7,240 m^2, consisted of 1,448 m^2 paved areas and 5,792 m^2 unpaved areas. The surface runoff generated from Catchment B discharges into the proposed manhole TM01.

3.1.5 The area of Catchment C is 1,069,585 m^2, consisted of 160,438 m^2 paved areas and 909,147 m^2 unpaved areas. The surface runoff generated from Catchment B discharges into the downstream open channel.

Storm Return Period

3.1.6 According to the *Stormwater Drainage Manual (SDM) – Fifth Edition January 2018*, the category of stormwater drainage system of the site is classified as "Urban Drainage Branch Systems", so 1 in 50 year storm return period was adopted in this assessment.

Sea Tidal Effect

3.1.7 The proposed project site is not subject to sea tidal effect and therefore sea level is not considered in the DIA.

Basic Formulation of Rational Method

3.1.8 Rational method is used for calculation of the peak runoff. The formula is extracted from Section 7.5.2(a) of SDM which is to estimate the stormwater runoff as shown below:

$$Q_p = 0.278CiA$$

where
- Q_p = Peak runoff in m^3/s
- C = Runoff coefficient (dimensionless)
- i = Rainfall intensity in mm/hr
- A = Catchment area in km^2

Time of Concentration

3.1.9 The time of concentration used for determining the duration of the design storm is considered by the time of entry and the time of flow.

$$t_c = t_0 + t_f$$

where t_0 = inlet time (time taken for flow the remotest point to reach the most upstream point of the urban drainage system)
t_f = flow time

3.1.10 The inlet time is calculated using the Brands by William's Equation:

$$t_0 = \frac{0.14465L}{A^{0.1}H^{0.2}}$$

where t_0 = Time of concentration (min)
L = Catchment length (m)
A = Catchment area (m^2)
H = Average catchment slope (m/100m)

Runoff Intensity

3.1.11 The rainfall intensity is extracted from the Section 4.3.2 of SDM which is to estimate the Intensity-Duration-Frequency (IDF) Relationship. According to the fifth edition of SDM, when design storm return period is 50 years, the values of a, b and c are1167.6, 16.76 and 0.561, respectively.

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

where i = Extreme mean intensity in mm/hr
t_d = Duration in minutes ($t_d < 240$)
a, b, c = Storm constants given in SDM Table 3d.

Runoff Coefficient

3.1.12 According to surface characteristics of the catchments, the runoff coefficient for paved area is 0.90, and for unpaved area is 0.30.

Hydraulic Equation

3.1.13 Colebrook-White Equation is used in hydraulic design for pipe flow.

$$V = -\sqrt{32gRs}\, log\left(\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRs}}\right)$$

where V = Mean velocity (m/s)
g = Gravitational acceleration (m/s^2)
R = Hydraulic radius (m)

D = Pipe diameter (m)
k_s = Equivalent sand roughness (m)
v = Kinematic viscosity of fluid (m^2/s)
s = Frictional slope (energy gradient due to frictional loss)

3.1.14 Manning's Equation is used in hydraulic design for open channel flow.

$$V = \frac{Ar^{1/6}(rs)^{1/2}}{n}$$

where
V = Mean velocity (m/s)
A = Cross sectional area of flow (m^2)
s = Frictional slope (Energy gradient due to frictional loss)
r = Hydraulic radius (m)
n = Manning coefficient of roughness

3.2 DRAINAGE IMPACT ASSESSMENT

Before development

3.2.1 Based on the site visit and drainage records, there is no Drainage Services Department ("DSD") managed stormwater drain in close proximity to the Project Site.

3.2.2 Before development, Catchment A (Project Site) is consisted of 3,990 m^2 paved areas and 9,310 m^2 unpaved areas. According to the hydraulic calculation, the surface runoff generated from the Project Site (Catchment A) before development is **0.326 m^3/s**.

After Development

3.2.3 After development, four new manholes (STM01 to STM04) are proposed to carry the surface runoff from the Catchment A and Catchment B, and the surface runoff from the Catchment C would discharge directly into downstream open channel (as listed in Table 3-1).

3.2.4 In addition, the proposed development at Catchment A will result in an increase in impervious area as compared to the existing site condition. And the ratio of paved areas and unpaved areas in Catchment B and Catchment C will not be changed after development.

Table 3-1 Catchment Areas and Discharge Points (After Development)

Catchment	Catchment Area (m^2)		Discharge Points
	Paved	Unpaved	
Catchment A	10,640	2,660	Proposed Manhole TM01
Catchment B	1,448	5,792	Proposed Manhole TM01
Catchment C	160,438	909,147	Existing Open Channel

3.2.5 The surface runoff generated from Project Site would increase from **0.326 m^3/s** to **0.532 m^3/s**. As shown in Table 3-2, it can be concluded that the existing open channel and the proposed drainage system have sufficient capacity to accommodate for the proposed peak surface runoff after development. The detail calculation can be referred to Appendix B1 and Appendix B2.

Table 3-2 Existing Surface Runoff of Identified Catchment Areas and Capacity of Existing Public Drainage System (After Development)

Manhole		Catchment Area (0.90)		Catchment Area (0.30)		50 years Runoff (m^3/s)	Capacity (m^3/s)	Capacity (%)	Remarks (Catchments)
From	To	Increment (m^2)	Accu. (m^2)	Increment (m^2)	Accu. (m^2)				
TM01	TM02	10640	10640	2660	2660	0.532	0.916	58.0%	Catchment A
STM01	STM02	12088	12088	8452	8452	0.686	1.031	66.5%	Catchment A+B
STM02	STM03	0	12088	0	8452	0.682	0.947	72.1%	Catchment A+B
STM03	STM04	0	12088	0	8452	0.679	1.031	65.9%	Catchment A+B
STM04	Channel	0	12088	0	8452	0.676	0.955	70.8%	Catchment A+B
Existing Open Channel		160,438	172,526	909,147	917,599	15.950	32.257	51.6%	Catchment A+B+C

4 RECOMMENDED MITIGATION MEASURES

4.1.1 Through analysis and calculation of the proposed drainage plan, the capacity checking results indicate that the existing open channel and the proposed drainage system have sufficient capacity to cope with the runoff generated from the Project Site after development.

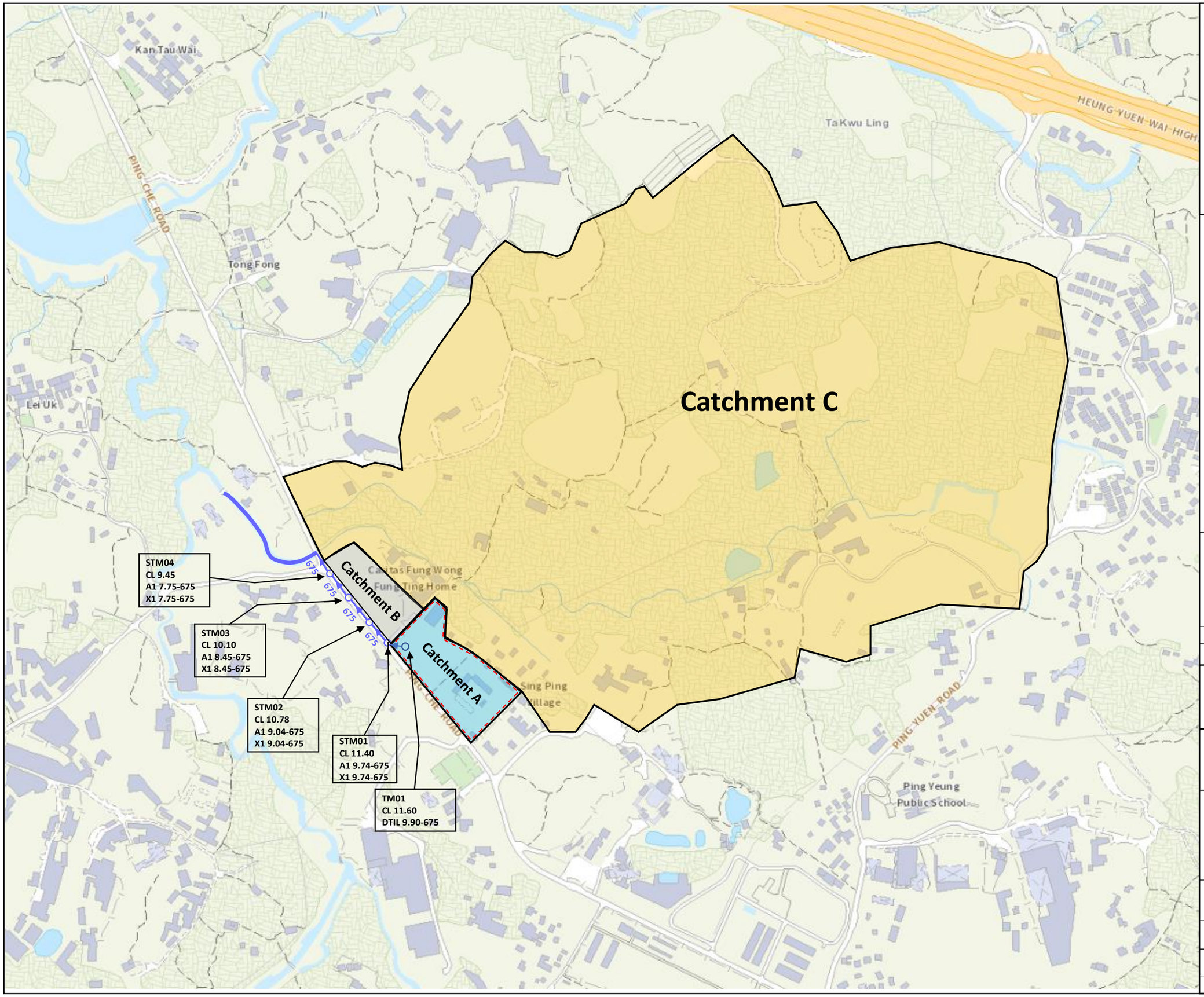
4.1.2 Therefore, it is suggested that the development of the Project Site does not have adverse impact on the existing public drainage system.

5 CONCLUSION AND RECOMMENDATIONS

5.1.1 After development, surface runoff generated from Project Site would be discharge into downstream open channel via proposed manholes STM01 to STM04.

5.1.2 Based on the results of hydraulic analysis, it is concluded that existing open channel and proposed drainage system have enough capacity to cater for the surface runoff from the Project Site and the proposed development will have no adverse impact on existing public drainage system.

Appendix A Drawings



NOTES:

1. GRID LINES ARE HONG KONG METRIC GRID 1980.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
3. ALL LEVELS ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM (mPM).
4. FOR MANHOLE AND DRAINAGE DETAILS REFER TO TYPICAL DETAILS IN DSD DRAWING NOS. DS 1001B(1) – DS 1096(3).

LEGEND

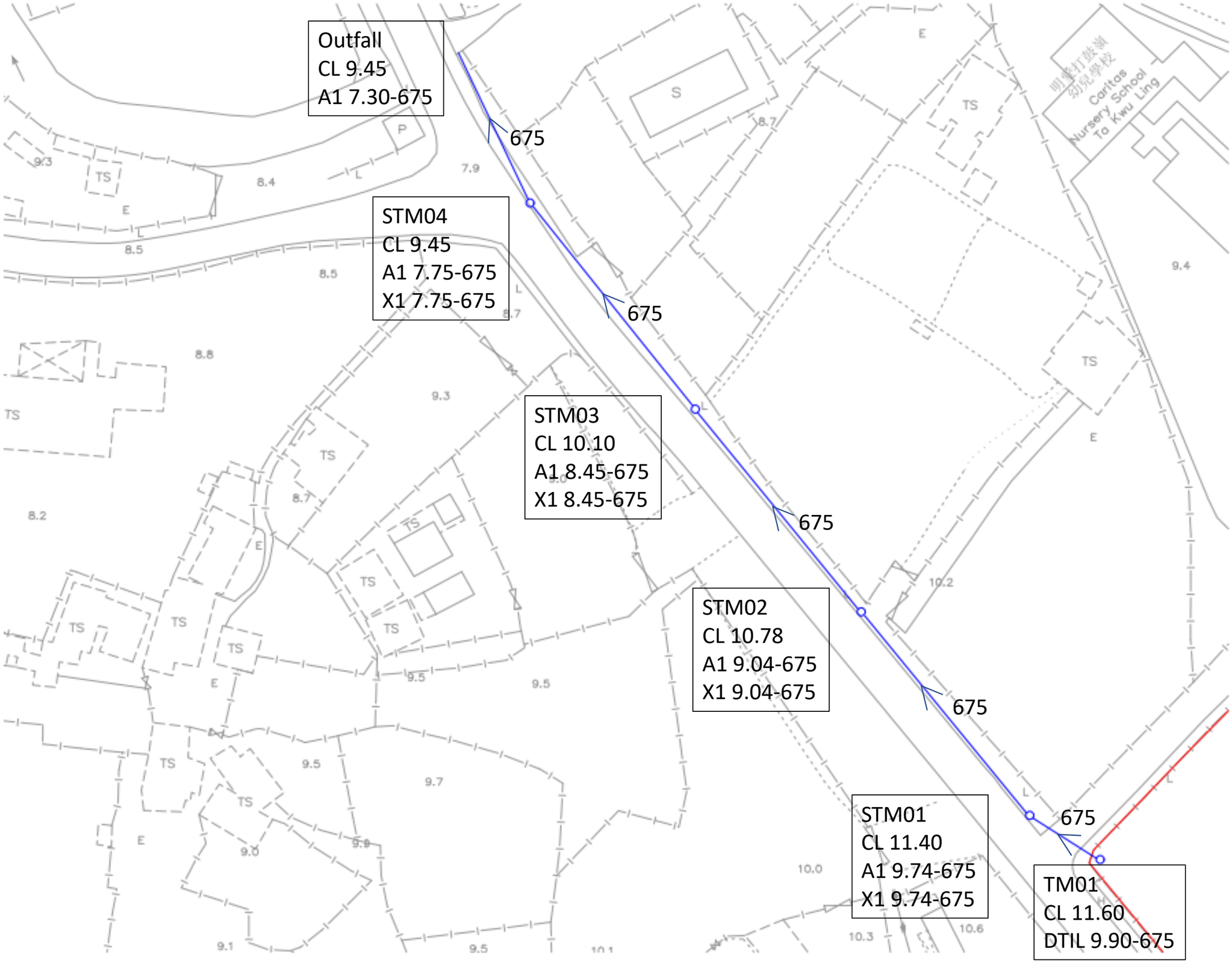
- SITE BOUNDARY
- CATCHMENT A
- CATCHMENT B
- CATCHMENT C
- PROPOSED MANHOLE AND PIPE
- CHANNEL

REV.	ISSUE DATE	DESCRIPTION

CLIENT:

DESIGN: WSP HONG KONG LTD.

PROJECT	TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD
ITEM	DRAINAGE IMPACT ASSESSMENT
DWG. TITLE	CATCHMENT LAYOUT PLAN
DWG. NO.	2535585A/DIA/001
SCALE	



NOTES:

1. GRID LINES ARE HONG KONG METRIC GRID 1980.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
3. ALL LEVELS ARE IN METRES AND REFER TO HONG KONG PRINCIPAL DATUM (mPM).
4. FOR MANHOLE AND DRAINAGE DETAILS REFER TO TYPICAL DETAILS IN DSD DRAWING NOS. DS 1001B(1) – DS 1096(3).

LEGEND

PROPOSED MANHOLE AND PIPE

REV.	ISSUE DATE	DESCRIPTION

CLIENT:

DESIGN:

WSP HONG KONG LTD.

PROJECT	TRANSITIONAL HOUSING DEVELOPMENT AT PING CHE ROAD
ITEM	DRAINAGE IMPACT ASSESSMENT
DWG. TITLE	CATCHMENT LAYOUT PLAN
DWG. NO.	2535585A/DIA/002
SCALE	

Appendix B Drainage Calculation

Appendix B1 Capacity Checking of Proposed Drainage System (After Development)

Manhole		Catchment Area（0.9）		Catchment Area （0.3）		Length (m)	Nominal Diameter (mm)	Gradient, S_f		Velocity (m/s)	Time of Flow (min)	Time of Conc. (min)	Rainfall Duration (min)	50 year Intensity (mm/hr)	50 year Runoff (m^3/s)	Capacity (m^3/s)	Capacity (%)	Adjusted Capacity > Runoff ?	Cover Level		Invert Level		Cover to Pipe		Remarks (Catchments)
From	To	Increment (m^2)	Accu. (m^2)	Increment (m^2)	Accu. (m^2)			(%)	1 in										From (mPD)	To (mPD)	From (mPD)	To (mPD)	From (m)	To (m)	
TM01	STM01	10640	10640	2660	2660	11.0	675	1.5	68.7	2.561	0.07	10.07	10.07	184.43	0.532	0.916	58.0%	Yes	11.60	11.40	9.90	9.74	0.96	0.92	Catchment A
STM01	STM02	12088	12088	8452	8452	38.0	675	1.8	54.3	2.882	0.22	10.22	10.22	183.86	0.686	1.031	66.5%	Yes	11.40	10.78	9.74	9.04	0.92	1.00	Catchment A+B
STM02	STM03	0	12088	0	8452	38.0	675	1.6	64.4	2.646	0.24	10.46	10.46	182.95	0.682	0.947	72.1%	Yes	10.78	10.10	9.04	8.45	1.00	0.91	Catchment A+B
STM03	STM04	0	12088	0	8452	38.0	675	1.8	54.3	2.882	0.22	10.68	10.68	182.13	0.679	1.031	65.9%	Yes	10.10	9.45	8.45	7.75	0.91	0.96	Catchment A+B
STM04	Channel	0	12088	0	8452	38.0	675	1.6	63.3	2.668	0.24	10.92	10.92	181.25	0.676	0.955	70.8%	Yes	9.45	9.45	7.75	7.15	0.96	1.56	Catchment A+B

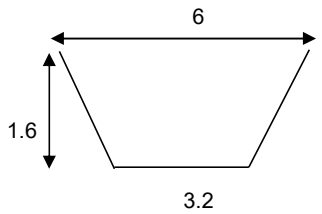
Appendix B2-1 Capacity Checking of Existing Open Channel (After Development)

Catchment	Natural Catch. (m^2)	Longest Flow Path (m)	Highest (mPD)	Lowest (mPD)	Gradient (per 100m) = $(h_1-h_2)/L \times 100$	to (min) = $0.14465L/(H^{0.2}A^{0.1})$	Length of Channel L (m)	flow vel.= m^3/s	t_f = L/v (min)	tc = to + t_f (min)	Runoff Coeff.	Total Catch. Area (m^2)	50 year Intensity (mm/hr)	50 year Design Runoff = 0.278CiA	50 year Total Runoff (m^3/s)
Catchment C	1069585	1020	32.8	8.3	2.40	30.89	160	4.38	0.61	31.50	0.3	909147	137.57	10.43	15.95
											0.9	160438		5.52	

Appendix B2-2 Capacity Checking of Existing Open Channel (After Development)

Input Data

Channel width (top)	=	6	m
Channel height	=	1.6	m



Flow capacity, Q

$$Q = \frac{A \times r^{2/3} \times s^{1/2}}{n}$$

where A = cross sectional area of flow (m^2) = 7.36 m^2

r = hydraulic radius (m)

s = slope of the water surface or the linear hydraulic head loss (m/m)

n = Manning coefficient of roughness

Hydraulic radius

r = A / P

p = wetted perimeter (m) = 7.5 m

r = 0.99 *m*

Slope

s = 0.005 m/m

Manning coefficient of roughness

n = 0.016

Therefore,

Q	=	32.257	m^3/s	
Design flow	=	16.629	m^3/s	(Catchment A+B+C)
Capacity	=	51.6%		Q > Design flow, OK!

Appendix 8

WATER SUPPLY IMPACT ASSESSMENT

Proposed Transitional Housing Development at Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories

Subject: Water Supply Impact Assessment Report

Date: 12 Nov 2021

Revision 2

Quality Management

Issue/revision	0	1	2	
Remarks				
Date	16 Oct 2020	29 Oct 2021	12 Nov 2021	
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Signature				
Project number	2535585A	2535585A	2535585A	
Report number	0	1	2	

SIGNATURES

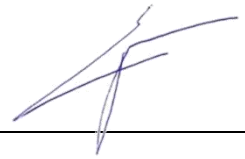
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1 INTRODUCTION

1.1 This Water Supply Impact Assessment (WSIA) is prepared in support of a Section 16 Planning Application for Proposed Transitional Housing Development ("Proposed Transitional Housing"/ "Proposed Development") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("Application Site"). The Application Site is zoned "Government, Institution or Community" ("G/IC") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("OZP") No. S/NE-TKL/14 ("Approved OZP"). The Applicant will be responsible for implementation and operation of the Proposed Transition Housing for 7 years after completion.

1.2 The Application Site Area is approximately 13,300m^2. The Proposed Transitional Housing Development comprises of two (2) 4-storey residential blocks; one (1) 1-storey Multi-purpose Amenity block; and one (1) 1-storey Elderly Service Center providing a total of approximately 596 units, housing approximately 916 persons. The total non-domestic is approximately 849m^2. The tentative intake year will be 2023.

1.3 This report outlines the assessment results of the potential water supply impacts associated with the Proposed Development. The main objectives of this assessment include the followings:

- Assessing and estimating the water demand requirement of the Proposed Development;
- Identifying water intakes to the Proposed Development with respect to the existing/planned water supply facilities; and
- Provide recommendations and mitigation measures where require.

2 PARAMETERS OF THE PROPOSED DEVELOPMENT

2.1 The Application Site is located adjacent to No. 198 Ping Che Road, Fanling. The area of the Application Site is approximately 13,300m^2. The Proposed Development is expected to provide 2 blocks of transitional residential towers which provide approximately 596 housing units. The Proposed Development would also include 849m^2 non-domestic area.

2.2 The details of the Proposed Development schedule are summarized in **Table 2.1** below.

Table 2.1 Summary of the Proposed Development Schedule

Application Site Area	13,300 m^2
Non-Domestic Area	849 m^2
Total Number of Residential Units	596
- 1-Person Unit	*384*
- 2-Person Unit	*130*
- 3-Person Unit	*60*
- 4-Person Unit	*20*
- Accessible Unit (Assumed to be 6-Person Unit)	*2*
Total Residential Population	916
Total Commercial Population for Non-Domestic Area	29 [1]

Note:

[1] In accordance to Table 8 of "Worker Density by Economic Activity and Planned Usage Type" issued by the Planning Department, the worker density of 3.4 per 100m^2 commercial area is adopted for general economic activities conducted in the non-domestic area.

3 WATER DEMAND FROM THE PROPOSED DEVELOPMENT

3.1 The estimation of water demand and relevant peaking factors adopted in this assessment are referenced from the Departmental Instruction No. 1309 (DI No. 1309) issued by Water Supplies Department (WSD) and Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF) version 1.0 issued by Drainage Services Department. **Table 3.1** below shows the unit demand for freshwater and flushing water in the Proposed Development.

Table 3.1 Adopted Freshwater and Flushing Water Unit Demand

Population Type	Per Person Demand on Freshwater (L/day)	Per Person Demand on Flushing water (L/day)	Remarks
Resident	230	70	R1/Public Housing
General Employee	230	50 [1]	GESF

Note:

[1] Referring to GESF (version 1.0) Appendix 3(a) issued by the Drainage Services Department.

3.2 The peaking factor adopted for freshwater and flushing water in distribution mains is 3.0 and 2.0 respectively.

3.3 With respect to **Table 2.1** and **Table 3.1**, the estimation of freshwater and flushing water demand is summarized in the following **Table 3.2**:

Table 3.2 Estimation of Freshwater and Flushing Water Demand for the Proposed Development

	Type	Population	Total Demand (m^3/Day)	Peaking Factor	Peak Demand (m^3/Day)
Freshwater	Resident	916	210.7	3	651.9
	General Employee	29	6.6		
Flushing water	Resident	916	64.1	2	131.2
	General Employee	29	1.4		

3.4 As shown in **Table 3.2**, the peak freshwater demand and peak flushing water demand is approximately 656.4m^3/day and 131.2m^3/day respectively.

4 CAPACITY OF EXISTING WATER SUPPLY SYSTEM

4.1 The existing water supply network is extracted from WSD Record Plans. The locations of the existing water mains are shown in **Appendix 4.1**.

Freshwater/Flushing Water Supply

4.2 As enquired from WSD, there is an existing DI300 freshwater main passing Ping Che Road in the south of the Proposed Development, as shown in **Appendix 4.1**. In this study, it is assumed that flushing water will be supplied by freshwater supply system permanently. As such, the assessment on the capability of the existing freshwater system has taken into account the flushing water demand. From hydraulic analysis as shown in **Table 4.1**, the existing DI300 main has sufficient capacity to cater for the water demand from the Proposed Development. For detailed calculation, please refer to **Appendix 4.2**.

Table 4.1 Capacity Checking of Existing Water Main

	Daily Water Demand of Proposed Development (m^3/day)	Peaking Factor	Peak Water Demand (m^3/day)
Freshwater	217.3	3	651.9
Flushing Water	65.6	2	131.2
Total	282.9	N/A	783.1
Capacity of DI300 Water Main (Assuming maximum velocity of 3m/s)			18322
Capacity of DI300 Water Main (Assuming minimum velocity of 1m/s)			6107

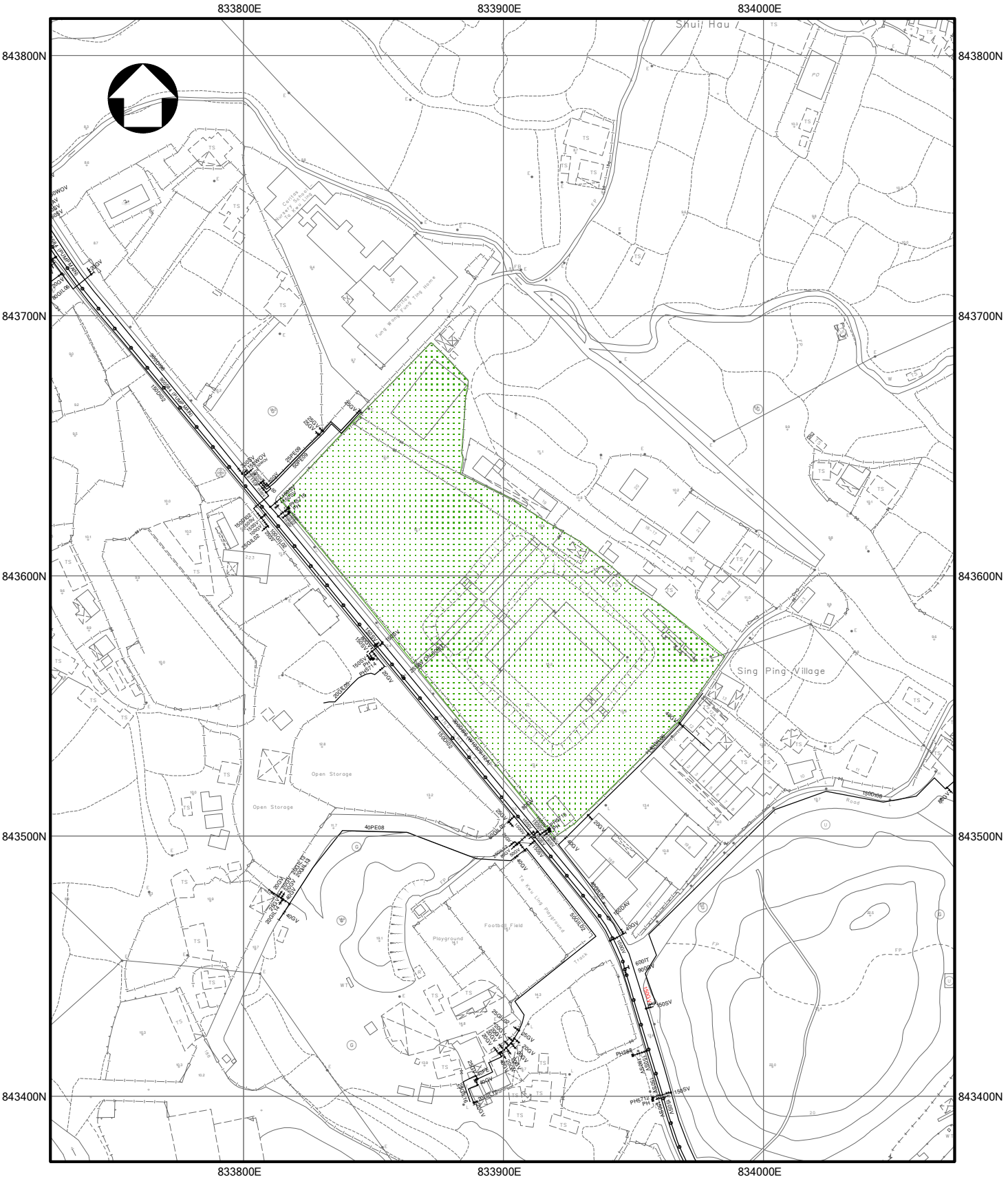
4.3 Considering the proximity of the existing DI300 Water Main to the Proposed Development, it is proposed to source water from this existing DI300 Water Main to satisfy the water demand within the Proposed Development.

5 CONCLUTION

5.1 The water supply impact assessment has been carried out for the Proposed Development. The assessment results show that the peak flushing water and freshwater demand for the Proposed Development is 651.9m^3/day and 131.2m^3/day. Based on the information provided by WSD, there is an existing DI300 freshwater main in the south of the Proposed Development, passing through Ping Che Road. The minimum amount of freshwater supply from this Main is 6107m^3/day, assuming a minimum flow velocity of 1m^2/s. As the minimum amount of freshwater supply is greater than both the flushing water and freshwater demand combined (i.e. 783.1m^3/day), it is concluded that the existing DI300 freshwater main would provide sufficient supply of freshwater to cater the water demand of the Proposed Development.

Appendices

Appendix 4.1
Freshwater Main Record from WSD



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/3-NW-18A, 18B, 18C & 18D

REF. CODE: 35W20M	SHEET 1 OF 1	SCALE 1:2000

水 務 署
Water Supplies Department

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SIGN CONVENTIONS

TYPE	LEGEND
MAINS	
FRESH/SALT WATER MAINS	
RAW/UNTREATED WATER MAINS/CONDUIT	
BEING LAID MAINS	
PROPOSED MAINS	
WASHOUT PIPE	
SLUDGE PIPE	
TREATED EFFLUENT MAINS	
WATER MAINS REQUIRE REGULAR FLUSHING	
PRIVATE MAINS (SEE NOTE 2)	
MAINS OF OTHER DEPARTMENTS (SEE NOTE 3)	
REPLACEMENT AND REHABILITATION MAINS PENDING HANDOVER TO WSD	
FIRE SERVICES	
PEDESTAL FIRE HYDRANT	PH
GROUND FIRE HYDRANT	GH
HEAVY DRAW-OFF FIRE HYDRANT	HD
SWAN NECK FIRE HYDRANT	SN
TWIN OUTLET SWAN NECK FIRE HYDRANT	SN
FIRE SERVICES CONNECTION	F
VALVES	
BUTTERFLY VALVE	BV
SLUICE VALVE	SV
GATE VALVE	GV
STOP COCK	SC
SINGLE AIR VALVE	SAV
DOUBLE AIR VALVE	DAV
WASHOUT VALVE	WOV
NON RETURN/REFLUX VALVE	NRV
FLOW REGULATING VALVE	FRV
NORMALLY CLOSED VALVE	
PRESSURE CONTROL/REDUCING/RELIEF VALVE	PRV
FLAP VALVE	FV
OTHERS	
STANDPIPE	STP
VENTURI TUBE	VEN
INSPECTION MANHOLE TEE	IT
AIR VALVE ON INSPECTION MANHOLE TEE	ITV
INSPECTION MANHOLE	IMH
WATER TUNNEL	
ESSENTIAL VALVE REFERENCE NUMBER	C 600123
LEAKAGE COLLECTION CHAMBER	LCC
LEAK NOISE CORRELATION POINT	LNC
CATHODIC PROTECTION POINT	CPP
CHECK METER/FLOWMETER	FM
WASTE DETECTION METER	WDM
DISTRICT METER WITH STRAINER	DM
FLOW MEASUREMENT CHAMBER FOR ULTRASONIC FLOW METER	FMC
SHALLOW COVERED WATER MAINS	SCM
CHANGE IN PIPE	
BLANK FLANGE/END CAP	
PIPES CONNECTED	
PIPES CROSS OVER	

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NOTES:

1. WSD MAINS INCLUDE:
   (a) MAINS LAID AND MAINTAINED BY WSD.
   (b) MAINS LAID BY OTHER DEPARTMENTS OR PRIVATE PARTIES BUT MAINTAINED BY WSD AT WSD'S COST.
2. PRIVATE MAINS INCLUDE MAINS IN PRIVATE ROADS, PRIVATE HOUSING ESTATES, ETC. NOT MAINTAINED BY WSD.
3. MAINS OF OTHER DEPARTMENTS INCLUDE MAINS LAID BY OTHER GOVERNMENT DEPARTMENTS NOT MAINTAINED BY WSD.

ABBREVIATIONS

PIPE MATERIALS

AC	ASBESTOS CEMENT
CI	CAST IRON
CONC	CONCRETE
COPP	COPPER ALLOY
DI	DUCTILE IRON
GI	GALVANIZED IRON
GIL	LINED GALVANIZED IRON
GRP	GLASS FIBRE REINFORCED PLASTIC
HDPE	HIGH DENSITY POLYETHYLENE
MDPE	MEDIUM DENSITY POLYETHYLENE
PE	POLYETHYLENE
GMS	GALVANIZED MILD STEEL
MS	MILD STEEL
S	STEEL
UPVC	UNPLASTICISED POLYVINYL CHLORIDE

REHABILITATION METHODS

RA	CURED IN PLACE PIPE (CIPP)
RB	CLOSE FIT ("FOLD AND FORM" SYSTEM)
RC	PIPE BURSTING
RD	SLIP LINING/SLIP INSERTION
RE	CLOSE FIT ("SWAGELINING" SYSTEM)
RF	FIBRE REINFORCED PLASTIC (FRP) SYSTEM
RG	INTERNAL LINING REPAIRED
RH	EXTERNAL COATING REPAIRED
RJ	CATHODIC PROTECTION INSTALLED

DESIGNATIONS

'450DI99' DESIGNATES 450mm DIAMETER DUCTILE IRON PIPE LAID IN 1999.

'600S03(E)' DESIGNATES 600mm DIAMETER STEEL PIPE LAID IN 2003 (ENTRUSTMENT).

'600DI97(W10582/2B)' DESIGNATES 600mm DIAMETER DUCTILE IRON PIPE LAID IN 1997 WITH DRAWING REFERENCE (W10582/2B).

'150DI04WO, 150DI04F, 150DI04OF' DESIGNATES 150mm DIAMETER, DUCTILE IRON PIPE MATERIAL, LAID IN 2004, OF TYPE WASHOUT PIPE, FIRE SERVICE MAINS AND OVERFLOW PIPE RESPECTIVELY.

'150CIRA04' DESIGNATES 150mm DIAMETER CAST IRON PIPE REHABILITATED IN 2004 BY CURED IN PLACE PIPE METHOD (SEE ABBREVIATIONS).

'600S03(L), 600S03(DRY), 600S03(PC)' DESIGNATES 600mm DIAMETER, STEEL PIPE MATERIAL, LAID IN 2003 WITH LEAKAGE COLLECTION SYSTEM, DRY MAINS AND PENDING COMMISSION MAINS RESPECTIVELY.

'80PE09(TMF)' DESIGNATES 80mm DIAMETER, POLYETHYLENE PIPE MATERIAL, LAID IN 2009, TEMPORARY MAINS FOR FLUSHING.

修訂 REVISION

編號 no.	日期 date	摘要 description	簽署 initial
B	11/02/11	GENERAL REVISION	SE/Dev(SD)
A	16/06/05	GENERAL REVISION	(Signed) K.T. CHAN SE/AM

圖則名稱 drawing title	簽署 initial	日期 date	圖則編號 drawing no.	比例 scale
MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS	繪製 drawn (Signed) C.M. CHAN	16/06/05	SK 3988B	NOT APPLICABLE
	核對 checked			
	加簽 endorsed			
	核准 approved (Signed) C.C. CHAN CE/RA	12/03/98		

水務署 Water Supplies Department

PLOTTING SCALE 1 : 1

CAD REF. SK3988BDWG

A4 210 X 297

Appendix 4.2

Capacity Checking on Existing Freshwater Main

PROJECT: Proposed Transitional Housing Development at Ping Che Road, Fanling

WATER DEMAND REVIEW

Detailed Calculation of Water Demand

Water Type	Location	Category	Number of Units	Total GFA	Population	Unit Demand Factor	Freshwater Demand (m3/day)	Daily Demand (m3/day)	Peaking Factor	Peak Daily Demand (m3/day)	Remarks
Freshwater	Project Site	1P Unit	384	N/A	384	0.23	88.3	217.3	3.0	651.9	
		2P Unit	130	N/A	260	0.23	59.8				
		3P Unit	60	N/A	180	0.23	41.4				
		4P Unit	20	N/A	80	0.23	18.4				
		Accessible Unit	2	N/A	12	0.23	2.8				
		Non-residential	N/A	849	29	0.23	6.6				
Saltwater	Project Site	1P Unit	384	N/A	384	0.07	26.9	65.6	2.0	131.2	
		2P Unit	130	N/A	260	0.07	18.2				
		3P Unit	60	N/A	180	0.07	12.6				
		4P Unit	20	N/A	80	0.07	5.6				
		Accessible Unit	2	N/A	12	0.07	0.8				
		Non-residential	N/A	849	29	0.05	1.4				

Note:
1. WSD (DI) No. 1309 is generally followed. Where relevant information is not available, the assumptions will be based on other similar parameters
2. Assume R1 is adopted for the residential units

Annex 1

Legend

- 1 At-grade Planter w/ Bench
- 2 Mini Basketball Court
- 3 Badminton Court
- 4 Jogging Trail
- 5 Floor Play Graphic
- 6 Elderly Fitness Zone
- 7 Healthy Trail
- 8 Outdoor Table
- 9 Community Farm
- 10 Multi-functional Space
- 11 Movable Bench
- Potential Area for seedling of *Aquilaris sinensis*
- Site Boundary
- Pedestrian Entrance to Transitional Housing
- Pedestrian Access
- Pedestrian Access To Elderly Service Centre
- Hard Paved Area
- Planting Area
- Existing Trees (98 nos.)
- New Trees (50 nos.)



LP Submission - Landscape Layout Plan

Scale 1:500

Site Area: APPROX. 13,207m²

SECTION 16 PLANNING APPLICATION TOWN PLANNING ORDINANCE (CAP. 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

- Supplementary Planning Statement -

TOWNLAND CONSULTANTS LIMITED

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

SECTION 16 PLANNING APPLICATION

Supplementary Planning Statement

Applicant	Pok Oi Hospital
Planning Consultant and Visual Impact Specialist & Submitting Agent	Townland Consultants Limited
Architect	Studio Raymond Chau Architecture Limited
Traffic Consultant	MVA Hong Kong Limited
Landscape Consultant	Otherland Limited
Environmental and Engineering Consultant	WSP (Asia) Limited

File Reference: URA/PCRHYR

For and on behalf of Townland Consultants Limited

Approved by : _____

Position : Director

Date : 26/11/2021

26 November 2021

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EXECUTIVE SUMMARY

This Section 16 Planning Application is submitted on behalf of Pok Oi Hospital (the "**Applicant**") to seek permission from the TOWN PLANNING BOARD ("**TPB**"/"the **BOARD**") for Proposed Transitional Housing Development on a 7-year temporary basis ("**Proposed Transitional Housing**") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("**Application Site**"). This project has a unique role to support Government to deliver committed social housing (urgent temporary accommodation) objectives.

The Application Site is zoned "Government, Institution or Community" ("**G/IC**") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("**OZP**") No. S/NE-TKL/14 ("**Approved OZP**"). The planning intention of the "G/IC" zone is *"primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments*." The Proposed Transitional Housing is fully in line with the planning intention of the Application Site.

The Applicant intends to develop the Application Site (approx. 13,207m^2) for Temporary Transitional Housing consisting of two (2) 4-storey residential blocks provided through Modular Integrated Construction ("**MiC**") design. A 1-storey Multi-purpose Amenity Block and a 1-storey Elderly Service Centre Block will be provided to house ancillary facilities for residents and the neighbourhood. The Proposed Transitional Housing will be developed with a total Plot Ratio of approx. 1.13 (i.e. total Gross Floor Area ("**GFA"**) of approx. 14,924 m^2) of which approx. 1,124 m^2 is non-domestic GFA. A total of 596 units will be provided, housing about 916 persons. This S16 Planning Application is not only a direct response to current Government Policy Initiatives to address housing problem, but also generates Public Planning Gain ("**PPG**") by facilitating development of transitional housing in an environment that supports community interactions and sense of place.

The Proposed Transitional Housing is justified on the following grounds:

- The Proposed Transitional Housing is fully in line with Government's current policy in providing transitional housing in the short term. It can alleviate the hardship faced by families awaiting public rental housing and the inadequately housed;
- The Proposed Transitional Housing is fully in line with the planning intention of the Application Site;
- The Proposed Transitional Housing will not increase pressure on the existing community facilities in Ping Che but enhance community support network and services for the neighbourhoood;
- The Proposed Transitional Housing will adopt the use of MiC technology to enhance building productivity and safety, construction quality and sustainability;
- The Proposed Transitional Housing will be provided on a temporary nature and will not result in any adverse impacts to the long term planning intention nor reduce any planned public services to the local community;
- The use of MiC technology in constructing the Proposed Transitional Housing will not only enable housing units be provided readily, but will also allow for the housing modules to be easily dismantled and relocated upon expiry of the temporary approval with minimal impact to the Application Site;
- Various technical assessments have been undertaken to demonstrate that there will be no adverse landscape, infrastructural, traffic or environmental impacts; and
- The use of this Application Site for Transitional Housing is considered to be appropriate and desirable precedent as it will enable the provision of temporary housing in the short-term to help alleviate the pressing problem of housing supply.

Based on the above justifications and as detailed in this Supplementary Planning Statement ("**SPS**"), we respectfully request the BOARD to give favourable consideration to this Application.

行政摘要

（內文如有差異，以英文版本為準）

根據《城市規劃條例》第十六條，我司代表博愛醫院（下稱「申請人」）向城市規劃委員會（下稱「城規會」）呈交規劃申請書，徵求批准不超過 7 年的臨時過渡性房屋發展（下稱「擬議過渡性房屋」）。擬議過渡性房屋位於打鼓嶺坪輋丈量約份第 82 約的政府土地（下稱「申請地點」）。這項目具有協助政府建設已承諾社會房屋（急切臨時居所）的獨特的角色。

申請地點座落於〈坪輋及打鼓嶺分區計劃大綱核准圖編號 S/NE-TKL/14〉（下稱「核准圖」）中的「政府、機構或社區」地帶。「政府、機構或社區」地帶的規劃意向「主要是提供政府、機構或社區設施，以配合當地居民及 / 或該地區、區域，以至全港的需要；以及是供應土地予政府、提供社區所需社會服務的機構和其他機構，以供用於與其工作直接有關或互相配合的用途。」擬議過渡性房屋完全符合有關地帶的規劃意向。

申請人擬議於申請地點（約 13,207 平方米）以組裝合成建築法發展臨時過渡性房屋項目，包含 2 幢 4 層高的住宅大樓。 1 層高的多用途社區大樓及 1 層高的長者服務中心將容納提供予居民和社區的輔助設施。擬議過渡性房屋的發展將不會超過地積比率 1.13 倍（即總樓面面積約 14,924.00 平方米），其中不多於 1,124 平方米為非住用總樓面面積。擬議過渡性房屋一共提供 596 個單位，可容納約 916 人。此第 16 條規劃申請不單是對政府解決當前香港住屋問題的現行政策倡議的直接回應，並通過在支持社區聯繫和地方感的環境下發展過渡性房屋帶來規劃增益。

擬議過渡性房屋具備以下充分理據的支持：

- 擬議過渡性房屋完全符合政府當前的政策，在短期內提供過渡性房屋可以紓緩居住環境惡劣和長時間輪候公屋家庭的壓力；
- 擬議過渡性房屋發展完全符合申請地點的規劃意向；
- 擬議過渡性房屋不會對坪輋現有社區設施增加壓力，相反能為當地改善社區支援網絡和服務；
- 擬議過渡性房屋將採用「組裝合成」建築法，以提高建築效率和安全性、建築質量和可持續性；
- 擬議過渡性房屋將會是以臨時形式提供，並不會對長遠規劃意向帶來影響或減少任何社區已規劃的公共服務；
- 採用「組裝合成」建築法不單能迅速地提供住宅單位，更能容許將來在臨時性用途許可過期後輕易地拆除和重置住宅單位，以減低對申請地點的影響；
- 已進行了不同的技術評估以證明擬議過渡性房屋不會對景觀、基礎建設、交通或環境造成不良影響； 和
- 由於擬議過渡性房屋將於短期內增加臨時房屋供應及有助改善房屋短缺的迫切性問題，把申請地點用作過渡性房屋發展將樹立適當和可取的先例。

鑒於上述原因及這份補充規劃文件中詳述的理由，我司懇請城規會考慮批准是次規劃申請。

Reference: URA/PCRHYR/PCR/VIN/01
Date: 26 November 2021

TO THE TOWN PLANNING BOARD:

SECTION 16 PLANNING APPLICATION
THE TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT
ON A 7 YEARS TEMPORARY BASIS
AT GOVERNMENT LAND IN DD 82,
PING CHE, TA KWU LING, NEW TERRITORIES

1. INTRODUCTION

1.1 Background and Purpose

1.1.1 We are instructed by Pok Oi Hospital ("**POH**" / the "**Applicant**"), to submit this Section 16 ("**S16**") Planning Application to seek permission from the Town Planning Board ("**TPB**"/ the "**BOARD**") for Proposed Transitional Housing Development on a 7-year temporary basis ("**Proposed Transitional Housing**") at Government Land in D.D. 82, Ping Che, Ta Kwu Ling ("**Application Site**"/ "**Site**").

1.1.2 The Application Site is zoned "Government, Institution or Community" ("**G/IC**") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("**OZP**") No. S/NE-TKL/14 ("**Approved OZP**"). The planning intention of the "G/IC" zone is "*primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.*" The Proposed Transitional Housing is fully in line with the planning intention of the Application Site.

1.1.3 This S16 Planning Application is a unique project providing a direct response to current Government Policy Initiatives to address housing supply problem by providing transitional housing to meet the short term needs of people awaiting public housing.

1.1.4 This Supplementary Planning Statement ("**SPS**") provides relevant information on the Application to facilitate the BOARD's consideration. The following sections will provide a description of the Application Site and its surroundings, the planning context, details of the Proposed Transitional Housing and possible Public Planning Gain ("**PPG**") to the neighbourhood together with the justifications in support of the Application for Temporary Use.

1.2 Planning Vision and Design Principles

To Provide Short-term Transitional Housing for the Community under Government Policy

1.2.1 Housing shortage remains one of the most important livelihood issues facing our current society. The limited supply and lack of housing affordability has given rise to numerous debates and is a source of social discontent. The Chief Executive has continued to reaffirm the Administration's determination in tackling this issue in recent Policy Addresses.

1.2.2 Government is determined to increase the supply of housing in a persistent manner whilst introducing more transitional housing in short term. The Government has recognized the acute housing problem "*toughest livelihood issue facing Hong Kong society. It is also a source of public grievances.*"

1.2.3 Since there is urgent need and it is temporary, Modular Housing Units (via Modular Integrated Construction method ("**MiC**")) are adopted. This is an environmentally sustainable solution that reduces construction wastes whilst the modules can also be reused in the future after being transported off the Site. On the other hand, the living environment is well planned and managed whilst residents await availability of permanent public housing. The Applicant will be responsible for implementation and operation of the Proposed Transitional Housing for at least 7 years after completion.

2. SITE CONTEXT

2.1 Site Location and Existing Uses

2.1.1 The Application Site is located along Ping Che Road in Ping Che, Ta Kwu Ling (***Figures 2.1*** *and* ***2.2*** refer). A vacant school premises (formerly known as Sing Ping School) is located at the eastern portion of the Site. The remaining area of the Site is mainly vegetated with some illegal temporary structures. The area of the Application Site is approx. 13,207m^2.

2.2 Land Status

2.2.1 The area of the Application Site is approx. 13,207m^2. The Application Site is solely on Government land. The Applicant will apply for Short-Term Tenancy for the Proposed Transitional Housing after obtaining the planning approval.

2.3 Surrounding Land Uses

2.3.1 The Application Site is predominantly surrounded by low-rise village developments, temporary structures/uses, agricultural farmlands and open storage areas. Photos of the Surrounding Area are provided in ***Figures 2.3***.

- To the immediate north of the Site are the Caritas Fung Wong Fung Ting Home and Caritas Nursery School, a Residential Care Home for the Elderly ("**RCHE**") and nursery school respectively operated by Caritas Hong Kong. To the further north and northeast of Site comprises of a series of active farmlands.

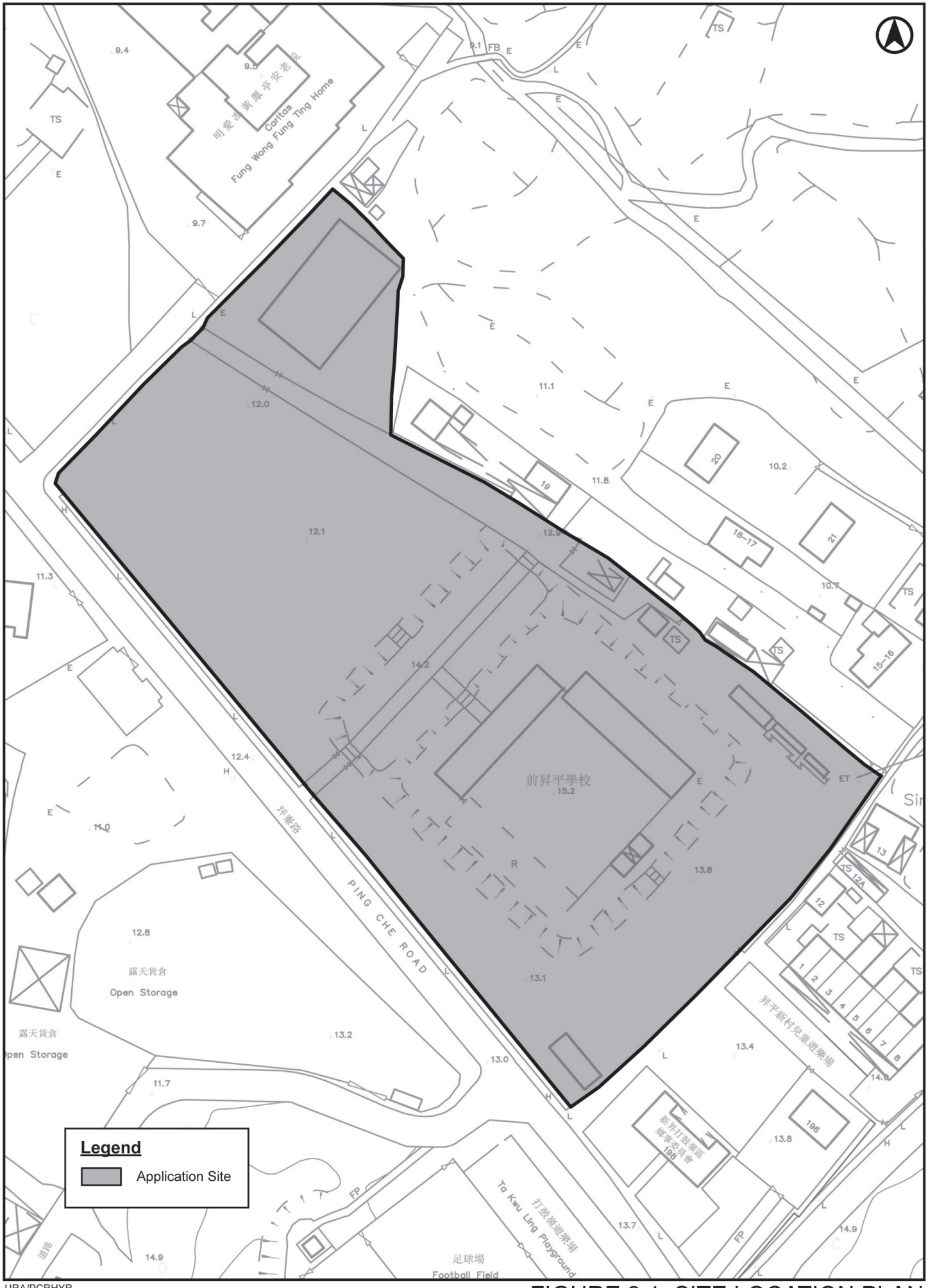
- Sing Ping Village and the Sing Ping San Tsuen Children's Playground are located to the immediate east of the Site. The Ta Kwu Ling Rural Centre/Ta Kwu Ling District Rural Committee building is abutting the southeast corner of the Site. A Taoist Temple called Wun Chuen Sin Kwoon is located to the further southeast of the Site.

- The Ta Kwu Ling Playground is located to the south of the Site. Across Ping Che Road and to the immediate west and further northwest of the Site comprise of various lots for open storage use. An active farmland is also located to the immediate northwest of the Site.

2.4 Accessibility

2.4.1 Vehicular and pedestrian access to the Application Site is at Ping Che Road. The Application Site is served by franchised bus and minibus routes. Additional details are provided in ***Appendix 4***.

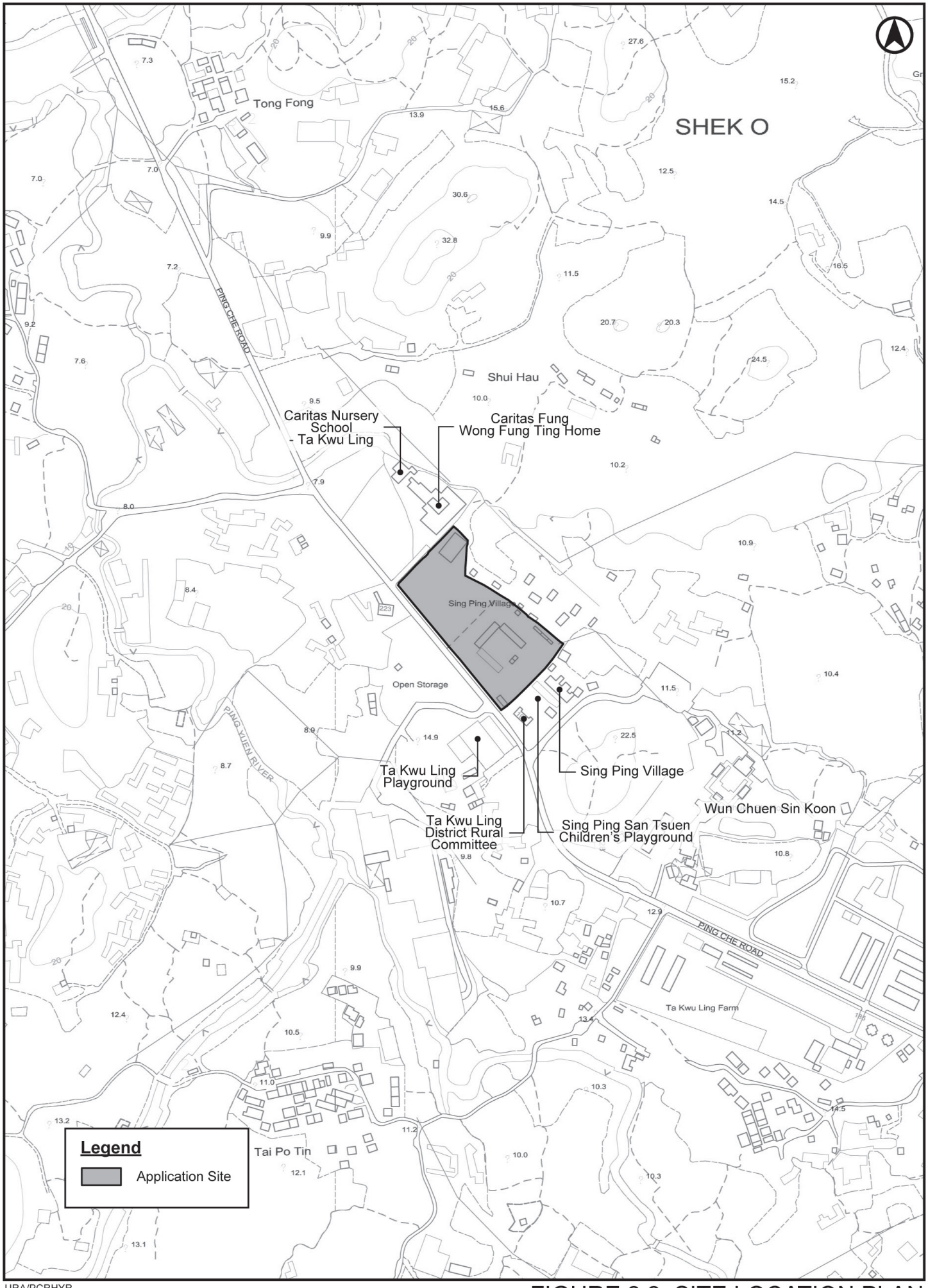
2.4.2 The Application Site is also well connected to the surrounding area via walking.



URA/PCRHYR

FIGURE 2.1 SITE LOCATION PLAN

SCALE 1 : 1,000



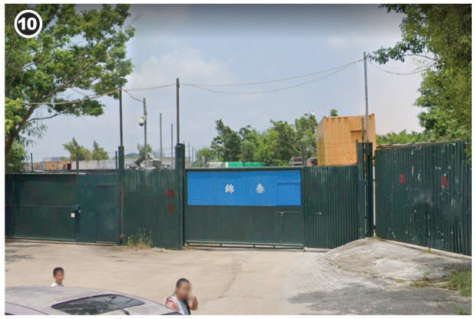
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FIGURE 2.2 SITE LOCATION PLAN

SCALE 1 : 5,000



Bus Stop (79K to Sheung Shui MTR)



Open Storage (to the further west near the pavillion)



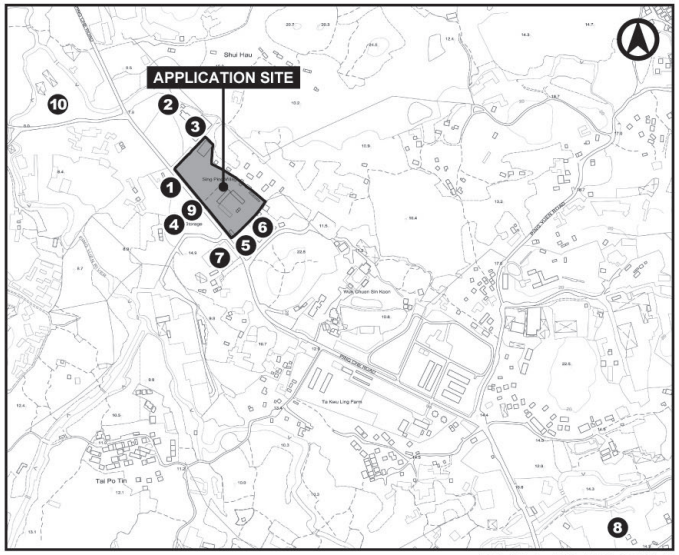
Sing Ping School



Ping Che Mini Soccer Pitch



Caritas Nursery School - Ta Kwu Ling



SCALE : NOT TO SCALE



Ta Kwu Ling Playground



Caritas Wong Fung Ting Home



Open Storage (to the immediate south)



Ta Kwu Ling Rural Committee



Sing Ping San Tsuen Children's Playground

URA/PCRHYR

FIGURE 2.3 PHOTOS OF THE SURROUNDING USES AROUND THE APPLICATION SITE

3. PLANNING CONTEXT

3.1 Statutory Planning Context

Approved Ping Che and Ta Kwu Ling Outline Zoning Plan No. S/NE-TKL/14

3.1.1 The Application Site is zoned "Government, Institution or Community" ("**G/IC**") on the Approved Ping Che and Ta Kwu Ling Outline Zoning Plan ("**OZP**") No. S/NE-TKL/14 ("**Approved OZP**") (***Figure 3.1*** refers).

3.1.2 The planning intention of the "G/IC" zone is "*primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.*" The Proposed Transitional Housing is fully in line with the planning intention of the Application Site.

3.1.3 Notwithstanding, the temporary nature of this S16 Planning Application will not undermine the long term planning intention/ long term land use of the Application Site/ Vacant School Site. The use of MiC technology in constructing the Proposed Transitional Housing will not only enable housing units be provided readily, but will also allow for the housing modules to be easily dismantled and relocated upon expiry of the temporary approval with minimal impact to the Application Site.

3.2 Non-Statutory Planning Context

The Chief Executive's 2019 Policy Address ("Policy Address")

3.2.1 In The Chief Executive's 2019 Policy Address, the Chief Executive continues to recognise that housing is the toughest livelihood issue facing Hong Kong society. At present, the average waiting time for Public Rental Housing ("**PRH**") is as long as 5.4 years. One of the responses by the Government to this situation is introducing more transitional housing. (***Para. 13 of The Chief Executive's 2019 Policy Address*** refers). The Chief Executive announced in January 2020 Government plans to increase the supply target of transitional housing projects substantially to provide a total of 15,000 such units in the coming three years. This was further increased by the Chief Executive in the 2021 Policy to 20,000 units in the coming few years. These units will be built on temporarily vacant government land and public facilities, as well as land lent by private developers. (***Para. 16 of The Chief Executive's 2019 Policy Address*** refers).

Task Force on Transitional Housing

3.2.2 The Task Force on Transitional Housing ("**Task Force**") has been established under the Transport and Housing Bureau ("**THB**") to proactively assist and facilitate various short-term initiatives proposed and implemented by the community/non-government organisations ("**NGOs**") with a view to increasing the supply of transitional housing. To facilitate such transitional housing initiatives, the Funding Scheme to Support the Transitional Housing Projects by Non-government Organisations ("**the Funding Scheme**") has been set up, with HK$5 billion set aside by the Government and approved by the Finance Committee of the Legislative Council, to facilitate NGOs to take forward worthy transitional housing projects.

Report of the Task Force on Land Supply

3.2.3 A report issued by the Task Force on Land Supply in December 2018, notes that the Government is actively assisting non-profit-making organisations to explore the feasibility of constructing pre-fabricated modular housing for transitional use on idle private and government sites to help address the short-term mismatch in land supply and demand due to the lead time required to create and supply land.

Preliminary Feasibility Study on Developing the New Territories North

3.2.4 In view of the vast tracts of undeveloped areas in the New Territories North ("**NTN**") (including land already released from the Closed Area) that could be considered for meeting the long-term development needs of Hong Kong, Civil Engineering Development Department ("**CEDD**") and Planning Department ("**PlanD**") jointly commissioned the Preliminary Feasibility Study on Developing the New Territories North ("**NTN Study**") in 2014. The NTN Study completed in 2017 and formulated a Concept Plan for the NTN (including Ping Che, Ta Kwu Ling, Kong Nga Po and Lung Yeuk Tau etc) and strategic infrastructure requirements.

3.2.5 According to the Broad Land Use Concept Plan of the Final Report for the NTN Study, the Application Site was designated for G/IC uses. As the consultancy for the Planning and Engineering Study for NTN New Town and Man Kam To has recently commenced, which will guide the detailed planning and implementation of the future developments of the NTN New Town area covering the Application Site, the Applicant will closely liaise with relevant Government Departments, including PlanD and CEDD, such that the Proposed Transitional Housing Development will not undermine the land use planning of the Application Site and will vacate timely for the construction works for NTN New Town.

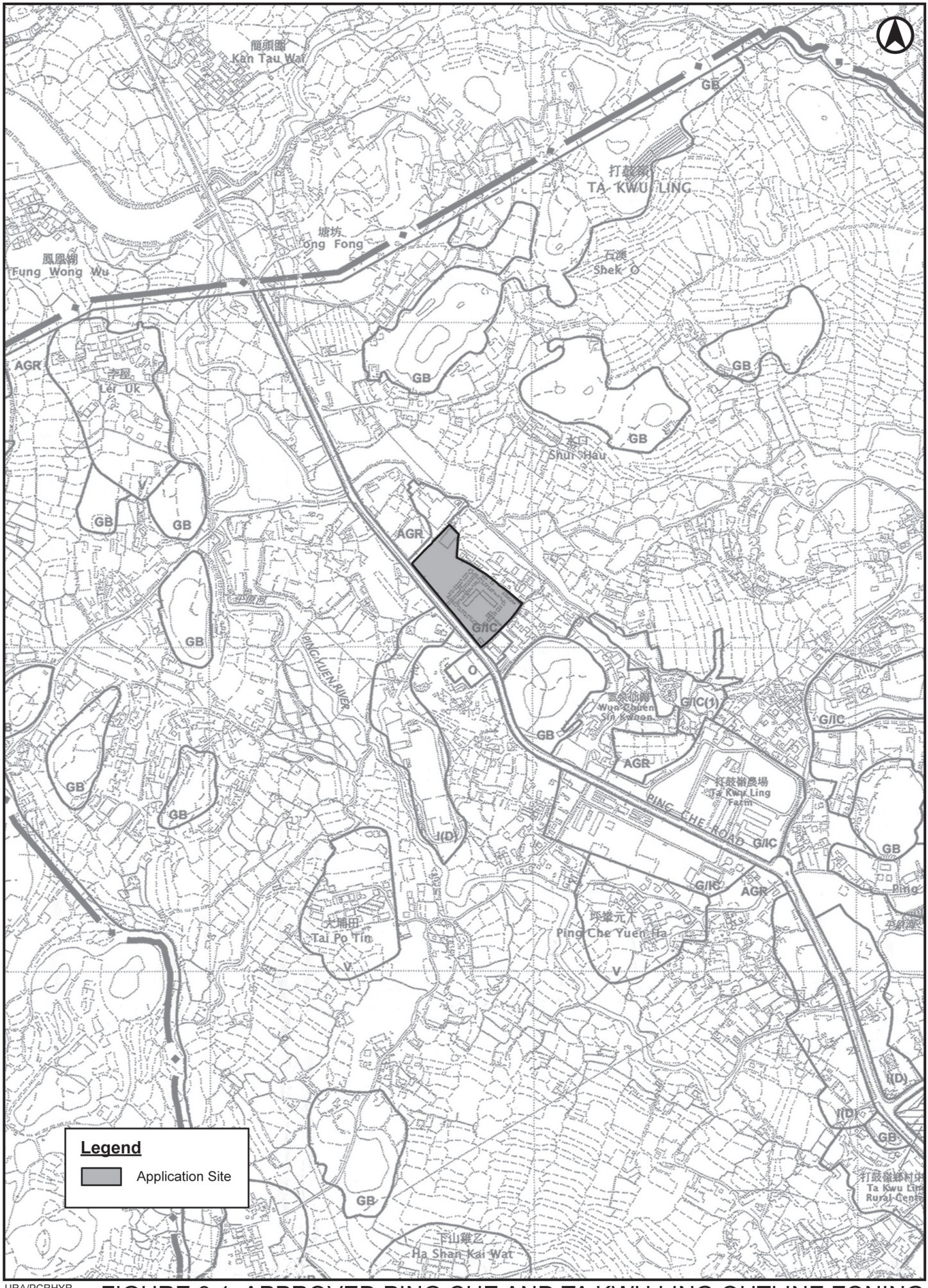
Vacant School Premises Sites Reviewed under the Central Clearing House Mechanism

3.2.6 Upon confirmation from Education Bureau ("**EdB**") regarding any vacant school premises ("**VSP**") which is no longer required for school uses, PlanD will conduct review on these sites and recommend appropriate alternative long-term uses. According to the Review Report, Sing Ping School (i.e. VSP on the Site) is recommended to serve for G/IC uses. Any application to Lands Department ("**LandsD**") for short term use is under consideration. Notwithstanding, the temporary nature of this S16 Planning Application will not undermine the long term planning intention/ long term land use of the Application Site/ Vacant School Site.

3.3 Planning History

Previous Applications

3.3.1 From a search of the Statutory Planning Board portal conducted on 03 November 2021, there are no previous Planning Applications pertaining to the Site.



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FIGURE 3.1 APPROVED PING CHE AND TA KWU LING OUTLINE ZONING PLAN NO. S/NE-TKL/14 (EXTRACT)

SCALE 1 : 7,500

4. THE PROPOSED TRANSITIONAL HOUSING DEVELOPMENT

4.1 The Proposed Transitional Housing Development

4.1.1 The Applicant intends to develop the Application Site for Transitional Housing Development on a 7-years temporary basis, with a plot ratio of approx. 1.13 or a total GFA of approx. 14,924.00m^2, of which approx. 1,124.00m^2 is non-domestic GFA. A total of 596 units will be provided, housing approx. 916 persons (***Appendix 1*** refers). Minor excavation of land for site formation will be required during construction stage which will be filled and formed upon completion of the construction work.

4.1.2 The provision of Temporary Transitional Housing Development at the Application Site is subject to a number of constraints, including limited available infrastructure and the allowable public sewer connection capacity limiting the number of possible units provided at the Application Site; existing varying levels of the Site; and overall budgetary constraints.

4.1.3 A total of two (2) 4-storey residential blocks will be provided through MiC method, consisting of 4 types of flats (i.e. 1P; 2P; 3P and Accessible) for singletons, families, the elderly and disabled. The Applicant will be responsible for construction, choosing the families in residence, and daily management. The Residential component is provided at the western portion of the Site to minimise the site formation works required for levelling of the eastern portion (raised platform of the existing Sing Ping School Block) and the need for extensive EVA connection and associated construction works.

4.1.4 POH proposes to target low-income Hong Kong citizens who are considering relocating their homes to the Proposed Transitional Housing Development. 80% of the housing units are proposed to be allotted to families who have been waiting in the PRH queue for over 3 years, while the remaining 20% will serve low-income people/ families who are (i) living in undesirable conditions that are inapt for young children and the elderly; and (ii) spending over 31.8% of their household income in rent. The Project targets to build a total number of 596 transitional housing units for the qualified beneficiaries. It is estimated that approx. 916 residents can be served by the Project.

4.1.5 A 1-storey Multi-Purpose Amenity Block and a 1-storey Elderly Service Centre will be provided to house ancillary facilities for residents and the neighbourhood. The Applicant will also be responsible for the operation and management of the proposed facilities in the Amenity Blocks. In addition, a 1-storey E&M Block along Ping Che Road will be provided. The proposed E&M Block is necessary to provide the required E/M facilities. It also shields the residential units from potential air and noise impacts. Noise Barriers are also provided above the E/M Block, and along Ping Che Road to mitigate potential noise impacts. To soften the potential visual impact of the E/M Block, wall greening (e.g. climbers) and mural painting will be provided where practical. Noise Barriers will make use of transparent materials where practical to allow of visual and light penetration.

4.1.6 The location of the Multi-Purpose Amenity Block is provided in similar arrangement to the existing Sing Ping School Block to minimise visual change to the Area and to maintain the existing rural and visual character of the eastern portion of the Site. The disposition has also allowed for a number of existing trees to be retained.

Provision of Ancillary/Amenity Facilities

4.1.7 POH aims at developing a comfortable, harmonious and convenient living environment for the target beneficiaries. The Multi-Purpose Amenity Block and Elderly Service Centre will house space for social welfare amenities and shared services on site. The Multi-Purpose Amenity Block will provide services including small-scale grocery, convenience store, small scale canteen/ fast food store, community centre/ office, multi-purpose community room providing family service and neighborhood service, and management office (located onsite to supervise proposed services), as appropriate to serve the future residents and surrounding local community. Playground, multi-purpose outdoor space, fitness corner, etc are also proposed.

4.1.8 At the Elderly Service Centre, the Applicant intends to provide elderly related recreational and social activities, health promotion, meal service for the needy / elderly, family / cross generation activities, counselling service / service to elderly with cognitive impairment. Other services include volunteer training and service, re-employment training for the young old, and training / support services to carers. The Elderly Service Centre will be open for residents and the wider community's use, and will be easily accessible off of Ping Che Road.

4.1.9 The Applicant will also encourage "co-management activity" among tenants to provide management services including cleaning, security, repair & maintenance, and waste management.

4.1.10 These ancillary/amenity facilities will be provided in compliance with relevant licensing conditions and requirements (as necessary) to meet the needs of residents. POH is fully responsible for the management of all services to be provided either outsourced or in-house.

4.2 Design Merits

4.2.1 The Proposed Transitional Housing has considered beyond the conventional interim housing standard to create an environment that supports community interactions and sense of place. A key design feature of the Proposed Transitional Housing module is adopting naturally-ventilated toilets and kitchens in each unit, which enhances both air circulation/flow and daylight penetration within the unit, also improves energy efficiency, and thereby greatly improving the quality of living for residents.

4.2.2 This concept is extended to the corridors of each housing block, where corridors are also naturally ventilated, enabling daylight penetration and visual connections from the building to outdoor open spaces, improving the perception of security in the residential complex.

4.2.3 The Modular Units are arranged in blocks that facilitate interactions between neighbours and that can provide a real sense of community. The composition of the building blocks creates a series of open spaces (i.e. courtyards/pocket gardens) to enhance privacy and security for residents while inducing a stronger sense of community. A Multi-Purpose Amenity Block and Elderly Service Centre will house additional space for communal activities and shared services, and small shops to serve the local community.

4.2.4 Architectural elements, namely, colourful array of cladding panels on the facades will break up and soften the bulkiness of the building blocks. The application of vivid colours to serve as an identity element and enhance visual quality and readability of the urban spaces. Mural Paintings can be included to enhance visual interest, especially along Ping Che Road, where practical.

4.2.5 The Proposed Transitional Housing has adopted a pragmatic approach in its design intent. To maintain a people-oriented living atmosphere and ensure compatibility with surrounding developments, the Proposed Transitional Housing has adopted a Building Height ("**BH**") of not more than 4 storeys (15m absolute height). Furthermore, by adopting a BH of not more than 4 storeys, the Proposed Transitional Housing avoids the need for significant foundation works; enabling the development to be implemented in a timely fashion while also reducing the need for complicated site reinstatement works post-development.

4.2.6 The building layout is also to provide open areas wherever possible. Internal pocket open spaces are provided away from Ping Che Road and shielded from any potential noise and air nuisances by the Residential Blocks. Sufficient landscape screening and fencing around the Application Site will also be provided to shield the Proposed Transitional Housing from surrounding developments. The Applicant will also consider the use of solar panels, promotion sustainability and use of renewable energies, where practical.

4.2.7 An Open Space is provided at the existing raised platform in the central courtyard of the Multipurpose Amenity Block with Elderly Fitness Zone, Outdoor Table, Healthy Trail, and Community Farm for residents and public enjoyment. Similar to the pocket open spaces, the

Multipurpose Amenity Block will shield this courtyard open space from any potential noise and air nuisances. To preserve the visual character and amenity of the Site, existing vegetation surrounding the raised platform is kept untouched.

4.2.8 To facilitate pedestrian movement from Ping Che Road to the residential areas of Sing Ping Village northeast of the Application Site, a 2m pedestrian access path is provided transversing the Application Site, providing access for the public at all times. A ramp is also provided to allow for barrier free access to navigate the change in platform levels to the Multipurpose Amenity Block.

4.3 Technical Schedule for the Development Scheme

4.3.1 The Technical Schedule at **Table 4.1** summarizes the major development parameters of the Proposed Transitional Housing Development:

Table 4.1 – Technical Schedule

TECHNICAL SCHEDULE	
Site Area	Approx, 13,207m^2
Plot Ratio	Approx. 1.13
Total GFA	Approx. 14,924.00m^2
Non-Domestic GFA	Approx. 1,124.00m^2
Total Site Coverage	Approx 34.63%
No. of Blocks	2 Residential Blocks + 2 Non-Domestic Blocks + 1 E/M Block
No. of Storeys	Residential Blocks: 4 Storeys Non Domestic Blocks: 1 Storeys
Building Height: Main Roof	Not more than 15m
Building Height (mPD)	Residential Blocks: Not more than +26.675mPD Amenity Blocks: Not more than +19.20mPD
No. of Housing Units	Not more than 596
Design Population	Approx. 916*
Open Space	No less than 1m^2 per person
At-grade greenery	Approx 33.5%

* *population estimates have been adopted based on the percentage breakdown for each unit type.*

4.4 Conceptual Landscape Design and Urban Design

4.4.1 The objective of the urban and landscape design is to provide synthesis between the Proposed Transitional Housing and the surrounding site context. The Proposal creates open space that closely corresponds with the common areas of the residential blocks to provide legible external pedestrian access and circulation. Approx. 4,430m^2 of at grade greenery areas is proposed (Approx 33.5% total greenery coverage). No less than 1m^2 per person of open space will be provided for recreation which include gathering areas, outdoor fitness areas, children's play areas, pocket gardens will be provided.(***Appendix 2*** refers).

4.4.2 A total of 218 nos. of trees within the Application Site were surveyed. No rare or endangered tree species or registered Old and Valuable Tree ("**OVT**") were found. All the species identified are common landscape species. Of the trees surveyed, 96 nos. of trees are proposed to be retained and 122 nos. of trees are proposed to be felled. Approximate 50 nos. of standard to heavy standard trees are proposed be planted within the Proposed Transitional Housing Development (***Appendix 2*** refers). Care has been taken to minimise tree felling as far as practical. Compensatory tree planting has been maximised in view of the housing development layout.

4.5 Transport Arrangement

4.5.1 The existing vehicular access to the Application Site is provided on the access road to Caritas Fung Wong Fung Ting Care Home. A 9.5m wide run-in / run-out is proposed at the existing vehicular access point to facilitate the turning of 12m-long fire engine and HGV (***Appendix 4*** refers).

4.5.2 It is anticipated that these families have no demand for private car parking space, and it is assumed 100% of the residents of Proposed Transitional Housing will rely on public transport. Therefore, it is proposed that no private car parking space and 2 loading / unloading laybys for heavy goods vehicles would be provided within the Application Site (***Appendix 4*** refers).

4.5.3 Various existing public transport services (i.e. bus and GMB) will allow the residents to travel to Sheung Shui, Fanling, and Ta Kwu Ling. In order to cater to the public transport demand from the Proposed Transitional Housing, additional public transport services of the franchised bus (i.e. Increase frequency of existing bus route 79K) are proposed. The exact additional public transport arrangement would be subject to further liaison with TD / relevant government department (***Appendix 4*** refers).

4.5.4 A bus layby is proposed along Ping Che Road southbound direction outside the Application Site to facilitate boarding / alighting of public transport passengers and to avoid potential blockage of other bypass traffic. In addition, in order to further enhance the pedestrian safety of public transport passengers (especially the elderly) crossing Ping Che Road, signalised pedestrian crossing is also proposed near the bus stops outside the Application Site(***Appendix 4*** refers).

4.6 Sewerage Arrangement

4.6.1 A new Terminal Manhole and respective sewer is proposed to be built to connect the Proposed Transitional Housing to the existing sewerage system. A holding tank will be built to lower the burden of pumping station. Review of the potential sewerage impact demonstrates that the existing sewerage system can provide adequate capacity to support the sewage generation associated with the Proposed Development. As such, no mitigation measures are needed for improvement *(**Appendix 6** refers).*

4.7 Tentative Implementation Programme

4.7.1 The anticipated completion date of the Proposed Transitional Housing Development is 2023. It is anticipated that the Propose Transitional Housing Development will operate until 2030.

5. PLANNING JUSTIFICATIONS

5.1 Providing Temporary Housing Supply under Government Policy

5.1.1 The Proposed Transitional Housing is supporting Government housing policy by providing 596 housing units in the short term for needy families, many who are currently living in substandard conditions. This supply is material in achieving Government's target of 20,000 transitional housing units as mentioned by the Chief Executive's 2021 Policy Address.

5.1.2 The implementation of the Transitional Housing development on Government Land ensures its suitability for immediate availability and timely implementation. The Application Site is highly suitable for transitional housing development and would not result in any adverse technical issues to the surrounding infrastructural network, and as such can be implemented in a timely manner to meet the urgent housing demand. This Application makes good and efficient use of idle government land to help families improve their quality of life.

5.2 Suitability of Location/Land Use Compatibility

5.2.1 The Application Site is highly suitable for the provision of Transitional Housing. The Site is well connected to public transport. Pedestrian connections are available to residents to access neighbouring areas, including connections to commercial, community and transport facilities, e.g. a number of bus/mini bus stops along Ping Che Road all located within walking distance.

5.2.2 It should also be noted that the Proposed Transitional Housing Development is in line with the planning intention of the subject zoning, which is mainly for "*intended for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments*." The Proposed Transitional Housing is fully in line with the planning intention of the Application Site.

5.2.3 The Proposed Transitional Housing, using modular housing units, is laid out in a well planned, organized, and orderly manner than not only provides a comfortable and livable community, but also ensures connectivity through the Site to surrounding areas for residents. Visual amenity will also be upgraded through landscaping. Special care has been taken to ensure that disposition of housing modules made with due consideration of surrounding site context and suitable screening/buffering with surrounding developments are made.

5.3 Creating a Sense of Place through Provision of Community Facilities, Amenity Space and Connections to the Neighbourhood

5.3.1 In order to provide a welcoming sense of community for residents, a unique identity will be created for the Proposed Transitional Housing. Through the creation of a defining entrance way, focal points/public squares and adopting innovative architectural imagery to establish a distinctive image for the development. A sense of space and neighbourhood will be created within the development.

5.3.2 The Proposed Transitional Housing will be operated and managed by POH which is a non-profit organisation. In addition to providing housing units to tackle the housing problem, care will also be given to assist the local community through social services and building community support networks. The Proposed Transitional Housing Development will provide a Community Centre/Office within the on-site Multipurpose Amenity Block and Elderly Service Centre to provide social services to residents at the individual and community levels, such as community resources to improve their capacity in tackling everyday living challenges and to promote moral and social well being of the community.

4.2.1 The Non-Domestic GFA totalling approx. 1,124m^2 will house space for social welfare amenities and shared services on site. The Multi-Purpose Amenity Block will provide services including small-scale grocery, convenience store, small scale canteen/ fast food store, community centre/ office, multi-purpose community room providing family service and neighborhood service, and

management office (located onsite to supervise proposed services) as appropriate that can serve the wider neighbourhood and not just the residents in the temporary housing estate for daily needs. At the Elderly Service Centre, the Applicant intends to provide elderly related recreational and social activities, health promotion, meal service for the needy / elderly, family / cross generation activities, counselling service / service to elderly with cognitive impairment. Other services include volunteer training and service, re-employment training for the young old, and training / support services to carers. The Elderly Service Centre will be open for residents and the wider community's use, and will be easily accessible off of Ping Che Road. Playground, multi-purpose outdoor space, fitness corner, etc are also proposed.

4.2.2

5.3.3 A number of pedestrian connections will be provided to enable residents' to access neighbouring areas, including connections to community facilities in the vicinity. Similarly, the Multipurpose Amenity Block and Elderly Service Centre will be easily accessible by the wider community.

5.4 No Increased Pressure on the Existing Community

5.4.1 As the Proposed Transitional Housing is planned with sufficient open space, on-site communal amenities to cater to the planned temporary population, there is no increased pressure on existing community facilities. On site community services to be provided by the Applicant will also be opened for the benefit of the local community for the duration of the project.

5.4.2 Furthermore, the Proposed Transitional Housing will provide no less than $1m^2$ of open space per person for residents' enjoyment in the form of courtyards and pocket gardens easily accessible to each unit.

5.4.3 The Proposed Transitional Housing Development has allowed for potential improvements to bus services, again this will benefit not just the Proposed Transitional Housing, but the surrounding community.

5.5 Maintaining the Green and Open Space Elements of the Application Site

5.5.1 The Proposed Transitional Housing has adopted a range of landscape features and leisure activities to maximise the recreational and greening opportunities for residents and to create a healthy and enjoyable living environment. Open space provisions have been provided in accordance with Hong Kong Planning Standards and Guidelines ("**HKPSG**") recommendations of not less than $1m^2$ of open space per person in the form of courtyards and pocket gardens easily accessible to each unit. The layout of residential units form Pocket Courtyards that enable residents to engage in outdoor activities with other residents; and encourage outdoor activities such as table tennis, calisthenics, tai chi, yoga, etc. to promote a healthy and active lifestyle.

5.6 No Visual Impact

5.6.1 A Visual Appraisal ("**VA**") at ***Appendix 3*** has found that the Proposed Transitional Housing will have no adverse visual impact to sensitive view receivers in the surrounding area and is fully compatible in terms of visual impact.

5.7 No Adverse Traffic Impact

5.7.1 There will be no adverse traffic impact caused by the Proposed Transitional Housing. The Traffic Impact Assessment ("**TIA**") at ***Appendix 4*** has found that the Proposed Transitional Housing will have no adverse traffic impact to the surrounding road network and is considered acceptable from the traffic engineering point of view.

5.8 No Adverse Environmental Impact

5.8.1 An Environmental Assessment ("**EA**") has been undertaken and provided in ***Appendix 5***. Potential environmental impacts including air quality, noise, water quality, waste management, and land contamination have been assessed.

Air Quality

5.8.2 Considering that no fresh air intake / openable windows for residential units are within the buffer zones between the sensitive uses in the Application Site and the nearby road networks, no adverse impact arising from road traffic emissions is anticipated.

Noise Impact

5.8.3 Road traffic noise impact assessment is conducted, and the results show that the maximum traffic noise level at the Proposed Development is 74 dB(A) at Block 2, which exceeds the noise criterion of 70 dB(A) as stated in Chapter 9 of HKPSG. As such, vertical noise barriers close to the affected units, to +20.0mPD and +19.5mPD are proposed. After applying the mitigation measure, the maximum noise level predicted in Block 2 would be 70 dB(A), which comply with the 70 dB(A) noise criterion as stipulated in Chapter 9 of HKPSG, and as such no adverse traffic noise impacts are anticipated.

Water Quality

5.8.4 Proper internal drainage and sewerage facilities would be provided for the Proposed Transitional Housing. No adverse water quality impact would be anticipated.

Waste Management

5.8.5 Proper waste collection and transportation system will also be provided in the Proposed Transitional Housing in order to minimize potential adverse environment impacts. Provided that the environmental control measures are properly implemented, no adverse environmental impact is anticipated with respect to solid waste management.

5.9 No Adverse Infrastructural Impact

5.9.1 A Sewerage Impact Assessment ("**SIA**") has been undertaken and provided in ***Appendix 6***. There will be no adverse sewerage impact caused by the Proposed Transitional Housing.

5.9.2 A Drainage Impact Assessment ("**DIA**") has been undertaken and provided in ***Appendix 7***. It is concluded that existing open channel and proposed drainage system have enough capacity to cater for the surface runoff from the Project Site and the proposed development will have no adverse impact on existing public drainage system.

5.9.3 A Water Supplies Impact Assessment ("**WSIA**") has been undertaken and provided in ***Appendix 8***.

5.10 Achieving Sustainability Goals through the Use of MiC Technology

5.10.1 To ensure speedy implementation and dismantling of the Proposed Transitional Housing, the Applicant will adopt MiC technology, which follows the concept of "factory assembly followed by on-site installation". This allows for freestanding modules to be assembled, dismantled and re-assembled in various locations. It involves housing modules that are prefabricated in a factory, complete with finishes, fixtures and fittings, before being installed on site. Not only will this approach significantly reduce onsite construction processes, the use of prefabrication also contributes to sustainable development by using cleaner and more resources saving production process. MiC technology also contributes to sustainability and environmental friendliness by reducing dust and noise nuisance to the surrounding environment during construction, minimises construction waste and improves construction waste management. MiC has been proven effective to enhance building productivity and safety, construction quality and sustainability.

5.11 Desirable Precedent for Transitional Housing

5.11.1 Most importantly, given the current Government Policy Initiatives, the use of this Site for Transitional Housing is considered to be appropriate and desirable precedent as it will enable the

provision of temporary housing in the short-term to help alleviate the pressing problem of housing supply. It will bring a significant positive impact to the public housing sector as well as public benefits.

5.11.2 The Proposed Transitional Housing is a holistic approach that not only caters to the basic needs of the community for shelter, but also creates a healthy living environment that encourages socialisation and life skills training to the residents to assist them in their future lives.

6 CONCLUSION

6.1 This Section 16 Planning Application seeks planning permission for a Proposed Transitional Housing Development on a 7-year temporary basis. The Proposed Transitional Housing will be provided on a temporary nature and will not result in any adverse impacts to the long term planning intention nor reduce any planned public services to the local community. It has been demonstrated in this SPS that the Proposed Transitional Housing is justified on planning grounds to meet short term housing demand not at the expense of the existing infrastructure and community services as mitigation measures included and even additional community support services (offered by POH) will be provided. The use of MiC technology in constructing the Proposed Transitional Housing will not only enable housing units be provided readily, but will also allow for the housing modules to be easily dismantled and relocated upon expiry of the Temporary approval with minimal impact to the Application Site.

6.2 In light of the justifications and planning merits put forth in this SPS, we sincerely request the BOARD to give favourable consideration to this Application.

Edited &
Approved by: Cindy Tsang
Prepared by: Vincent Lau



Date: 26 November 2021
File Ref: URA/PCRHYR

TOWNLAND CONSULTANTS LTD.
URBAN AND REGIONAL PLANNING, DEVELOPMENT CONSULTANCY, MASTER PLANNING, URBAN DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, PROJECT MANAGEMENT AND SOCIAL DEVELOPMENT

Our Ref URA/PCRHYR/VIN/11
Date 09 December 2021

By Email and Fax Only

Secretary, Town Planning Board
c/o Planning Department
15/F North Point Government Offices
333 Java Road, North Point, HONG KONG

Dear Sirs

SECTION 16 PLANNING APPLICATION
THE TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES (TPB NO. A/NE-TKL/692)

We write regarding the captioned Planning Application submitted to the Town Planning Board ("**TPB**") on 26 November 2021.

Please be clarified that the Proposed Development consists of two (2) Domestic Blocks, two (2) Non-Domestic Blocks (Multi-Purpose Amenity Block and Elderly Service Center), and one (1) E/M Block, and one (1) Refuse Collection Point ("**RCP**") Block. Their respective indicative heights are provided below:

Domestic Block 1 & 2	About +26.675mPD	About 15m
Multi-Purpose Amenity Block	About +19.20mPD	About 4m
Elderly Service Centre	About +17.80mPD	About 4.8m
E/M Block	About +17.55mPD	About 5m
RCP	About +17.55mPD	About 5m

Please kindly note that there is no change to the Proposed Development nor to the conclusion of the Technical Assessments. Should there be any queries, please do not hesitate to contact Ms. Cindy Tsang or the undersigned.

Yours faithfully
FOR AND ON BEHALF OF
TOWNLAND CONSULTANTS LIMITED

Vincent Lau
Associate
VIN/yv
cc Client / Team

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URBAN AND REGIONAL PLANNING, DEVELOPMENT CONSULTANCY, MASTER PLANNING, URBAN DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, PROJECT MANAGEMENT AND SOCIAL DEVELOPMENT

Our Ref URA/PCRHYR/VIN/12
Date 11 January 2022

By Email and Hand

Secretary, Town Planning Board
c/o Planning Department
15/F North Point Government Offices
333 Java Road, North Point, HONG KONG

Dear Sirs

SECTION 16 PLANNING APPLICATION
THE TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES (TPB NO. A/NE-TKL/692)

We write regarding the captioned Planning Application submitted to the Town Planning Board ("**TPB**") on 26 November 2021.

Further to departmental comments received, please find our responses in the enclosed Responses-to-Comments Table (***Attachment 1*** refers).

In response to public comments received, the Applicant would like to reiterate that the traffic impact assessment has concluded that there will be no adverse traffic impact to the surrounding road network as a result of the Proposed Transitional Housing and is considered acceptable from the traffic engineering point of view. A bus layby is proposed along Ping Che Road southbound direction outside the Application Site to facilitate boarding / alighting of public transport passengers and to avoid potential blockage of other bypass traffic. In addition, in order to further enhance the pedestrian safety of public transport passengers (especially the elderly) crossing Ping Che Road, signalised pedestrian crossing is also proposed near the bus stops outside the Application Site. Enhancement of the existing franchised bus services is proposed, subject to further liaison with TD at a later stage. Technical assessments have also been undertaken to demonstrate that there will be no adverse landscape, infrastructural, or environmental impacts;

Please be clarified that the proposed E/M provision are proposed to be exempted from GFA calculation, subject to approval from the Buildings Authority.

Please note that the Applicant intends to operate the transitional housing for at least 7 years after completion, subject to TPB's approval of the future renewal applications.

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ISO 9001: 2015
Certificate No.: CC844

TOWNLAND

Our Ref URA/PCRHYR/VIN/12
Date 11 January 2022

Secretary, Town Planning Board

Minor discrepancies in the Site Boundary are noted. Please also refer to the updated Site Location Plan (1:1000, 1:5000) and Extract of the Approved OZP which follows the Site Boundary under the MLP for your information (***Attachment 2*** refers).

A consolidated Tree Treatment Plan and Compensatory Planting Plan is also provided in ***Attachment 3*** for easy reference.

Please kindly note that there is no change to the Proposed Development nor to the conclusion of the Technical Assessments. Should there be any queries, please do not hesitate to contact Ms. Cindy Tsang or the undersigned.

Yours faithfully
FOR AND ON BEHALF OF
TOWNLAND CONSULTANTS LIMITED

Vincent Lau
Associate

VIN/yv

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cc Client / Team

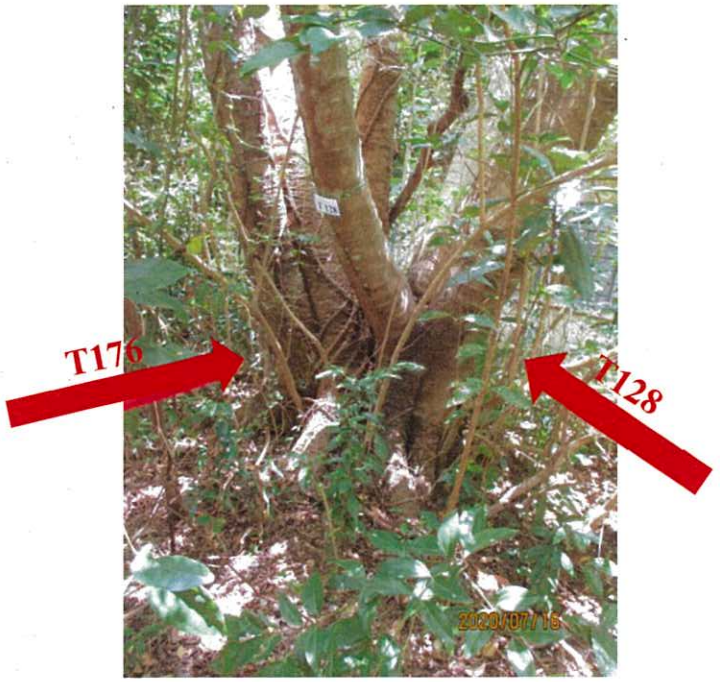
Attachment 1

RESPONSES-TO-COMMENTS TABLE

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES A/NE-TKL/692 - RESPONSES TO COMMENTS

Comments/ Suggestions		Consultant's Responses
A.	**Comments of Environmental Protection Department received from Planning Department dated 23/12/2021:**	
2	In view of the submission, we have no in-principle objection to the application subject to the following approval conditions:-	Noted.
a	Implementation of the sewerage improvement measures proposed by the applicant to the satisfaction of DEP; and	Noted.
b	Submission of a revised Noise Impact Assessment, and implementation of measures therein to the satisfaction of DEP.	Noted.
	Having said that, we have the following minor technical comments for the applicant's consideration please:-	
	Air Quality	
a	According to S.3.7.4 of the EA, it is understood that *"(QUOTE) the openable window of all residential units are outside the buffer zone, i.e. 5m from access road and 10m from Ping Che Road. ... building disposition will be further reviewed and sufficient setback will be provided to ensure there will not be fresh air intake (including that for the air conditioner) or openable windows within the buffer distance area"*. However, according to Figure 3.2, we note that the air conditioners of Block 2 residential blocks near Ping Che Road are currently within the 10m buffer distance from Ping Che Road and such inconsistency should be clarified.	Fig 3.2 has been revised (***Appendix 1*** refers). The building position will be further reviewed in later detailed design stage.
	Sewerage	
b	In Table 4.1 of the SIA, it is suggested to adopt the unit flow factor of 0.27 m3/d/p for modern villages in Ta Kwu Ling according to GESF.	Noted and revised (***Appendix 1*** refers).
c	In Section 6 of the SIA, comments from DSD on discharge of sewage from the holding tank during 00:00 - 06:00 should be sought.	No adverse comments were received from DSD in this regard.
d	In Appendix 4.1 of the SIA, the applicant should clarify whether the village houses near Ta Kwu Ling Playground should be included in the Zone B area.	Noted. Village houses near Ta Kwu Ling Playground will be included in the Zone B area.

Comments/ Suggestions		Consultant's Responses
e	In appendix 4.2 of the SIA, the applicant should be advised that there are 3 storeys in general modern villages, instead of 1 storey, and should update the estimated population and the sewage flow in Zone C and Zone D accordingly.	Noted and revised (***Appendix 1*** refers).
B.	**<u>Comments of Urban Design and Landscape Section, Planning Department dated 24/12/2021:</u>**	
	<u>Advisory Comments to the Applicant</u>	
5	Based on our site record taken on 15.12.2021, decay and fungal fruiting bodies were observed at the root collar of T63 (i.e. *Aleurites moluccana* 石栗 with 900mm DBH). The applicant shall review the health condition of T63 and further elaborate the condition of the concerned tree in the tree assessment schedule of the report.	Tree Assessment Schedule is revised accordingly (***Appendix 2*** refers).
6	It is noted in Section 3.2 of Appendix 2 that, 2 nos. of trees with large size (i.e. T128 and T176) located on existing slope are proposed to be removed due to the site formation work. Further details/elaboration on tree health and structural condition, justifications for proposed tree removal and additional tree photos of the concerned trees should be provided in the report.	*<u>Direct Conflict with the Proposed Transitional Housing Development</u>* During the planning design stage, the Applicant has explored various options that not only maximises the number of units such that the overall funding would match the construction budget, while minimising potential adverse impacts as far as practical. In order to provide a multi-purpose amenity block and elderly service centre at the eastern portion of the site in response to feedback from local residents and surrounding users, all residential units are confined to the western portion of the site. Furthermore, site formation works are required to maximise buildable land area between the western portion and eastern portion because the existing school sits on a pplatform about 3m above the mean formation level of the remainder of the Site. If the location of retaining wall had to be constructed to avoid T128 & T176, 24 nos. of units would be immediately affected, as well as the provision and extend of EVA. (Site Constraint Plan in ***Appendix 2*** refers) In addition, the construction of retaining wall and its footing may affect the tree health condition and stability (especially the roots of T128 & T176 are entangled) as they are growing too close to the retaining wall. As such, the subjected trees cannot be retained in-situ and are recommended to be felled.

Comments/ Suggestions	Consultant's Responses
	Poor health and conditions of T128 & T176 T128 & T176 are growing on the existing slope with approx. 600mm level difference and growing closely with each other and other trees. Multi trunks and restricted root occurred, a proper root ball cannot be formed on slope for transplanting in accordance with GLTMS Guidelines on Tree Preservation. Given that the tree form is poor plus the suitability for transplanting for this tree species is low, T128 & T176 are not recommended to be transplanted within the site nor off site.  Since the multiple trunks with included barks occurred on both concerned trees, the encroaching tree trunks are directly threatening the tree form and condition in the long term. Referring to below photographical records, the tree trunks are leaning to various directions, which caused a major defect on arboricultural aspect. As T128 & T176 are not valuable trees nor rare species, better quality tree species will be provided for the project site.

	Comments/ Suggestions	Consultant's Responses
		
7	The applicant should maximise the tree planting within the site as far as practicable and is reminded that movable planters that are not fixed or built into the development cannot be counted as greenery area. The greening coverage indicated in Section 4.5 of Appendix 2 shall be reviewed and calculated in accordance with DB's PNAP APP-152.	Since the transitional housing is targeted to be used for 7 years only, majority of space is reserved for the provision of MiC and the required facilities. The at-grade planting area has been maximized for new plantings and growing space is provided. All of the proposed planting area is at-grade. Updated Landscape Layout Plan refers (***Appendix 2*** refers).

Comments/ Suggestions		Consultant's Responses
C.	**Comments of Agriculture, Fisheries and Conservation Department received from Planning Department dated 24/12/2021:**	
	Our recent site inspection revealed that the subject site is partly vacant and partly vegetated. Some mature trees of common species were observed at the subject site. We note the following inconsistencies in the tree survey during our inspection:	
	- T48, T75, T208 and T209 were dead trees.	Noted. Tree Assessment Schedule is revised accordingly (***Appendix 2*** refers).
	- According to our on-site measurement, DBH and height of T104 should be 600mm and 9m respectively.	Noted. Tree Assessment Schedule is revised accordingly (***Appendix 2*** refers).
	- A seedling of *Aquilaris sinensis* was found between T119 and T120 (Northing: 843564; Easting: 843660), you may wish to transplant the seedling to eastern part of the site where most of the trees were proposed to be retained.	Updated Landscape Layout Plan refers (***Appendix 2*** refers).
	Despite the above minor inconsistencies, I have no comment on the subject application from nature conservation perspective.	
	Nevertheless, it is noted from the Tree Treatment Plan in *Appendix 2 Conceptual Landscape Proposal and Tree Preservation and Removal Proposal* that some large and mature trees that are located at the boundary of the housing blocks (Block 1 and Block 2 as shown in *Appendix 1 Architectural Drawings*), e.g. T63, T80, T176 etc. are proposed to be fell. Should the subject planning application be approved, please retain the large and mature trees as far as practicable with regard to the final detailed design of the transitional housing.	Noted. A detailed treey survey and TPRP will be submitted to the relevant department after the planning application, if required.

Date: 11 January 2022
File Ref: URA/PCRHYR

Appendix 1

RESPONSE TO COMMENTS ON
ENVIRONMENTAL AND SEWERAGE

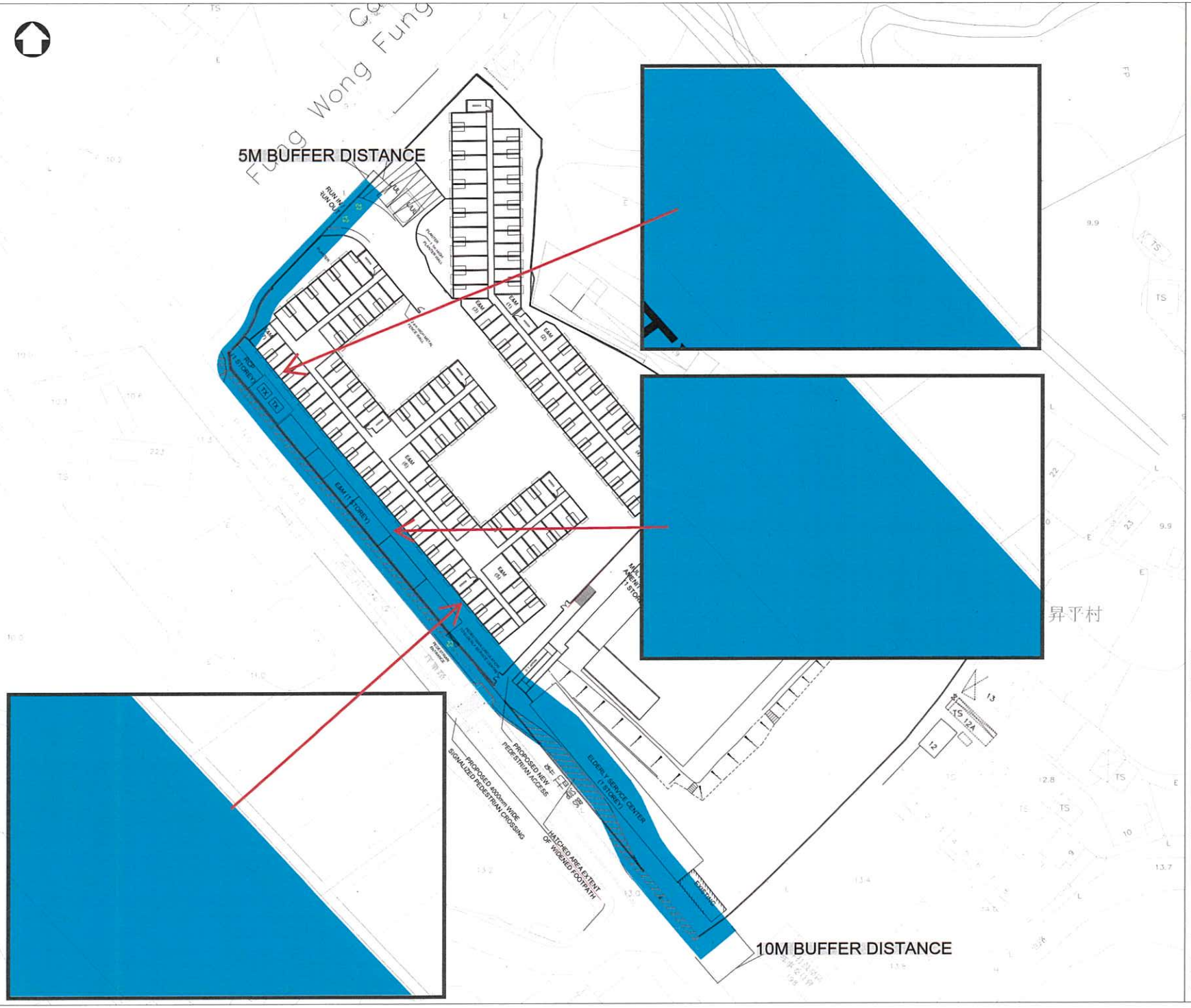

5M BUFFER DISTANCE
10M BUFFER DISTANCE
Fung Wong Fung
昇平村
PROPOSED NEW PEDESTRIAN ACCESS
PROPOSED 4m WIDE SIGNALIZED PEDESTRIAN CROSSING
HATCHED AREA EXTENT OF WIDENED FOOTPATH
ELDERLY SERVICE CENTER (1 STOREY)
RUN-IN/RUN-OUT
PLANTING AREA
PLANTER
MAINTENANCE STORE
LEGEND :
PROJECT BOUNDARY
BUFFER DISTANCE FROM ROAD KERB
Rev
Description
By
Date
Consultant
wsp
Project Title
PROVISION OF COMPREHENSIVE PLANNING CONSULTANCY SERVICE FOR TRANSITIONAL HOUSE PROJECTS AT PING CHE ROAD
Drawing Title
BUFFER DISTANCE REQUIREMENT FOR VEHICULAR EMISSION IMPACT
Drawing no.
FIGURE 3.2
Rev.
1
Drawn
SC
Date
DEC2021
Checked
CCK
Approved
CCK
Scale
Status
© COPYRIGHT RESERVED
Plot Date : 2020-08-19
Filename : \\hkkwn200dat116\SDE\7. Projects\Project_H321_Env\(2535551-2535600)\2535565A - URA Ping Che Rd & Hung Yuen Rd\3. Working\5. Noise\Ping Che\Figure\Location of NAPs_20211224_v4_test.dwg

Table 4.1 Global Unit Flow Factor (UFF)

Type	Units Flow Factors (m^3/person/day)
Domestic (Public Rental)	0.19
Modern Village	0.27
General Staff	0.28
Teacher	0.28
Student	0.04

Table 4.2 Global Peaking Factor

Population	Peaking Factor
More than 50000	$\text{Max}(\frac{7.3}{N^{0.15}}, 2.4)$
10,000 – 50,000	4
5,000 – 10,000	5
1,000 – 5,000	6
Less than 1,000	8

Zone C

5.8 Zone C only consists of Tong Fong Village. The sewage generated from this building will be discharged to Manhole 12 (FMH1003572).

Zone D

5.9 Zone D only consists of Kan Tau Wai Village. The sewage generated from these buildings will be discharged to the same pumping station as the discharge from the Application Site but through a different route. Therefore, discharge from Zone D will not be considered in this assessment.

Sewage from Application Site

5.10 General activities such as toilet flushing, washing and kitchen waste are considered as the major source of sewage discharge from the Application Site. All sewage will be collected and sewers will be connected to the existing sewerage systems and directed to the government drainage network. The peak flow of the Application Site is calculated in accordance to the DSD Sewerage Manual Part and the GESF. Detailed calculation of sewerage flow and loading is given in **Appendix 4.2**. With the consideration of the discharged from the proposed development, upstream and downstream sections, the Tong Fong pumping station may not have sufficient capacity to cope with the sewerage generated from the site. As such, a holding tank is proposed to lower the burden of pumping station. Design of the holding tank will be further discussed in Section 6. The detailed calculation of allowable flow rate of existing sewers with the proposed holding tank is given in **Appendix 4.3**.

5.11 The estimated peak sewerage flow from the Application Site is 0.0081 m^3/s, which occupies 23% of the total capacity of the proposed 225mm sewer connecting the proposed Terminal Manhole TM-01 and Manhole 1 (FMH1003561). Together with the flow from upstream and downstream sections, the induced peak sewerage flow in the existing sewerage system can increase to 0.0571 m^3/s. The maximum occupancy of sewer estimated in the existing sewerage system is 98%, which occurs in the sewer connecting Manhole 11 (FMH1003571) and Manhole 12 (FMH1003572).

6 RECOMMENDED MITIGATION MEASURES

6.1 The total discharge flow from the proposed development, upstream and downstream sections, utilizes 49.5% of the daily flow of Tong Fong Sewage Pumping Station. With the consideration of the peaking factor of 4 to the pumping station, it has insufficient capacity to cope with the sewerage generated from the proposed development, upstream and downstream sections.

6.2 In order to lower the burden of pumping station during peak hour, a holding tank is proposed to be built in the Proposed Development such that the stored sewage would only be discharged at non-peak hour (00:00-06:00). It is noted that the share capacity of downstream pumping station is capable to cater for 500 residents. The proposed development would be divided into two zones that the sewerage generated by the 500 residents would discharge to the existing sewerage system at normal practice while the generated by the remaining residents will be store in the holding tank.

6.3 Assuming the holding tank will use to temporarily store the sewage generated during the peak hour (18:00-22:00). The total flow from the remaining residents is 87.1 m^3/day (i.e. 182.1 m^3/day– 95 m^3/day = 87.1 m^3/day). The capacity of the holding tank is approximately 100 m^3 (i.e. 87.1 m^3/day x 4/24 hours x 6 (peaking factor) x 1.15 (marked up for 15%) = 100 m^3), which is capable to store at least 4 hours of sewage generated by the remaining residents. The pump will switch off during the peak hour.

6.4 The proposed holding tank will be operated and maintained by the project proponent. The following measures are suggested to ensure the proper operation of the tank:

- Power supply from the emergency supply
- Standby unit for major equipment such as the pump for maintenance
- Adequate spare parts for the tanks will have be made readily available by storage
- Regular inspection and maintenance for the holding tank shall be conducted by competent management and maintenance agent

6.5 As such, the Proposed Development is not expected to result in adverse impact on the existing sewerage system.



Legend

Notes :

1. All levels are in metres principle datum.
2. All dimensions shown are in millimetres unless otherwise stated.
3. The information shown on the record drawings are subject to verification on site and no guarantee can be given that this is a complete record.
4. Abbreviations for Channels of width smaller or equal to 1500mm:
   900SC - 900mm width Surface Channel
   900SC - 900mm width Stepped Channel
   900UC - 900mm width U Channel
   900DWFC - 900mm width Dry Weather Flow Channel
5. The incoming Pipes are marked A1, A2, A3, counting clockwise from the first Outgoing Pipe X1. Outgoing Pipes are marked X1, X2, X3 ... counting clockwise from North.
6. Piling foundations on culverts may be present but not shown for brevity. Please refer to the relevant as built drawings on details of the pile foundation.
7. Drainage facilities maintained by other parties, if shown, are indicative only. It is no guarantee that these information are exact.

Metres SCALE 1 : 500 Metres

Drainage Record Sheet Number

3-NW-18D-3

Last Updating: 18.11.2015

Map data renewal on March 2016

14 AUG 2020

Mainland North Division
Drainage Services Department

©The Government of the Hong Kong SAR
Map reproduced with permission of the Director of Lands

PROJECT : Proposed Transitional Housing Development At Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories — APPENDIX 4.2

SEWERAGE IMPACT ASSESSMENT

Detailed Calculation of Sewage Flow and Loading

Area	Discharge Manhole No.	Buildings in Zone	Uses	No.of Units	GFA	Population	Global Unit Factor	Estimated Sewage Discharge (m^3/d) [2]	Total Discharge at Manhole (m^3/d)	Remarks
Project Site	TM-01	1P Unit	Residential	384	N/A	384	0.19	73.0	182.1	Development parameters are given by Project Proponent.
		2P Unit	Residential	130	N/A	260	0.19	49.4		
		3P Unit	Residential	60	N/A	180	0.19	34.2		
		4P Unit	Residential	20	N/A	80	0.19	15.2		
		Accessible Unit	Residential	2	N/A	12	0.19	2.3		
		Non-residential	Non-residential	N/A	849	29	0.28	8.1		
Zone A	1 (FMH1003561)	Caritas Fung Wong Fung Ting Home	Staff	N/A	N/A	66	0.28	18.5	18.5	Information provided by SWD
		Caritas Nursery School - Ta Kwu Ling	School	N/A	Student	135	0.04	5.4	11.6	Information provided by School Webpage
				N/A	Teacher	22	0.28	6.2		
Zone B	1 (FMH1003561)	Villages in the South [1]	Residential	N/A	N/A	2122	0.27	572.9	645.9	
		The Baptist Convention of HK Baptist Assembly	Camping	N/A	N/A	368	0.15	55.2		Referenced from its official website
		Ta Kwu Ling Rural Centre Government Office	Community	N/A	1566	53	0.28	14.9		3-Storey, GFA measured roughly from GeoMap HK
		Ta Kwu Ling District Rural Committee N.T.	Community	N/A	304	10	0.28	2.9		2-Storey, GFA measured roughly from GeoMap HK
Zone C	12 (FMH1003572)	Tong Fong Village	Residential	25	N/A	218	0.27	58.7	58.7	Number of Unit estimated roughly from HK GeoMap
Zone D [2]		Kan Tau Wai Village	Residential	65	N/A	566	0.27	152.7	152.7	Number of Unit estimated roughly from HK GeoMap

Note:

[1] The total population is derived by deducting the population in Chuk Yuen Village, Tsung Yuen Ha, Ha Hueng Yuen, Heung Yuen Wai, Kau Liu Village, Kan Tau Wai Village and Wo Keng Shan Village from the regional population as provided in the CentaMap

[2] Discharge from Zone D share the Tong Fong pumping station as Project Site, its flow will be considered in the assessment of pumping station capacity.

PROJECT : Proposed Transitional Housing Development At Government Land in DD82, Ping Che, Ta Kwu Ling, New Territories — APPENDIX 4.3

SEWERAGE IMPACT ASSESSMENT

Detailed Calculation of Allowable Flow Rate of Existing Foul Sewers

From Manhole No.	To Manhole No.	Diameter, D (m) [1]	Length, L (m) [1]	Inlet invert level (mPD) [1]	Outlet invert level (mPD) [1]	Roughness Values, ks (m) [2]	Slope, s	Velocity, V (m/s)	Capacity, Q (m^3/s)	Average Discharge through Manhole (m^3/s)	Average Flow from previous section (m^3/s)	Catchment Inflow Factor(PCIF)	Total Average Flow (m^3/s)	Contribution Population	Peaking Factor	Total Peak Flow (m^3/s)	Percentage of capacity	Remarks
Main Flow																		
1 (FMH1003561)	2 (FMH1003562)	0.300	38.40	9.74	9.04	0.006	0.018	1.484	0.105	0.0088	0.0000	1	0.0088	2826	6	0.0530	51%	Zone A, Zone B, Project Site
2 (FMH1003562)	3 (FMH1003563)	0.300	61.36	9.04	8.45	0.006	0.010	1.077	0.076	0.0000	0.0088	1	0.0088	2826	6	0.0530	70%	
3 (FMH1003563)	4 (FMH1003564)	0.300	28.58	8.45	8.26	0.006	0.007	0.896	0.063	0.0000	0.0088	1	0.0088	2826	6	0.0530	84%	
4 (FMH1003564)	5 (FMH1003565)	0.300	57.55	8.26	7.86	0.006	0.007	0.916	0.065	0.0000	0.0088	1	0.0088	2826	6	0.0530	82%	
5 (FMH1003565)	6 (FMH1003566)	0.300	59.15	7.10	6.70	0.006	0.007	0.903	0.064	0.0000	0.0088	1	0.0088	2826	6	0.0530	83%	
6 (FMH1003566)	7 (FMH1003567)	0.300	18.11	6.70	6.56	0.006	0.008	0.966	0.068	0.0000	0.0088	1	0.0088	2826	6	0.0530	78%	
7 (FMH1003567)	8 (FMH1003568)	0.300	58.83	6.56	6.16	0.006	0.007	0.906	0.064	0.0000	0.0088	1	0.0088	2826	6	0.0530	83%	
8 (FMH1003568)	9 (FMH1003569)	0.300	48.03	6.16	5.76	0.006	0.008	1.003	0.071	0.0000	0.0088	1	0.0088	2826	6	0.0530	75%	
9 (FMH1003569)	10 (FMH1003570)	0.300	47.29	5.76	5.50	0.006	0.005	0.814	0.058	0.0000	0.0088	1	0.0088	2826	6	0.0530	92%	
10 (FMH1003570)	11 (FMH1003571)	0.300	38.76	5.50	5.23	0.006	0.007	0.917	0.065	0.0000	0.0088	1	0.0088	2826	6	0.0530	82%	
11 (FMH1003571)	12 (FMH1003572)	0.300	26.84	5.23	5.10	0.006	0.005	0.764	0.054	0.0000	0.0088	1	0.0088	2826	6	0.0530	98%	
12 (FMH1003572)	13 (FMH1003573)	0.300	62.24	5.10	4.62	0.006	0.008	0.965	0.068	0.0007	0.0088	1	0.0095	3044	6	0.0571	84%	Zone C
13 (FMH1003573)	14 (FMH1003574)	0.300	35.29	4.62	4.41	0.006	0.006	0.847	0.060	0.0000	0.0095	1	0.0095	3044	6	0.0571	95%	
14 (FMH1003574)	15 (FMH1003575)	0.300	53.91	4.41	4.04	0.006	0.007	0.910	0.064	0.0000	0.0095	1	0.0095	3044	6	0.0571	89%	
15 (FMH1003575)	16 (FMH1003576)	0.300	8.96	4.04	3.97	0.006	0.008	0.971	0.069	0.0000	0.0095	1	0.0095	3044	6	0.0571	83%	
Proposed Sewer Connecting Terminal Manhole to the Public Sewerage System																		
TM-01	1 (FMH1003561)	0.225	TBD			0.006	0.010	0.899	0.036	0.0010	0.0000	1	0.0010	323	8	0.0081	23%	Project Site

1. Information of the invert levels and diameters of foul sewers and existing manholes are given in the DSD's Drainage Record Plan.
2. The roughness value is assumed to be 0.006 for slimed concrete pipe in poor condition (Table 5 in DSD's "Sewerage Manual Part 1")
3. The velocity is calculated using the Colebrook-White Equation, which can be applied to analyze a wide range of flow conditions.
For circular pipes flowing full,

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

Where
V = mean velocity
g = gravitational acceleration(m/s^2)
R = hydraulic radius (m)
D = internal pipe diameter (m)
ks = hydraulic pipeline roughness (m)
V = kinematic viscosity of fluid (m^2/s)
s = hydraulic gradient (energy loss per unit length due to friction)

Appendix 2

RESPONSE TO COMMENTS ON LANDSCAPE

Annex 1



LP Submission - Landscape Layout Plan

Scale 1:500

Site Area: APPROX. 13,207m²

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0; POH01-20-TSP-02 Rev. 0; POH01-20-TSP-03 Rev. 0; POH01-20-TSP-04 Rev. 0; POH01-20-TSP-05 Rev. 0; POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health (Good / Fair / Poor)	Form (Good / Fair / Poor)	Structural Conditions (Good / Fair / Poor)	Amenity Value (High / Medium / Low)	Anticipated survival rate after transplanting (High/ Medium / Low)	Conservation Status (Yes/ No)	Recommendation	Justification	Remarks
T1	*Acacia confusa*	台灣相思	180	6	7	F	P	P	L	L	N	Fell	a, b, d	Broken branch, dead branches
T2	*Ficus microcarpa*	榕樹(細葉榕)	150	8	8	F	P	F	L	L	N	Fell	a, b	Tree trunk intertwined with T2A
T2A	*Eucalyptus robusta*	大葉桉	210	8	7	F	P	P	L	L	N	Fell	a, b, d	Tree trunk intertwined with T2, Dieback, Small tree crown
T3	*Eucalyptus robusta*	大葉桉	370	8	8	F	P	F	L	L	N	Fell	a, b, d	crooked branches
T4	*Eucalyptus robusta*	大葉桉	290	10	7	F	p	F	L	L	N	Fell	a, b	Topped branches
T5	*Ficus microcarpa*	榕樹(細葉榕)	200	12	5	F	P	P	L	L	N	Fell	a, b, d	Trunk cross with T5A, restricted root
T5A	*Eucalyptus robusta*	大葉桉	500	12	6	F	P	P	L	L	N	Fell	a, b, d	Dead branch, broken branches, Trunk cross with T5, Topped, restricted root
T6	*Eucalyptus robusta*	大葉桉	430	7	3	F	P	F	L	L	N	Fell	a, b	-
T7	*Eucalyptus robusta*	大葉桉	220	7	2	P	P	F	L	L	N	Fell	a, b, c	Dieback
T8	*Eucalyptus robusta*	大葉桉	460	11	5	P	P	P	L	L	N	Fell	a, b, c, d	Dieback, Small crown, Imbalanced crown, Crooked trunk, Twisted trunk
T9	*Dimocarpus longan*	龍眼	120	4	3	F	P	F	L	L	N	Fell	a, b	-
T10	*Eucalyptus robusta*	大葉桉	430	5	3	F	P	P	L	L	N	Fell	a, b, d	Topped branches
T11	*Acacia confusa*	台灣相思	460	6	6	F	P	P	L	L	N	Fell	a, b, d	Dead branches, leaning
T12	*Celtis sinensis*	朴樹	280	12	5	F	P	F	L	L	N	Fell	a, b	Restricted root
T13	*Cinnamomum camphora*	樟	230	7	7	F	P	P	L	L	N	Fell	a, b, d	Leaning, Exposed root
T14	*Eucalyptus robusta*	大葉桉	280	12	2	F	P	P	L	L	N	Fell	a, b, d	Dead branches
T15	*Dimocarpus longan*	龍眼	100	5	3	F	P	F	L	L	N	Fell	a, b	-
T16	*Delonix regia*	鳳凰木	400	12	10	F	P	P	L	L	N	Fell	a, b, d	Leaning on ground
T17	*Bauhinia spp.*	羊蹄甲屬	100	5	2	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T18	*Litsea glutinosa*	潺槁樹	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T19	*Litsea glutinosa*	潺槁樹	120	5	3	F	P	F	L	L	N	Fell	a, b	-
T20	*Bauhinia spp.*	羊蹄甲屬	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T21	*Eucalyptus robusta*	大葉桉	560	12	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch
T22	*Delonix regia*	鳳凰木	410	12	12	F	P	P	L	L	N	Fell	a, b, d	Branches leaning on ground
T23	*Eucalyptus robusta*	大葉桉	720	11	8	F	P	F	L	L	N	Fell	a, b	Dead branches, Restricted root
T24	*Eucalyptus robusta*	大葉桉	390	8	3	F	P	F	L	L	N	Fell	a, b	Dead branch
T25	*Bauhinia spp.*	羊蹄甲屬	100	3	2	F	P	P	L	L	N	Fell	a, b, d	Near Chain link, Restricted root
T26	*Eucalyptus robusta*	大葉桉	580	10	6	F	P	F	L	L	N	Fell	a, b	-
T27	*Eucalyptus robusta*	大葉桉	330	8	5	F	P	F	L	L	N	Fell	a, b	-
T28	*Dimocarpus longan*	龍眼	140	4	4	F	P	F	L	L	N	Fell	a, b	-
T29	*Eucalyptus robusta*	大葉桉	350	8	6	F	F	P	L	L	N	Retain		Bulge, Near Chain link
T30	*Casuarina equisetifolia*	木麻黃	540	16	10	F	F	P	L	L	N	Retain		Codominant trunks, Restricted root
T31	*Dead tree*	死樹	230	6	4	D	P	P	L	L	N	Fell	a, b, d	No foliage
T32	*Bauhinia spp.*	羊蹄甲屬	110	3	3	F	P	P	L	L	N	Fell	a, b, d	Restricted root, multiple trunks
T33	*Bauhinia spp.*	羊蹄甲屬	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T34	*Dead tree*	死樹	160	1.5	1	D	P	P	L	L	N	Fell	a, b, d	Topped
T35	*Litchi chinensis*	荔枝	200	2	1	F	P	P	L	L	N	Fell	a, b, d	Dead branches
T36	*Bauhinia spp.*	羊蹄甲屬	100	6	3	F	P	P	L	L	N	Fell	a, b, d	Conflict wirh other trees
T37	*Bauhinia spp.*	羊蹄甲屬	290	7	4	F	F	P	L	L	N	Fell	a, b, d	Leaning
T38	*Eucalyptus robusta*	大葉桉	360	10	3	F	P	F	L	L	N	Fell	a, b	-
T39	*Melia azedarach*	楝(苦楝)	120	8	2	F	P	F	L	L	N	Fell	a, b	-
T40	*Eucalyptus robusta*	大葉桉	480	8	7	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks, loosen bark
T41	*Macaranga tanarius var. tomentosa*	血桐	120	6	6	F	P	P	L	L	N	Fell	a, b, d	Imbalanced crown, Leaning
T42	*Ficus microcarpa*	榕樹(細葉榕)	400	10	4	F	P	P	L	L	N	Fell	a, b, d	Strangle T42A
T42A	*Acacia confusa*	台灣相思	850	16	14	P	P	P	L	L	N	Fell	a, b, c, d	Dead branch, multiple trunks, decay trunk, strangled by T42
T43	*Macaranga tanarius var. tomentosa*	血桐	100	8	4	F	P	F	L	L	N	Fell	a, b	-
T44	*Macaranga tanarius var. tomentosa*	血桐	110	5	4	F	P	F	L	L	N	Fell	a, b	-
T45	*Dimocarpus longan*	龍眼	250	5	5	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T46	*Dimocarpus longan*	龍眼	190	6	5	F	p	F	L	L	N	Fell	a, b	-
T47	*Melia azedarach*	楝(苦楝)	140	8	5	F	p	F	L	L	N	Fell	a, b	-

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health (Good / Fair / Poor)	Form (Good / Fair / Poor)	Structural Conditions (Good / Fair / Poor)	Amenity Value (High / Medium / Low)	Anticipated survival rate after transplanting (High/ Medium / Low)	Conservation Status (Yes/ No)	Recommendation	Justification	Remarks
T48	*Dead tree*	死樹	640	12	12	D	p	P	L	L	N	Fell	a, b	Loosen bark Dead tree
T49	*Eucalyptus robusta*	大葉桉	570	12	10	F	p	F	L	L	N	Fell	a, b	-
T50	*Melia azedarach*	楝(苦楝)	130	5	5	F	P	P	L	L	N	Fell	a, b, d	Leaning
T51	*Macaranga tanarius var. tomentosa*	血桐	120	6	5	F	p	F	L	L	N	Fell	a, b	Broken branches
T52	*Macaranga tanarius var. tomentosa*	血桐	120	7	7	F	p	p	L	L	N	Fell	a, b, d	Imbalanced crown, Crooked trunk
T53	*Macaranga tanarius var. tomentosa*	血桐	100	7	6	F	F	p	L	L	N	Fell	a, d	Exposed root, Leaning
T54	*Eucalyptus robusta*	大葉桉	380	6	7	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks, Dead branch
T55	*Casuarina equisetifolia*	木麻黃	820	16	10	F	p	F	L	L	N	Fell	a, b	Dead branch
T56	*Dimocarpus longan*	龍眼	120	6	5	F	F	F	M	L	N	Retain		-
T57	*Dimocarpus longan*	龍眼	120	3	1	F	F	F	M	L	N	Retain		Topped branches
T58	*Eucalyptus robusta*	大葉桉	470	11	7	p	p	p	L	L	N	Fell	a, b, c, d	Topped branch, Restricted root
T59	*Ficus microcarpa*	榕樹(細葉榕)	840	10	8	F	p	F	L	L	N	Retain		Tree trunk intertwined with T59A
T59A	*Eucalyptus robusta*	大葉桉	840	10	8	F	p	F	L	L	N	Retain		Tree trunk intertwined with T59
T60	*Ficus hispida*	對葉榕(牛乳樹)	160	4	4	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T61	*Eucalyptus robusta*	大葉桉	320	13	5	F	p	F	L	L	N	Fell	a, b	Cavity
T62	*Dimocarpus longan*	龍眼	100	7	2	F	p	F	L	L	N	Fell	a, b	-
T63	*Aleurites moluccana*	石栗	900	17	12	P	P	P	L	L	N	Fell	a, b, d	Conflict with building, Codominant branches. Decay and fungal fruiting bodies were recorded at the root collar
T64	*Bauhinia spp.*	羊蹄甲屬	180	7	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T65	*Bauhinia spp.*	羊蹄甲屬	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Leaning, topped
T66	*Bauhinia spp.*	羊蹄甲屬	170	7	6	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk, near structure, Restricted root
T67	*Ficus hispida*	對葉榕(牛乳樹)	100	2	4	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T68	*Acacia confusa*	台灣相思	700	9	12	P	P	P	L	L	N	Fell	a, b, c, d	Dead branch, leaning
T69	*Celtis sinensis*	朴樹	360	6	3	F	P	P	L	L	N	Fell	a, b, d	Broken branch, restricted root, poor
T70	*Celtis sinensis*	朴樹	420	8	9	F	p	p	L	L	N	Fell	a, b, d	Restricted root, near building
T71	*Celtis sinensis*	朴樹	150	9	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T72	*Celtis sinensis*	朴樹	150	8	4	F	P	P	L	L	N	Fell	a, b, d	Restricted root, Near Chain link
T73	*Albizia leBroken brancheck*	大葉合歡	460	9	7	F	P	P	L	L	N	Retain		Cavity, Crooked trunk, Restricted root
T74	*Bridelia tomentosa*	土蜜樹(逼迫仔)	190	4	7	F	P	P	L	L	N	Fell	a, b, d	Imbalanced crown, Crooked branches, Wound on basal trunk
T75	*Dead tree*	死樹	500	4	3	D	P	P	L	L	N	Fell	a, b, d	Strangling T75A, topped Dead tree
T75A	*Eucalyptus robusta*	大葉桉	640	9	8	F	P	P	L	L	N	Fell	a, b, d	Strangled by T75
T76	*Bridelia tomentosa*	土蜜樹(逼迫仔)	110	4	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch, Codominant trunks, Restricted root
T77	*Leucaena leucocephala*	銀合歡	110	7	4	F	P	P	L	L	N	Fell	a, b, d	Dead branch, hanger, Restricted root, leaning
T78	*Eucalyptus robusta*	大葉桉	450	13	7	F	p	F	L	L	N	Fell	a, b	-
T79	*Dimocarpus longan*	龍眼	200	7	5	F	p	F	L	L	N	Fell	a, b	-
T80	*Delonix regia*	鳳凰木	580	13	12	F	P	P	M	L	N	Fell	b, d	Codominant branches, Dead branch
T81	*Dimocarpus longan*	龍眼	130	5	4	F	p	F	M	L	N	Fell		-
T82	*Dimocarpus longan*	龍眼	140	5	4	F	F	p	L	L	N	Fell	a, d	Restricted root
T83	*Casuarina equisetifolia*	木麻黃	350	12	3	p	p	p	L	L	N	Fell	a, b, c, d	Cross with T84, Dead branch, hanger
T84	*Acacia confusa*	台灣相思	210	11	8	F	p	p	L	L	N	Fell		Cross with T83, Leaning
T85	*Macaranga tanarius var. tomentosa*	血桐	140	6	4	F	p	F	L	L	N	Fell		Exposed root
T86	*Bridelia tomentosa*	土蜜樹(逼迫仔)	180	6	6	F	P	P	L	L	N	Fell	a, b, d	Crooked trunk, Codominant trunks, Dead branch, Near Chain link
T87	*Celtis sinensis*	朴樹	170	7	6	F	F	p	L	L	N	Fell	a, d	Near Chain link, Restricted root
T88	*Macaranga tanarius var. tomentosa*	血桐	320	8	6	F	P	P	L	L	N	Fell	a, b, d	Multiple trunk
T89	*Macaranga tanarius var. tomentosa*	血桐	220	7	7	F	p	F	L	L	N	Fell	a, b	Climber
T90	*Macaranga tanarius var. tomentosa*	血桐	230	6	6	F	F	P	L	L	N	Retain		Multiple trunk

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To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health (Good / Fair / Poor)	Form (Good / Fair / Poor)	Structural Conditions (Good / Fair / Poor)	Amenity Value (High / Medium / Low)	Anticipated survival rate after transplanting (High/ Medium / Low)	Conservation Status (Yes/ No)	Recommendation	Justification	Remarks
T91	*Eucalyptus robusta*	大葉桉	620	12	6	F	F	P	L	L	N	Retain		Climber, hanger, Restricted root
T92	*Alangium chinense*	八角楓	100	3	3	F	P	P	L	L	N	Retain		Broken branch
T93	*Alangium chinense*	八角楓	110	3	2	F	P	P	L	L	N	Retain		Restricted root, topped
T94	*Ficus microcarpa*	榕樹(細葉榕)	200	5	5	F	P	P	L	L	N	Retain		Strangling T94A
T94A	*Eucalyptus robusta*	大葉桉	730	10	8	F	P	P	L	L	N	Retain		Strangled by T94
T95	*Macaranga tanarius var. tomentosa*	血桐	130	3	3	F	P	P	L	L	N	Retain		Multiple trunk, topped
T96	*Acacia confusa*	台灣相思	550	8	6	F	F	P	L	L	N	Retain		Dieback, Restricted root
T97	*Morus alba*	桑	100	4	3	F	F	P	L	L	N	Retain		Multiple trunk, topped, Restricted root
T98	*Casuarina equisetifolia*	木麻黃	860	14	8	F	F	P	L	L	N	Retain		Restricted root
T99	*Delonix regia*	鳳凰木	860	10	10	F	F	F	M	L	N	Retain		Codominant branches, trunk wound
T100	*Casuarina equisetifolia*	木麻黃	520	12	8	F	F	P	L	L	N	Retain		Restricted root
T101	*Clausena lansium*	黃皮	160	4	3	F	F	F	M	L	N	Retain		Codominant trunks
T102	*Clausena lansium*	黃皮	100	4	4	F	F	F	M	L	N	Retain		-
T103	*Psidium guajava*	番石榴	110	3	6	F	P	P	L	L	N	Retain		Multiple trunk
T104	*Dimocarpus longan*	龍眼	600	9	7	F	F	P	L	L	N	Retain		Restricted root, trunk cavity, trunk
T105	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	320	7	3	F	F	F	M	L	N	Retain		-
T106	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	240	4	2	F	F	F	M	L	N	Retain		-
T107	*Carica papaya*	番木瓜	100	3	2	F	P	P	L	L	N	Retain		Multiple trunks
T108	*Leucaena leucocephala*	銀合歡	350	6	7	F	P	P	L	L	N	Retain		Broken branch
T109	*Ficus microcarpa*	榕樹(細葉榕)	350	8	7	F	P	P	L	L	N	Retain		Restricted root
T110	*Casuarina equisetifolia*	木麻黃	940	13	14	F	P	P	L	L	N	Retain		Codominant branches, dead branches, merge with chain link
T111	*Dimocarpus longan*	龍眼	100	3	3	F	p	p	L	L	N	Fell	a, b, d	Dead branch
T112	*Dimocarpus longan*	龍眼	180	4	4	F	p	F	L	L	N	Fell	a, b	Dead branch
T113	*Dimocarpus longan*	龍眼	160	4	3	P	F	F	L	L	N	Fell	a, c	Dead branch
T114	*Litchi chinensis*	荔枝	130	3	1	P	P	P	L	L	N	Fell	a, b, c, d	Dead branches , multiple trunks
T115	*Dimocarpus longan*	龍眼	110	2	4	F	P	P	L	L	N	Fell	a, b, d	Broken branch, heavy lateral limb
T116	*Mangifera indica*	芒果	250	8	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks
T117	*Mangifera indica*	芒果	120	5	2	F	p	p	L	L	N	Fell	a, b, d	Broken trunk
T118	*Mangifera indica*	芒果	280	8	7	F	F	p	L	L	N	Fell	a, d	Codominant branches, Exposed root, Girdling root
T119	*Mangifera indica*	芒果	250	9	7	F	F	p	L	L	N	Fell	a, d	Codominant branches, Dead branch
T120	*Ficus hispida*	對葉榕(牛乳樹)	130	9	4	F	p	p	L	L	N	Fell	a, b, d	Exposed root, co-dominant stems, Imbalanced crown
T121	*Macaranga tanarius var. tomentosa*	血桐	120	7	5	F	p	F	L	L	N	Fell	a, b	-
T122	*Macaranga tanarius var. tomentosa*	血桐	120	7	3	F	p	F	L	L	N	Fell	a, b	-
T123	*Macaranga tanarius var. tomentosa*	血桐	100	7	4	F	p	F	L	L	N	Fell	a, b	-
T124	*Macaranga tanarius var. tomentosa*	血桐	170	8	6	F	p	F	L	L	N	Fell	a, b	-
T125	*Litchi chinensis*	荔枝	220	5	5	F	p	F	L	L	N	Fell	a, b	Codominant trunks
T126	*Litchi chinensis*	荔枝	160	4	6	F	p	F	L	L	N	Fell	a, b	-
T127	*Albizia lebbeck*	大葉合歡	130	4	4	F	p	p	L	L	N	Fell	a, b, d	Imbalanced crown, Multiple trunks
T128	*Celtis sinensis*	朴樹	620	12	8	F	p	p	L	L	N	Fell	a, b, d	Multiple trunks with included bark
T129	*Macaranga tanarius var. tomentosa*	血桐	110	7	4	F	P	P	L	L	N	Retain		Multiple trunks
T130	*Macaranga tanarius var. tomentosa*	血桐	100	7	4	F	P	P	L	L	N	Retain		Multiple trunks
T131	*Macaranga tanarius var. tomentosa*	血桐	100	7	5	F	F	P	L	L	N	Retain		Climber, Restricted root
T132	*Ficus hispida*	對葉榕(牛乳樹)	100	7	4	F	F	F	M	L	N	Retain		-
T133	*Macaranga tanarius var. tomentosa*	血桐	110	7	5	F	P	P	L	L	N	Retain		Leaning
T134	*Macaranga tanarius var. tomentosa*	血桐	110	6	5	F	P	P	L	L	N	Retain		Leaning
T135	*Ficus hispida*	對葉榕(牛乳樹)	200	7	6	F	P	P	L	L	N	Retain		Multiple trunks
T136	*Macaranga tanarius var. tomentosa*	血桐	140	9	4	F	P	P	L	L	N	Retain		Codominant branches, Restricted root
T137	*Macaranga tanarius var. tomentosa*	血桐	110	8	6	F	P	P	L	L	N	Retain		Multiple trunks, Restricted root
T138	*Macaranga tanarius var. tomentosa*	血桐	100	8	4	F	P	P	L	L	N	Retain		Codominant trunks
T139	*Ficus hispida*	對葉榕(牛乳樹)	160	8	6	F	P	P	L	L	N	Retain		Codominant branches, Restricted root
T140	*Macaranga tanarius var. tomentosa*	血桐	130	8	6	F	P	P	L	L	N	Retain		Codominant trunks, leaning

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health (Good / Fair / Poor)	Form (Good / Fair / Poor)	Structural Conditions (Good / Fair / Poor)	Amenity Value (High / Medium / Low)	Anticipated survival rate after transplanting (High/ Medium / Low)	Conservation Status (Yes/ No)	Recommendation	Justification	Remarks
T141	*Macaranga tanarius var. tomentosa*	血桐	110	8	6	F	F	F	M	L	N	Retain		-
T142	*Macaranga tanarius var. tomentosa*	血桐	100	8	6	F	F	F	M	L	N	Retain		-
T143	*Macaranga tanarius var. tomentosa*	血桐	110	8	4	F	F	F	M	L	N	Retain		-
T144	*Macaranga tanarius var. tomentosa*	血桐	130	7	5	F	P	P	L	L	N	Retain		Multiple trunks
T145	*Macaranga tanarius var. tomentosa*	血桐	110	7	5	F	P	P	L	L	N	Retain		Multiple trunks
T146	*Ficus hispida*	對葉榕(牛乳樹)	170	7	8	F	P	P	L	L	N	Retain		Multiple trunks
T147	*Macaranga tanarius var. tomentosa*	血桐	160	7	8	F	F	F	M	L	N	Retain		-
T148	*Macaranga tanarius var. tomentosa*	血桐	170	7	8	F	F	F	M	L	N	Retain		Codominant branches
T149	*Macaranga tanarius var. tomentosa*	血桐	190	7	6	F	F	F	M	L	N	Retain		Codominant trunks
T150	*Macaranga tanarius var. tomentosa*	血桐	120	6	6	F	P	P	L	L	N	Retain		Codominant trunks, near structure
T151	*Ficus hispida*	對葉榕(牛乳樹)	170	4	5	F	P	P	L	L	N	Retain		Multiple trunks, Restricted root
T152	*Litchi chinensis*	荔枝	210	4	8	F	F	F	M	L	N	Retain		Codominant trunks
T153	*Litchi chinensis*	荔枝	150	4	6	F	F	F	M	L	N	Retain		Codominant trunks
T154	*Litchi chinensis*	荔枝	270	5	7	F	F	F	M	L	N	Fell	a, b	Codominant trunks, Dead branch
T155	*Macaranga tanarius var. tomentosa*	血桐	160	7	6	F	F	P	L	L	N	Retain		Near structure, leaning, Restricted root
T156	*Macaranga tanarius var. tomentosa*	血桐	200	8	7	F	F	P	L	L	N	Retain		Codominant branches, near structure, Restricted root
T157	*Macaranga tanarius var. tomentosa*	血桐	160	7	6	F	P	P	L	L	N	Retain		Codominant branches, leaning, Restricted root
T158	*Dead tree*	死樹	170	7	6	D	P	P	L	L	N	Retain		Loosen bark, near channel
T159	*Ficus hispida*	對葉榕(牛乳樹)	200	7	6	F	F	P	L	L	N	Retain		Codominant trunks, Restricted root, near channel
T160	*Ficus hispida*	對葉榕(牛乳樹)	150	8	6	F	F	F	M	L	N	Retain		Codominant branches
T161	*Macaranga tanarius var. tomentosa*	血桐	220	8	8	F	F	F	M	L	N	Retain		Codominant branches
T162	*Macaranga tanarius var. tomentosa*	血桐	190	5	5	F	P	P	L	L	N	Retain		Crooked trunk, Restricted root
T163	*Acacia confusa*	台灣相思	230	13	8	F	F	F	M	L	N	Retain		Broken branch, Dead branches
T164	*Celtis sinensis*	朴樹	150	8	6	P	P	P	L	L	N	Retain		Loosen bark, sparse foliage
T165	*Leucaena leucocephala*	銀合歡	270	8	7	F	P	P	L	L	N	Retain		Codominant branches, uproot
T166	*Ficus hispida*	對葉榕(牛乳樹)	100	6	7	F	F	F	M	L	N	Retain		-
T167	*Ficus hispida*	對葉榕(牛乳樹)	240	5	8	F	F	F	M	L	N	Retain		Codominant branches, Dead branch
T168	*Mangifera indica*	芒果	320	8	7	F	F	F	M	L	N	Retain		Codominant branches, Dead branch
T169	*Mangifera indica*	芒果	260	8	5	F	F	F	M	L	N	Retain		Dead branch
T170	*Mangifera indica*	芒果	300	8	8	F	F	F	M	L	N	Retain		Branch wound, Codominant branches
T171	*Mangifera indica*	芒果	350	5	4	F	P	P	L	L	N	Retain		Topped
T172	*Macaranga tanarius var. tomentosa*	血桐	220	4	4	F	P	P	L	L	N	Retain		Leaning on building
T173	*Macaranga tanarius var. tomentosa*	血桐	220	5	4	F	F	F	M	L	N	Retain		-
T174	*Macaranga tanarius var. tomentosa*	血桐	360	8	7	F	P	P	L	L	N	Retain		Cross with T174 A, restricted root
T174A	*Ficus hispida*	對葉榕(牛乳樹)	200	12	5	F	P	P	L	L	N	Retain		Restricted root, crossed with T174
T175	*Ficus hispida*	對葉榕(牛乳樹)	180	7	5	F	p	F	L	L	N	Fell	a, b	Imbalanced crown
T176	*Celtis sinensis*	朴樹	1030	14	15	F	P	P	L	L	N	Fell	a, b, d	Close to T128, Multiple trunks, restricted root
T177	*Mangifera indica*	芒果	270	8	7	F	p	F	L	L	N	Fell	a, b	Climber
T178	*Acacia confusa*	台灣相思	170	7	6	F	p	F	L	L	N	Fell	a, b	Dead branch, poor taper
T179	*Acacia confusa*	台灣相思	150	9	5	F	P	P	L	L	N	Fell	a, b, d	Restricted root
T180	*Acacia confusa*	台灣相思	140	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T181	*Ficus microcarpa*	榕樹(細葉榕)	150	7	6	F	p	p	L	L	N	Fell	a, b, d	Conflict with building, strangling other trees
T182	*Acacia confusa*	台灣相思	150	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T183	*Acacia confusa*	台灣相思	160	9	4	F	p	F	L	L	N	Fell	a, b	Restricted root
T184	*Acacia confusa*	台灣相思	240	10	6	F	p	F	L	L	N	Fell	a, b	Restricted root
T185	*Bauhinia spp.*	羊蹄甲屬	110	6	3	F	P	P	L	L	N	Fell	a, b, d	Conflict wirh other trees
T186	*Bombax ceiba*	木棉	480	7	6	F	P	P	L	L	N	Fell	a, b, d	Topped, restricted root
T187	*Macaranga tanarius var. tomentosa*	血桐	320	6	9	F	P	P	L	L	N	Retain		Conflict with building, restricted root

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health	Form	Structural Conditions	Amenity Value	Anticipated survival rate after transplanting	Conservation Status	Recommendation	Justification	Remarks
						(Good / Fair / Poor)	(Good / Fair / Poor)	(Good / Fair / Poor)	(High / Medium / Low)	(High/ Medium / Low)	(Yes/ No)			
T188	*Ficus microcarpa*	榕樹(細葉榕)	270	6	7	F	P	P	L	L	N	Retain		Conflict with building
T189	*Mangifera indica*	芒果	220	5	6	F	P	P	L	L	N	Retain		Broken branch, climber, Codominant trunks
T190	*Mangifera indica*	芒果	270	5	4	F	P	P	L	L	N	Retain		Broken branch, climber
T191	*us heterophyllus (syn. Artocarpus macr*	菠蘿蜜	220	6	4	F	P	P	L	L	N	Retain		Broken trunk, climber, topped
T192	*Ficus hispida*	對葉榕(牛乳樹)	100	6	4	F	F	F	M	L	N	Retain		Conflict with building
T193	*Mangifera indica*	芒果	160	6	4	F	F	F	M	L	N	Retain		Codominant branches, Dead branch
T194	*Macaranga tanarius var. tomentosa*	血桐	100	5	3	P	P	P	L	L	N	Retain		Hanger, dead branches
T195	*Ficus hispida*	對葉榕(牛乳樹)	100	5	3	F	F	F	M	L	N	Retain		-
T196	*Macaranga tanarius var. tomentosa*	血桐	110	6	4	F	F	P	L	L	N	Retain		Restricted root
T197	*Macaranga tanarius var. tomentosa*	血桐	130	6	5	F	F	F	M	L	N	Retain		Climber, Restricted root
T198	*Macaranga tanarius var. tomentosa*	血桐	140	6	4	F	P	P	L	L	N	Retain		Climber, Restricted root,
T199	*Macaranga tanarius var. tomentosa*	血桐	180	7	5	F	P	P	L	L	N	Retain		Broken branch, climber, Codominant trunks, Restricted root
T200	*Macaranga tanarius var. tomentosa*	血桐	170	7	4	F	F	F	M	L	N	Retain		Dead branches
T201	*Macaranga tanarius var. tomentosa*	血桐	170	7	3	F	F	F	M	L	N	Retain		-
T202	*Macaranga tanarius var. tomentosa*	血桐	100	7	3	F	P	P	L	L	N	Retain		-
T203	*Macaranga tanarius var. tomentosa*	血桐	190	6	5	F	P	P	L	L	N	Retain		Climber, leaning
T204	*Casuarina equisetifolia*	木麻黃	440	12	10	P	P	P	L	L	N	Retain		Broken branch, crooked branches, Dead branch, climber
T205	*Ficus microcarpa*	榕樹(細葉榕)	400	10	8	F	p	p	L	L	N	Fell	a, b, d	Conflict with building
T206	*Macaranga tanarius var. tomentosa*	血桐	120	6	4	F	P	P	L	L	N	Retain		Poor taper
T207	*Macaranga tanarius var. tomentosa*	血桐	110	6	5	F	F	F	M	L	N	Retain		Poor taper
T208	*Dead tree*	死樹	500	12	10	D	P	P	L	L	N	Retain		Dieback, Restricted root Dead tree
T209	*Dead tree*	死樹	460	10	8	D	P	P	L	L	N	Retain		Dieback, restricted root, trunk wound Dead tree

Appendix C: TREE ASSESSMENT SCHEDULE

Address: Adjacent to No.198 Ping Che Road, Fanling, NT **Date of Field Survey:** 2020/07/06 & 2020/07/16 **Surveyed by: Carol Cheung (ISA CA: HK-1615A)**

To be read in conjunction with drawing nos.: POH01-20-TSP-01 Rev. 0 POH01-20-TSP-04 Rev. 0
POH01-20-TSP-02 Rev. 0 POH01-20-TSP-05 Rev. 0
POH01-20-TSP-03 Rev. 0 POH01-20-TSP-06 Rev. 0

Tree no.	Tree species (Botanical name)	Chinese Name (Hong Kong)	DBH (mm)	Height (m)	Average Crown Spread (m)	Health (Good / Fair / Poor)	Form (Good / Fair / Poor)	Structural Conditions (Good / Fair / Poor)	Amenity Value (High / Medium / Low)	Anticipated survival rate after transplanting (High/ Medium / Low)	Conservation Status (Yes/ No)	Recommendation	Justification	Remarks
T210	*Mangifera indica*	芒果	250	5	5	F	F	F	M	L	N	Retain		-
T211	*Ficus hispida*	對葉榕(牛乳樹)	200	10	6	F	P	P	L	L	N	Fell	a, b, d	Codominant trunks

Remark:

LEGEND

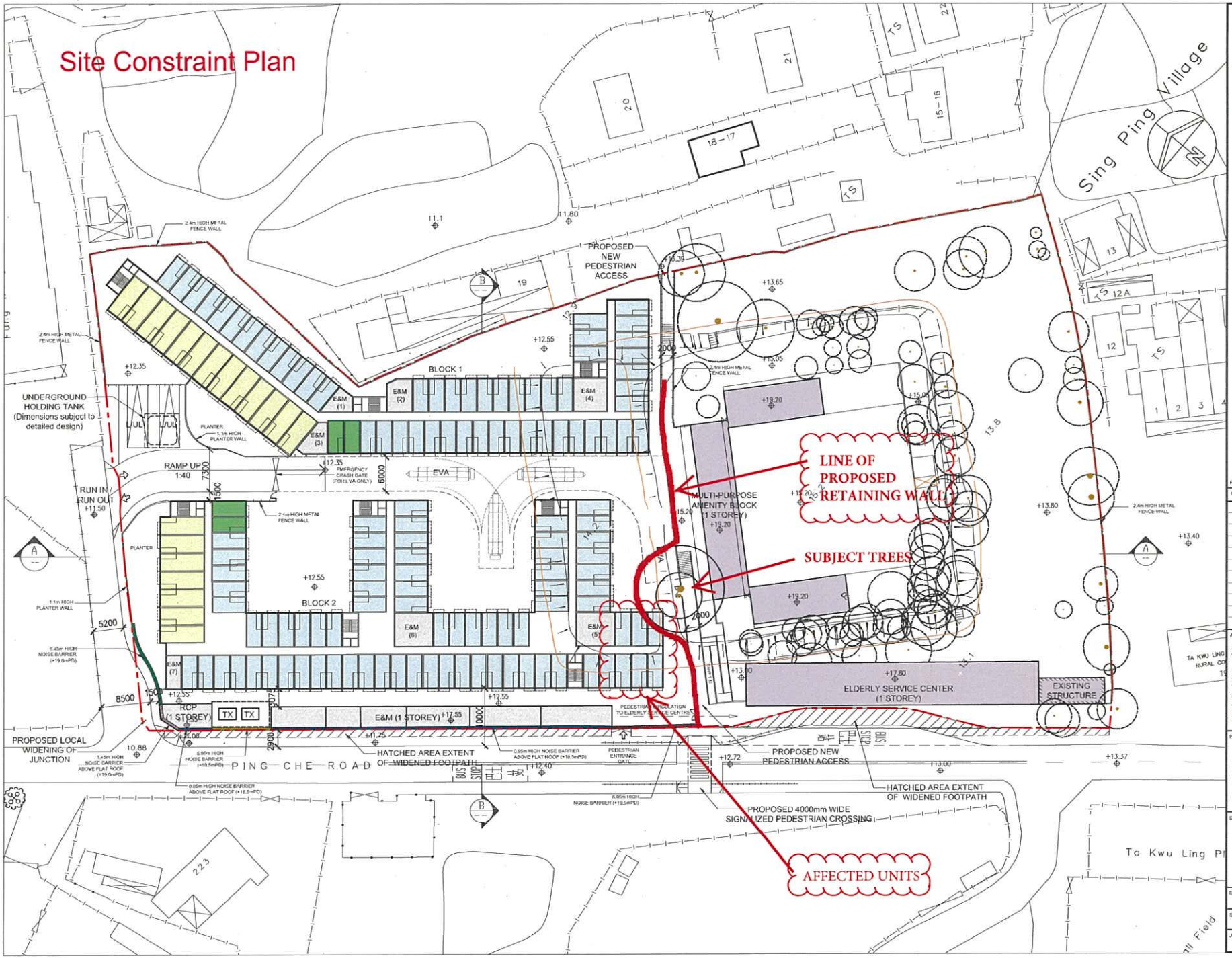
Tree Proposed to be Felled
Tree Proposed to be Transplanted
Tree Proposed to be Retained

Total No. of Trees	**218**
Total No. of Retained	**98**
Total No. of Transplanted	**0**
Total No. of Felled Trees:	**120**
Total DBH of Felled Trees	**32560**

#Justification:

a. Affected by proposed work, impossible to retain in-situ
b. Poor form (e.g. canopy lopsided & unbalanced, tree trunk leaning dangerously, tree trunk crooked, with hazard-beam bending)
c. Poor health (e.g. tree severely stressed, diseased, insect-pest infected, thin foliage density cover, dieback of canopy)
d. Poor structure (e.g. tree trunk decayed, with decayed hollow cavity, dangerous bifurcation codominant stems with included-bark likely to split apart)
e. Root ball not extractable for transplant (e.g. trees grown on slope/masonry wall; trees with roots are tangled together with adjacent tree)
f. Ubiquitous species - easily replaceable by new compensatory planting of better quality in term of ecological value
g. Undesirable Species: According to DEVB TCW No. 2/2020
h. Oversized tree not feasible for transportable/ transplantable

Site Constraint Plan



NOTES:

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS MUST BE VERIFIED AT THE WORK BY THE CONTRACTOR.

ALL PRINTS, SPECIFICATIONS AND THEIR COPYRIGHT ARE THE PROPERTY OF THE ARCHITECTS AND SHALL BE RETURNED AT THE COMPLETION OF THE WORK.

LEGEND

- SITE BOUNDARY
- DOMESTIC FLAT (1P-2P)
- DOMESTIC FLAT (3P-4P)
- DOMESTIC FLAT (DISABLE - AT G/F)
- NON-DOMESTIC USE
- E/M

REVISION

NO.	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD62, PING CHE, TA KWU LING, NEW TERRITORIES

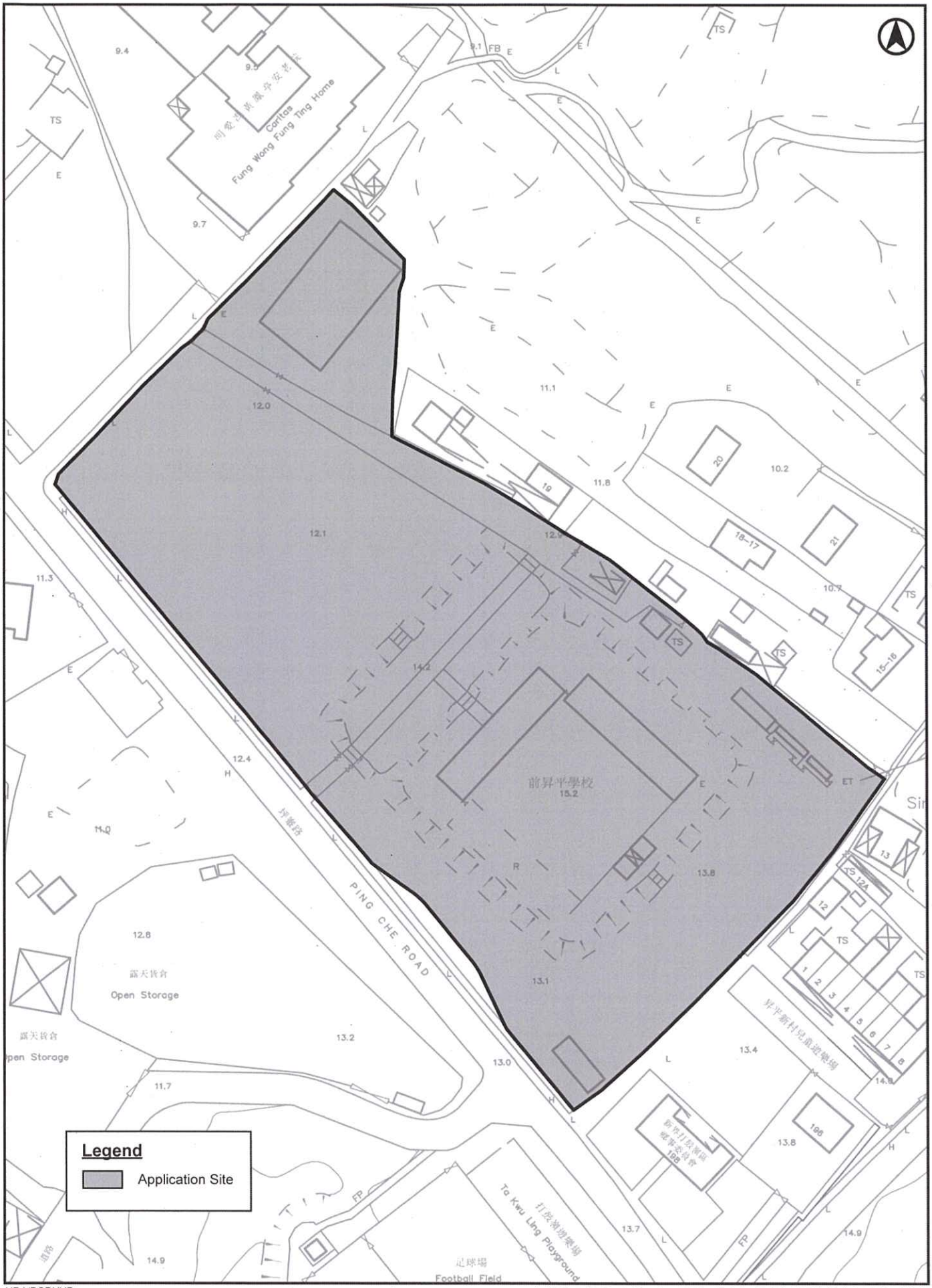
DRAWING TITLE

MASTER LAYOUT PLAN

DRAWN BY	CHECKED BY
KC	RC
SCALE: 1:600	DATE: 2021.11.12
JOB No.: 2024	DRAWING No.: PCR-A-01

Attachment 2

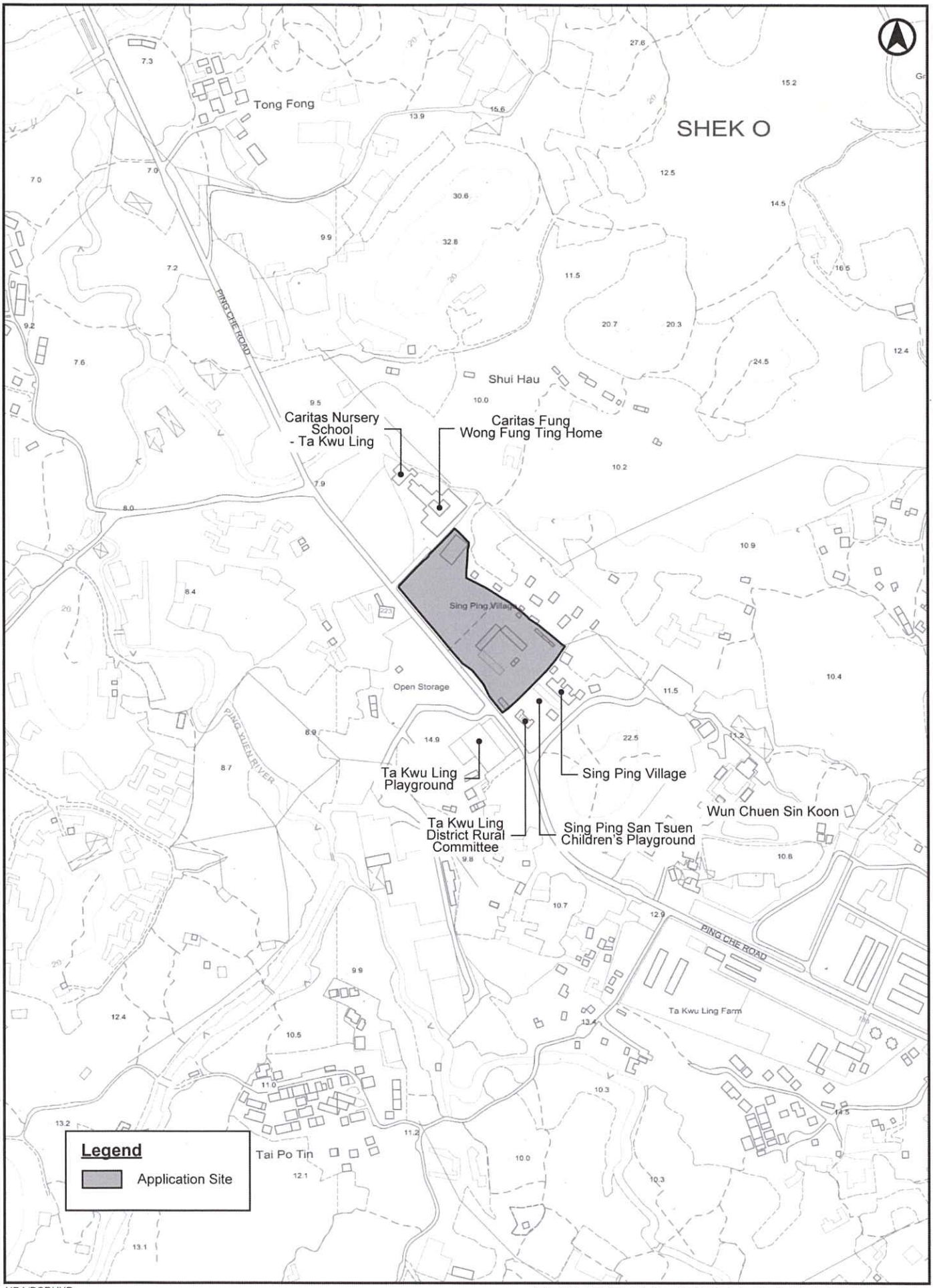
REVISED SITE LOCATION PLANS AND
EXTRACT OF THE APPROVED OZP



URA/PCRHYR

FIGURE 2.1 SITE LOCATION PLAN

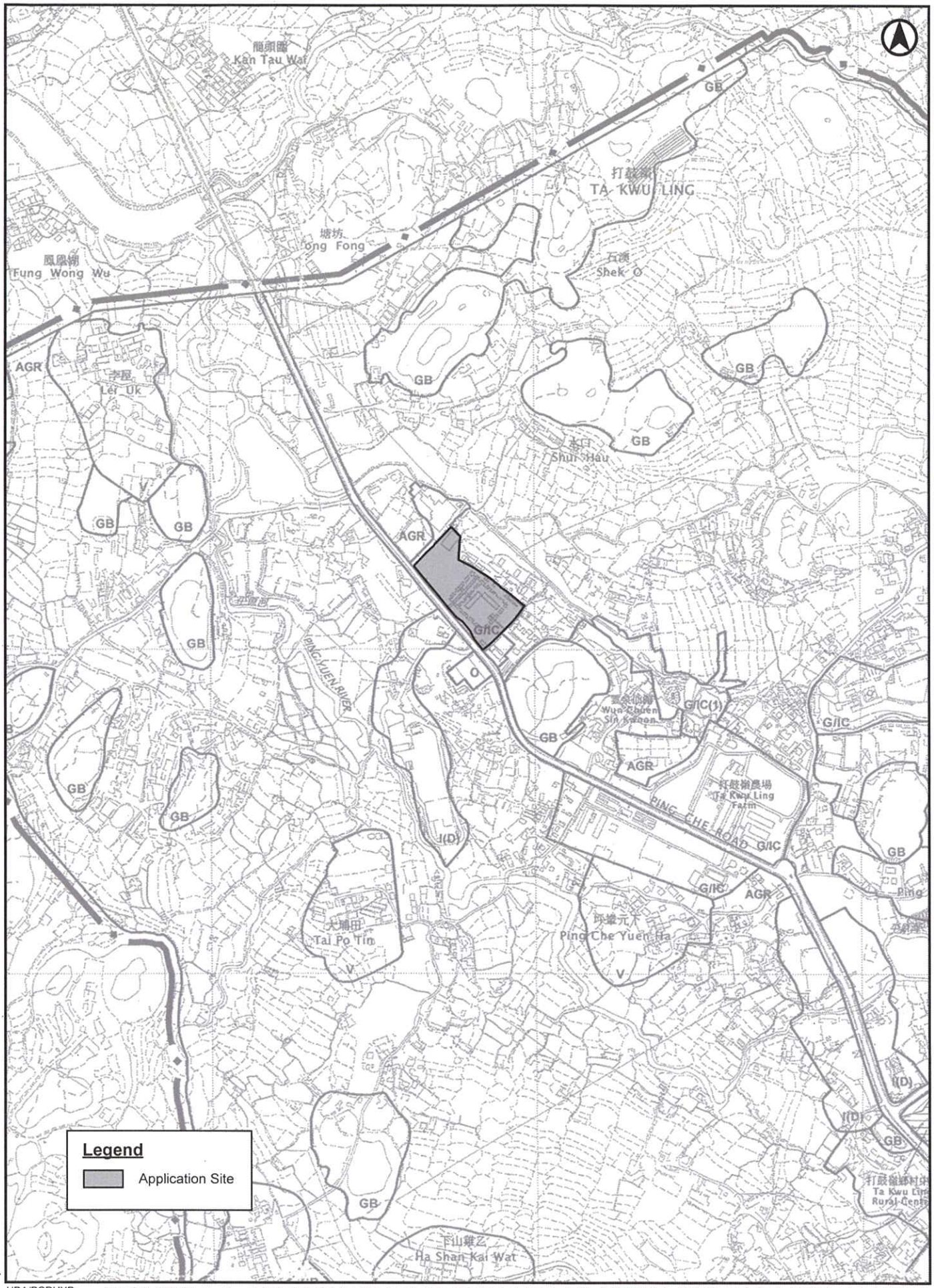
SCALE 1 : 1,000



URA/PCRHYR

FIGURE 2.2 SITE LOCATION PLAN

SCALE 1 : 5,000



URA/PCRHYR

FIGURE 3.1 APPROVED PING CHE AND TA KWU LING OUTLINE ZONING PLAN NO. S/NE-TKL/14 (EXTRACT)

SCALE 1 : 7,500

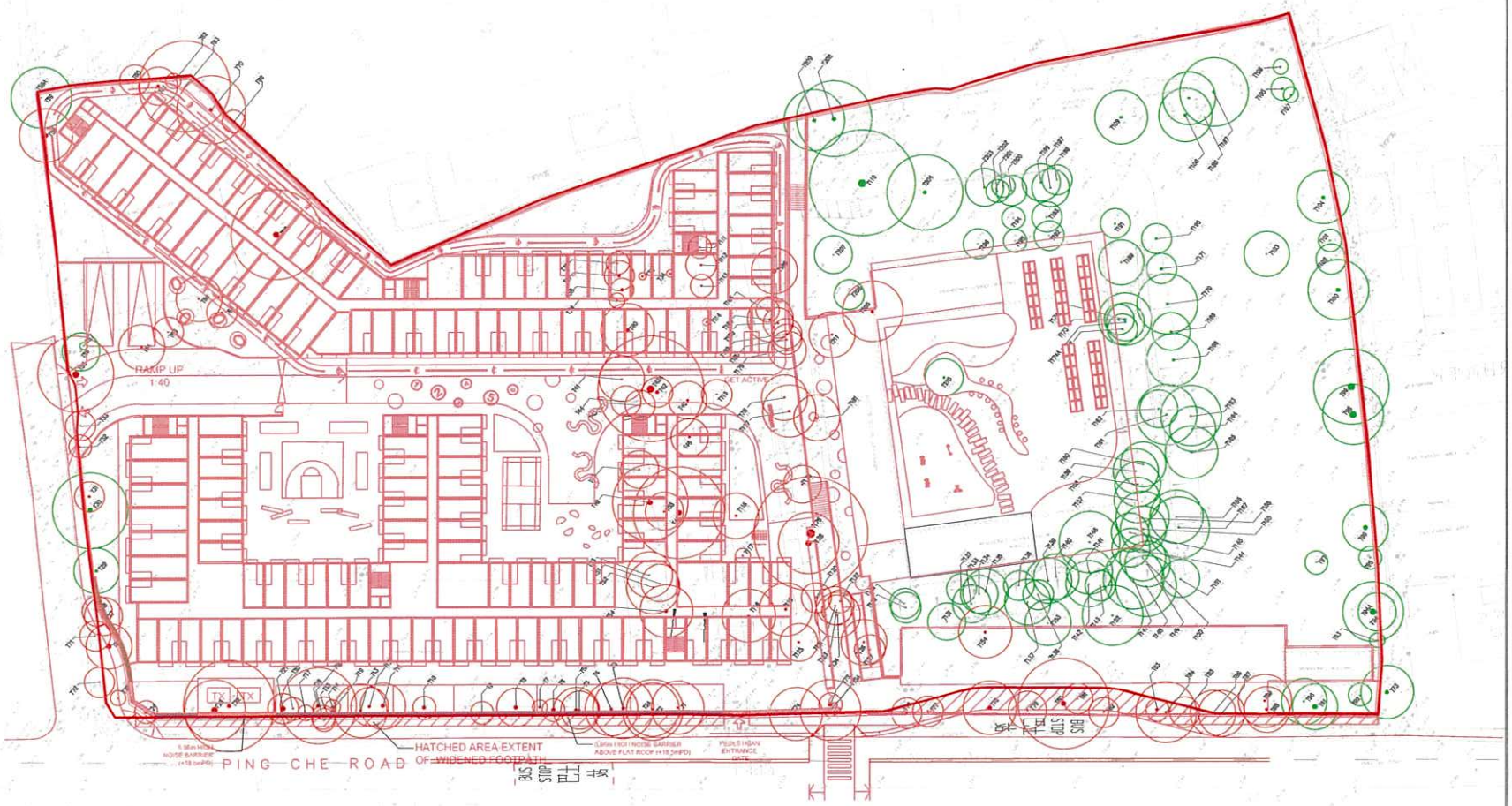
Attachment 3

CONSOLIDATED TREE TREATMENT PLAN
AND COMPENSATORY PLANTING PLAN

A
01

Appendix E: Tree Treatment Plan

SCALE 1:600





Key Plan 1:5000

LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Tree to be retained (A total 98 nos.)
	Tree to be felled (A total 120 nos.)

REV	DATE	DESCRIPTION
REV	DATE	TEXT START
1	2021-11-13	1st SUBMISSION (Rev.1)
2	2021-11-23	1st SUBMISSION (Rev.2)

otherland

UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
SAN PO KONG KOWLOON, HONG KONG,

Tel: (852) 2893 0270 / 6286 2720
Fax: (852) 2893 3139
WWW.OTHERLAND.COM.HK

CLIENT:

Pok Oi Hospital

PROJECT:

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE:

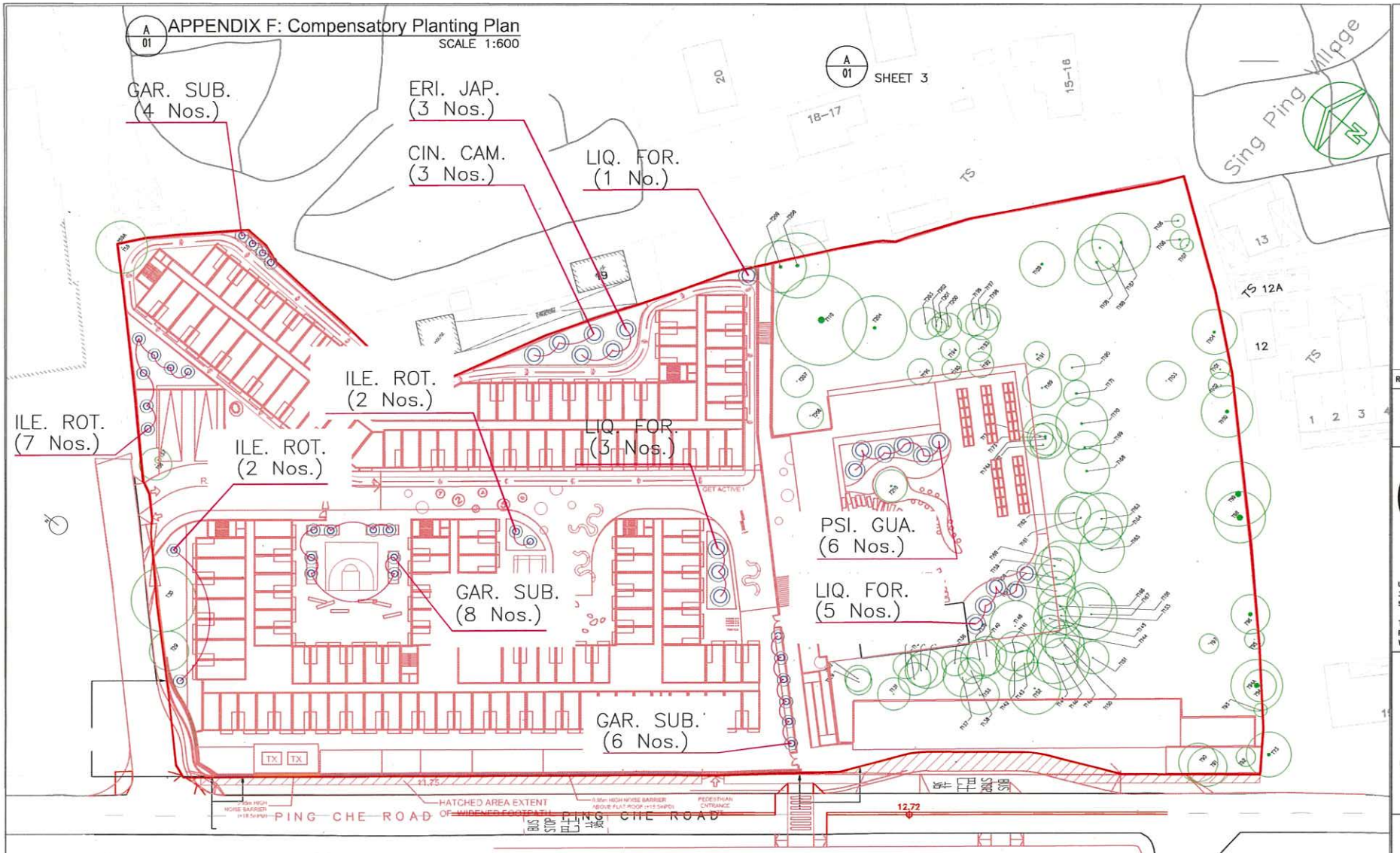
TREE TREATMENT PLAN

SCALE: 1:600	A3
DRAWN BY: TC	
CHECKED BY: RT	
APPROVED BY: RT	
DRAWING DATE: 06 JAN 2022	
PROJECT No: POH01	
SHEET No: PCR01-20-TTP-03	REV: 2

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APPENDIX F: Compensatory Planting Plan

SCALE 1:600



LEGEND:

T## (+ 10.00)	TREE NUMBER and EXISTING LEVEL
	Retained Tree (A total 98 nos.)
	Compensatory Tree (A total 50 nos.)
	Application Site Boundary

REV	DATE	DESCRIPTION
1	2021-11-13	1st SUBMISSION (Rev.1)

COMPENSATORY TREE PLANTING SCHEDULE

ABB.	BOTANICAL NAME	CHINESE NAME	HEIGHT (mm)	SPREAD (mm)	DBH (mm)	SPACING (mm)	ORIGIN	QUANTITY
ILE. ROT.	Ilex rotunda	鐵冬青	2000	1000	90	2000	NATIVE	11
GAR. SUB.	Garcinia subelliptica	福木	2000	1000	90	2000	Exotic	18
PSI. GUA.	Psidium guajava L.	番石榴	2500	2000	90	3000	Exotic	6
ERI. JAP.	Eriobotrya japonica	枇杷	2500	2000	90	3000	Exotic	3
LIQ. FOR.	Liquidambar formosana	楓香	2500	2000	90	3000	NATIVE	12

otherland
UNIT 2302 23/F NEW TECH PLAZA
34 TAI YAU STREET
SAN PO KONG KOWLOON, HONG KONG,
Tel: (852) 2893 0270 / 6206 2720
Fax: (852) 2893 3139
WWW.OTHERLAND.COM.HK

CLIENT: Pok Oi Hospital

PROJECT: PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES

TITLE: COMPENSATORY PLANTING PLAN

SCALE: 1:600	A3
DRAWN BY:	TC
CHECKED BY:	RT
APPROVED BY:	PC
DRAWING DATE:	06 JAN 2022
PROJECT No:	POH01
SHEET No:	PCR01-20-CCP-03
REV:	2

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TOWNLAND CONSULTANTS LTD.
URBAN AND REGIONAL PLANNING, DEVELOPMENT CONSULTANCY, MASTER PLANNING, URBAN DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, PROJECT MANAGEMENT AND SOCIAL DEVELOPMENT

Our Ref URA/PCRHYR/VIN/13
Date 14 January 2022

By Email and Hand

Secretary, Town Planning Board
c/o Planning Department
15/F North Point Government Offices
333 Java Road, North Point, HONG KONG

Dear Sirs

SECTION 16 PLANNING APPLICATION
THE TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES (TPB NO. A/NE-TKL/692)

We write regarding the captioned Planning Application submitted to the Town Planning Board ("**TPB**") on 26 November 2021.

Please be clarified that to facilitate pedestrian movement from Ping Che Road to the residential areas of Sing Ping Village northeast of the Application Site, The Applicant will construct a 2m pedestrian access path, providing proper pedestrian access for the public transversing the Application Site at all times.

In response to public comments received, the Applicant would like to clarify the following:

Public Comments Received	Applicant's Response
The Proposed Transitional Housing Development may result in adverse traffic impact, the capacity/ width of the existing access road towards Caritas Centre may not be sufficient to support the daily services of both developments. Improvements to existing access road, pedestrian access and facilities, provision of bus lay-by with sheltered bus waiting areas and increased bus/minibus services should be considered to improve accessibility.	A traffic impact assessment was conducted and concludes that there will be no adverse traffic impact to the surrounding road network as a result of the Proposed Transitional Housing and is considered acceptable from the traffic engineering point of view. Local Junction Widening of Ping Che Road / Local Access Road to Caritas Centre is proposed to enable minor realignment of road kerb at the junction of Ping Che Road / local access road to facilitate the ingress of 12m-long fire engine during emergency situation.

城市規劃顧問

MAIN HONG KONG OFFICE :
2801, 28th Floor, 148 Electric Road, North Point, Hong Kong
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E-mail address : tcltd@townland.com Website : www.townland.com

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Room 803, North Wing, Cangsong Building, Tairan 6th Road, Chegongmiao, Futian District, Shenzhen City, PRC. Postal Code 518040
Telephone : (86)(755) 8369 0780
E-mail address : tcltd@townland.com

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Telephone : (91 22) 2600 0583
E-mail address : tcpl@townland.com

INDONESIA OFFICE :
Gedung Menara Anugrah, Lantai 21
Kantor Taman E.3.3, Jl. DR. Ide Anak Agung Gde Agung Lot 8.6-8.7
Kawasan Mega Kuningan, Jakarta Selatan 12950
Telephone : (62 21) 2941 0621
E-mail address : tcljkt@townland.com

ASSOCIATED COMPANIES :
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TOWNLAND CONSULTANTS (SHENZHEN) LIMITED (China)
TOWNLAND CONSULTANTS PVT. LIMITED (India)
PT TOWNLAND INTERNATIONAL (Indonesia)
HOWARD & SEDDON PARTNERSHIP (United Kingdom)

ISO 9001: 2015
Certificate No.: CC844

TOWNLAND

Our Ref URA/PCRHYR/VIN/13
Date 14 January 2022

Secretary, Town Planning Board

Public Comments Received	Applicant's Response
	A bus layby is proposed along Ping Che Road southbound direction outside the Application Site to facilitate boarding / alighting of public transport passengers and to avoid potential blockage of other bypass traffic. In addition, in order to further enhance the pedestrian safety of public transport passengers (especially the elderly) crossing Ping Che Road, signalised pedestrian crossing will be provided near the bus stops outside the Application Site. Enhancement of the existing franchised bus services is proposed, subject to further liaison with TD at a later stage.
A vehicular access road should be constructed to connect with the village so as to enhance the accessibility.	To improve accessibility and to facilitate pedestrian movement from Ping Che Road to the residential areas of Sing Ping Village northeast of the Application Site, The Applicant will construct a 2m pedestrian access path, providing proper pedestrian access for the public transversing the Application Site at all times. The pedestrian access is adjacent to the proposed bus lay-by and easily accessible. An existing vehicular access is located to the northeast of the Application Site providing access to the village areas to the north.
Some concerns that the Proposed Transitional Housing Development will result in adverse noise and air quality impacts during construction period will affect the health of nearby children of the nursery's health.	Technical assessments have also been undertaken to demonstrate that there will be no adverse landscape, infrastructural, or environmental impacts. To ensure speedy implementation and dismantling of the Proposed Transitional Housing, the Applicant will adopt MiC technology which will significantly reduce onsite construction processes and contributes to sustainability and environmental friendliness by reducing dust and noise nuisance to the surrounding environment during construction, minimises construction waste and improves construction waste management.
The Proposed Transitional Housing Development would affect the local fengshui and ancestral graves.	It is our understanding that the Application Site is not within or in close proximity to local fengshui woodlands or ancestral graves.

Public Comments Received	Applicant's Response
There is inadequate provision of local community facilities.	The Proposed Transitional Housing Development will provide a 1-storey Multi-Purpose Amenity Block and a 1-storey Elderly Service Centre to house ancillary facilities and services to the benefit of future residents and surrounding local community. Playground, multi-purpose outdoor space, fitness corner, etc are also proposed.

Minor error was spotted on Section A-A of Appendix 1 of the Supplementary Planning Statement and is revised accordingly (***Attachment 1*** refers).

An updated Landscape Layout Plan (with defined Site Boundary Line) is also provided in ***Attachment 2***.

Please kindly note that there is no change to the Proposed Development nor to the conclusion of the Technical Assessments. Should there be any queries, please do not hesitate to contact Ms. Cindy Tsang or the undersigned.

Yours faithfully
FOR AND ON BEHALF OF
TOWNLAND CONSULTANTS LIMITED

Vincent Lau
Associate Director

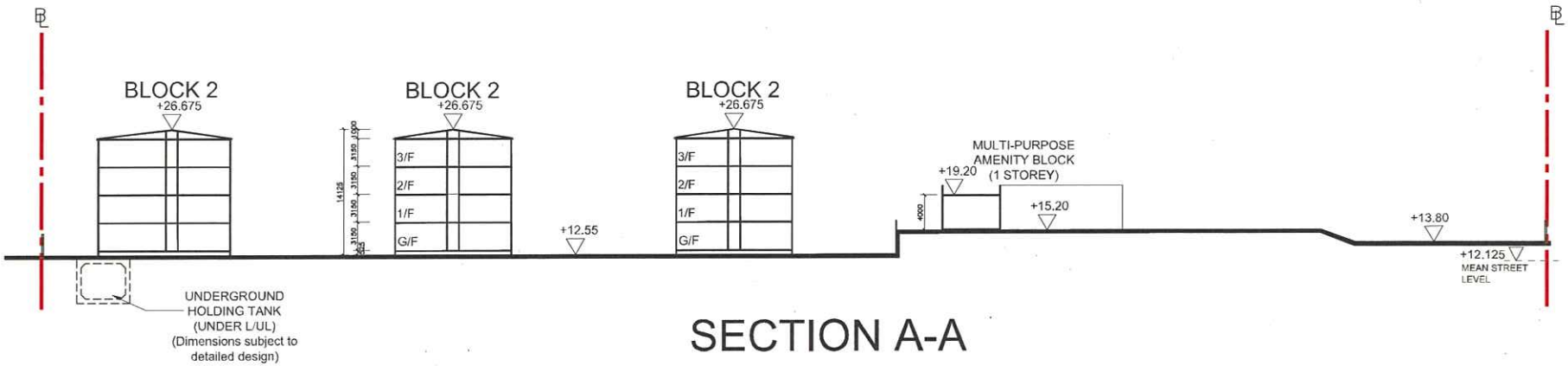
VIN/yv

Enc

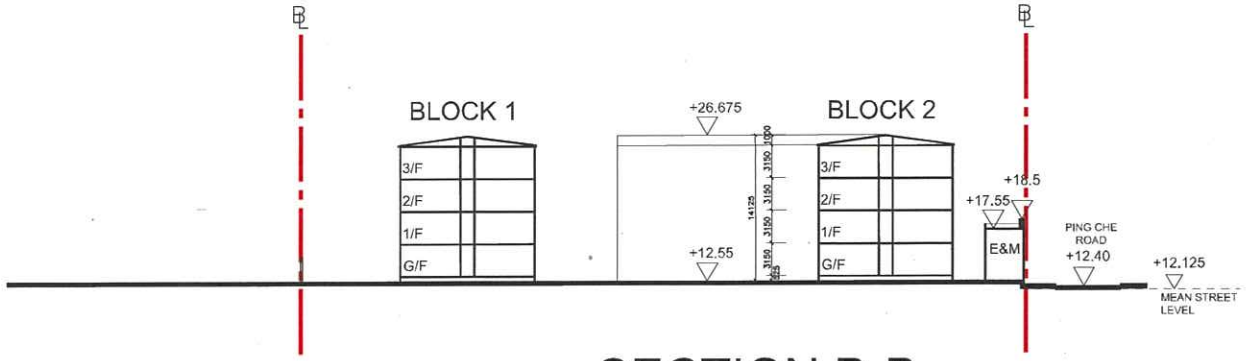
cc Client / Team

Attachment 1

UPDATED SECTION PLAN



SECTION A-A



SECTION B-B

NOTES:

DO NOT SCALE DRAWINGS.

ALL DIMENSIONS MUST BE VERIFIED AT THE WORK BY THE CONTRACTOR.

ALL PRINTS, SPECIFICATIONS AND THEIR COPYRIGHT ARE THE PROPERTY OF THE ARCHITECTS AND SHALL BE RETURNED AT THE COMPLETION OF THE WORK.

REVISION

NO	DATE	DESCRIPTION

ARCHITECT

STUDIO | RCA

18/F | Xiu Hua Commercial Building
211-213 Jaffe Road | Wan Chai | HK
Tel: 3583-2000 | Fax: 8143-1130
Email: mail@studiorca.com

STUDIO | RAYMOND CHAU | ARCHITECTURE | LIMITED

PROJECT NAME

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT AT GOVERNMENT LAND IN DD82, PING CHE, TA KWU LING, NEW TERRITORIES

DRAWING TITLE

SECTION AA & BB

DRAWN BY	CHECKED BY
KC	RC
SCALE: 1:600	DATE: 2021.11.12
JOB No.: 2024	DRAWING No.: PCR-A-02

Attachment 2

UPDATED LANDSCAPE LAYOUT PLAN

Annex 1



LP Submission - Landscape Layout Plan

Scale 1:500

Site Area: APPROX. 13,207m²

TOWNLAND CONSULTANTS LTD.
URBAN AND REGIONAL PLANNING, DEVELOPMENT CONSULTANCY, MASTER PLANNING, URBAN DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, PROJECT MANAGEMENT AND SOCIAL DEVELOPMENT

Our Ref URA/PCRHYR/VIN/14
Date 19 January 2022

By Email and Fax

Secretary, Town Planning Board
c/o Planning Department
15/F North Point Government Offices
333 Java Road, North Point, HONG KONG

Dear Sirs

SECTION 16 PLANNING APPLICATION
THE TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED TRANSITIONAL HOUSING DEVELOPMENT ON A 7 YEARS TEMPORARY BASIS AT GOVERNMENT LAND IN DD 82, PING CHE, TA KWU LING, NEW TERRITORIES (TPB NO. A/NE-TKL/692)

We write regarding the captioned Planning Application submitted to the Town Planning Board ("**TPB**") on 26 November 2021.

Please be clarified that the Applicant will be responsible for the Local Junction Widening of Ping Che Road and Local Access Road to Caritas Care Home.

Please kindly note that there is no change to the Proposed Development nor to the conclusion of the Technical Assessments. Should there be any queries, please do not hesitate to contact Ms. Cindy Tsang or the undersigned.

Yours faithfully
FOR AND ON BEHALF OF
TOWNLAND CONSULTANTS LIMITED

Vincent Lau
Associate Director

VIN/yv

Enc

cc Client / Team

城市規劃顧問

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CRD Samarth, 3rd Floor, 86 S.V. Road, Khar (W), Mumbai, 400 052, India
Telephone : (91 22) 2600 0583
E-mail address : tcpl@townland.com

INDONESIA OFFICE :
Gedung Menara Anugrah, Lantai 21
Kantor Taman E.3.3, Jl. DR. Ide Anak Agung Gde Agung Lot.8.6-8.7
Kawasan Mega Kuningan, Jakarta Selatan 12950
Telephone : (62 21) 2941 0621
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PT TOWNLAND INTERNATIONAL (Indonesia)
HOWARD & SEDDON PARTNERSHIP (United Kingdom)

ISO 9001: 2015
Certificate No.: CC844

《城市規劃條例》規劃申請編號：A/NE-TKL/692
擬議臨時過渡性房屋發展（為期7年）
新界打鼓嶺坪輋丈量約份第82約的政府土地

本人/機構接獲貴處來信，諮詢上述事宜，現回覆如下：

□ 贊成 （理由/意見 ：_____）

☑ 反對 （理由/意見 ：見附頁）

附頁：

本人反對該區興建過渡性房屋，承諾改善以下地區的基本配套才考慮上述計劃。

1. 重鋪及擴闊雲泉仙館至打鼓嶺警署的一段坪輋道路及行人路，提升道路安全環境。本人早前曾去信運輸署，要求改善坪輋九記迴旋處設計及近雲泉仙館彎位道路狹窄的問題，希望加速處理。
2. 在昇平學校外加設巴士上落避車處及上蓋設施。
3. 在昇平學校附近的非法棄置問題嚴重，建議加設大型垃圾收集站，改善衛生環境。
4. 加強現時小巴及巴士的公共交通班次服務，建議過渡性房屋選址位置開辦新公共交通服務往返大埔、粉嶺火車站或其他市區。
5. 昇平學校附近興建停車場泊位設施。

APPENDIX III

5-1

致城市規劃委員會秘書：
專人送遞或郵遞:香港北角渣華道 333 號北角政府合署 15 樓
傳真 : 2877 0245 或 2522 8426
電郵: tpbpd@pland.gov.hk

To : Secretary, Town Planning Board
By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong
By Fax : 2877 0245 or 2522 8426
By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 **The application no. to which the comment relates**
A/NE-TKL/692

意見詳情 (如有需要，請另頁說明)
Details of the Comment (use separate sheet if necessary)

「提意見人」姓名/名稱 Name of person/company making this comment 侯志洋

簽署 Signature _____ 日期 Date 2021.12.16

5-2

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	211212-194619-85710
提交限期 **Deadline for submission:**	31/12/2021
提交日期及時間 **Date and time of submission:**	12/12/2021 19:46:19
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TKL/692
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. 葉佩雲

意見詳情
Details of the Comment :

交通配套不完善，到時必定每日塞車，我們居民出入不方便

5-3

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	211216-174811-60496
提交限期 **Deadline for submission:**	31/12/2021
提交日期及時間 **Date and time of submission:**	16/12/2021 17:48:11
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-TKL/692
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Anthony NG

意見詳情
Details of the Comment :

本人現居於粉嶺軍地得悉 編號 A/NE-TKL/692 申請作過渡性臨時房屋。
基於交通配套未完善情況下、該地點興建過渡性臨時房屋後會為本區帶來交通擠塞及壓力、本人強烈反對申請編號 A/NE-TKL/692 申請作過渡性臨時房屋。

5-4

敬啟者： A/NE-TKL/69

本人 黃還珠是[redacted]業主，連同[redacted]各業主和村名（約 35 人），向 貴署表達關於興建中轉房屋的建議。

得悉 貴署要興建中轉房屋，我們亦贊同貴署的決定，但我們有小小建議，因為在這裡居住的村民，很多都是老人，也有傷殘人士，亦有小朋友。希望 貴署理解和體諒我們的處境，在建設時能開一條通道讓我們的車輛能到達門前或附近，讓我們的生活維持正常，因為有年邁的長者和傷殘人士，他們需要定時到醫院複診，或有時要 call 救護車時，亦能方便救護車和長者出入。懇請 貴署能否給我們的車輛有位置停泊在屋企附近，一來方便我們日常生活運作，二來可以讓我們住得更加安心。我們在此生活五十多年，正式老村民，希望 貴署可以站在我們的角度來考慮，同時都希望大家住得開心和安心！

黃志仁 謝明祖 謝永賢 李庚金 李加蔚

此致

何秋荷 殷善維

陳賢樑

何幸生

何玉桐

李蒲治 [illegible] 劉雨鵬 [illegible]

5-5

致城市規劃委員會秘書：
專人送遞或郵遞:香港北角渣華道 333 號北角政府合署 15 樓
傳真 : 2877 0245 或 2522 8426
電郵: tpbpd@pland.gov.hk

To : Secretary, Town Planning Board
By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong
By Fax : 2877 0245 or 2522 8426
By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 The application no. to which the comment relates
A/NE-TKL/692

意見詳情 (如有需要，請另頁說明)
Details of the Comment (use separate sheet if necessary)
本人喜見學校附近社區有新發展，同意整個發展規劃可以舒緩居住環境惡劣和長時間輪候公屋家庭的壓力，而且欣賞環境和公共設施設計有顧及原本居民的需要。唯本校學生每天會在學校戶外操場進行體能活動，他們年紀幼小，年齡為2-6歲，所以施工期的空氣污染、嘈音污染、建築工程車輛進出的安全及未來的交通配套和進出明愛打鼓嶺中心的道路問題及安全是關注的，關注要點及建議詳見另頁，希望署方及相關部門能仔細考慮及接納我們的建議，謝謝。

「提意見人」姓名/名稱 Name of person/company making this comment 明愛打鼓嶺幼兒學校 黃傲謙校長

簽署 Signature 黃傲謙 日期 Date 31 / 12 / 2021

CARITAS NURSERY SCHOOL - TA KU LING 明愛打鼓嶺幼兒學校

茲就明愛打鼓嶺幼兒學校 (下稱 "本校") 於 2021 年 12 月 13 日收到規劃署信件通知政府用地(Government Land in D.D. 82, Ping Che, Ta Kwu Ling) (下稱"該地段")擬建臨時過渡性房屋為期 7 年的規劃事宜，本校認同該地段應為有需要人士提供合適居住處所及與日常生活相關必需設施的用途。

唯因本校十分鄰近該地段，經與學校的持份者，包括辦學團體管理層、本校家長及教職員代表討論後，就有關規劃提出以下的關注及意見，尚祈閱覽。

1 施工期間的關注：

本校收錄年幼學童約 90 名，年齡由兩歲至六歲，每天上課時間為上午八時至下午六時，本校員生及家長非常重視學童的學習環境及安全；故在建設臨時過渡性房屋期間，尤其關注環境及安全議題。

1.1 空氣及嘈音污染問題

1.1.1 本校學生每天上午及下午均會分級在學校戶外操場進行體能活動，而本校戶外操場與該地段的整個發展範圍鄰近，在施工期間，會否產生空氣及/或嘈音污染，都是本校和家長最為關注的。

1.1.2 本校的學生年齡幼小，容易感染；故建築承造商在施工期間，有何措施確保四周環境的空氣質素及控制建築時產生的嘈音聲量，以能確保有關工程不會做成空氣及嘈音污染，影響兒童的身心健康發展？

1.2 大型建築工程車輛進出工地對鄰近道路安全的影響

1.2.1 按照有關規劃綱領陳述的整個發展規劃，只有一條與坪輋明愛打鼓嶺中心(明愛中心)，中心共有兩個服務單位－明愛打鼓嶺幼兒學校及明愛黃鳳亭安老院，共用的行車道路進出坪輋路。

1.2.2 唯該道路較狹窄(只有 5200mm 闊)及路面並不平坦，現時每天經此小路進出明愛中心的員工及服務使用者人次眾多，及有本校保姆車、港深直通旅遊巴士、接送服務使用者(幼童及長者)的私家車輛、安老院院車、救護車、垃圾車、送貨車輛等進出明愛中心。

1.2.3 在施工期間，估計將有多部大型的建築工程車輛進出該地段的工地，道路會變得繁忙。若在狹窄的坪輋路面同時有大型建築工程車輛駛出駛入，對於往返明愛中心的本校學童與家長、安老院的服務使用者及其家屬、與及員工的道路安全必須高度關注，以避免意外發生及須提供/加設減低危險的道路安全措施。

1.2.4 建議在施工開始前，優先在該地段進出路口增設班馬線或其它行人過路設施，並須擴闊及修補進出明愛打鼓嶺中心的道路，以確保行人及駕駛者的安全。

2 未來的關注：

2.1 交通配套

2.1.1 現時坪輋路只有一架往返粉嶺鐵路站的 52K 專線小巴（車程約 20 分鐘）及往返上水鐵路站的 79K 巴士（車程約 45 分鐘）。基於在日間三個主要繁忙時段（包括早上上班、中午午飯及傍晚下班）52K 小巴服務本已求過於供，沿路一帶居民難以乘坐，特別是上、下班時間。若按規劃綱領所陳述的，是項建設臨時過渡性房屋預計人口 916 人，及發展計劃同時會興建多功能設施大樓和長者服務中心，內有便利店、快餐店、社區中心/辦公室等，坪輋路一帶會增加工作人口，對交通需求會大大急增。

2.1.2 唯規劃報告只建議加密巴士班次，但未有提及其它的交通新配套，如是則會造成交通配套不足情況，對每天需往返本校的員工、幼童與家長均有影響。建議增加專線小巴的班次，按載有需要人士；及增設由坪輋往返皇后山邨新市區的交通，因皇后山邨會設有商店、餐廳及街市，能疏導有不同需要的居民，避免集中單靠現時往返鐵路站的交通。

2.2 明愛打鼓嶺中心的道路問題及安全性

2.2.1 就規劃綱領文件所見，整個臨時過渡性房屋發展計劃，包括 2 棟住用及 4 棟非住用設施，車輛進出道路只有一條連接現時進出明愛打鼓嶺中心的道路。若日後整個發展計劃只有此 5200mm 闊的道路作為車輛雙線出入通路，如前 1.2.3 提及的各類車輛及未來所有與過渡性房屋相關的服務車輛共同使用此小路進出坪輋路，道路會變得非常繁忙，若同時駛出駛入也需遷就，則學童、家長、安老院服務使用者、家屬及員工出入會較為危險。

2.2.2 建議在該地段的住用(臨時過渡性房屋)與非住用的設施之間增設另一邊車輛出口，疏導交通，與及擴闊進出明愛打鼓嶺中心的道路。

如對以上意見有何查詢，歡迎致電(2674 3207) / 電郵(cctkl@caritassws.org.hk)與本人聯絡。謝謝！

「提意見人」姓名/名稱：明愛打鼓嶺幼兒學校 黃傲謙校長

簽署：_____ 日期：31 / 12 / 2021

CARITAS NURSERY SCHOOL-TA KWU LING 明愛打鼓嶺幼兒學校

tpbpd@pland.gov.hk

5-6

寄件者: [redacted]
寄件日期: 2021年12月31日星期五 22:29
收件者: tpbpd
主旨: A/NE-TKL/692 DD 82 Former Sing Ping Public School, Ping Che , Pok Oi Trans Housing

A/NE-TKL/692 Pok Oi

Government Land in D.D. 82, The Former Sing Ping Public School, Ping Che

Site area : About 13,207sq.m

Zoning : "GIC"

Applied development : Transitional Housing /2 Blocks – 595 Units / 4 Blocks Services / OS 916sq.m / 2 Vehicle Parking

Dear TPB Members,

Object to the development of transitional housing on the site when it could be developed into permanent homes. This is 100% government land GIC zoning has never stood in the way of dozens of development projects via rezoning. The preamble says as much:

The Application Site is highly suitable for the provision of Transitional Housing. The Site is well connected to public transport. Pedestrian connections are available to residents to access neighbouring areas, including connections to commercial, community and transport facilities,

So why waste money on TH? No indication of any long term planning intention.

Another temporary housing project that artificially reduces the numbers on the PH waiting list and provides revenue stream for the NGO

The long suffering tax payer will cover the cost of installing sewerage, drainage and other utilities. In addition we cover all the costs of construction, management, etc. for short term housing with construction costs per unit 50% of that of a permanent home that would last for 50 years or more.

The tenants will still have to be housed when their allotted staycation time is up.

So we have to suck it up as there is now no accountability and no legislators who will challenge the authorities self-serving and short term policies.

It is unfortunate that TPB members support short term remedies instead of thwarting plans that provide band aid solutions.

Mary Mulvihill

Recommended Advisory Clauses

(a) to note the comments of the District Lands Officer/North, Lands Department that the applicant is required to submit his STT application for a term of 7 years where appropriate. LandsD acting in the capacity of landlord will consider the application which, if approved, will be subject to terms and conditions as considered appropriate. There is no guarantee that such application will be approved;

(b) to note the comments of the Commissioner for Transport that the applicant is advised to seek comments from stakeholders (including Fire Services Department, Hong Kong Police Force, Transport Department and local community representative) on traffic issues associated with the delivery of the MiC modules to the Site;

(c) to note the comments of the Director of Environmental Protection that the applicant is advised that no fresh air intake of the proposed development, including any openable window and fresh air intake of air conditioners, should be located within 10m from Ping Che Road, and 5m from the access road to the northwest of the Site. It is the obligation of the applicant to meet the statutory requirements under all environmental protection / pollution control ordinances;

(d) to note the comments of the Director of Fire Services on the following:

(i) provision of FSI shall comply with the requirements stipulated in the Code of Practice for Minimum Fire Service Installations and Equipment 2012;

(ii) should open kitchen design be adopted, additional FSI such as automatic fire detection and sprinkler systems are required in accordance with Clause C13.4 of the Code of Practice for Fire Safety in Buildings 2011 which is administered by the Buildings Department;

(iii) if MiC construction method is adopted, please observe FSD Circular Letter No. 3/2019 on "Guidance Notes on Submission, Approval and Acceptance Inspection of FSI in Modular Integrated Construction Building Projects"; and

(iv) if the provision of EVA does not comply with the standards stipulated in the Code of Practice for Fire Safety in Buildings 2011 due to site constraint, enhanced fire safety provisions should be provided;

(e) to note the comments of the Chief Building Surveyor/New Territories West, Buildings Department (BD) on the following:

(i) noting that the proposed transitional housing development is in close proximity to the common boundaries of the adjoining lots, the applicant's attention is drawn to the compliance with natural lighting and ventilation requirements as per the Building (Planning) Regulations 30 and 31;

(ii) if the existing structures are erected on lease land without approval of the BD (not being a New Territories Exempted House), they are unauthorized under the Buildings Ordinance (BO) and should not designated for any approved use under the application;

(iii) before any new building works are to be carried out on the Site, prior approval and consent of the Building Authority (BA) should be obtained unless they are exempted building works or commenced under the simplified requirement under the Minor Works Control Systems. Otherwise they are unauthorized buildings works (UBW). An Authorized Person (AP) should be appointed as the coordinator for the proposed building works in accordance with the BO;

(iv) for UBW erected on leased land, enforcement action may be taken by BA to effect their removal in accordance with BD's enforcement policy against UBW as and when necessary. The granting of any planning approval should not be construed as an acceptance of any existing building works or UBW on the Site under the BO;

(v) if the proposed use under application is subject to the issue of a licence, please be reminded that any existing structures on the Site intended to be used for such purposes are required to comply with the building safety and other relevant requirements as may be imposed by the licensing authority;

(vi) any temporary shelters or converted containers for storage or office, canteen or other uses are considered as temporary buildings, they are subject to control of Pt. VII of the Building (Planning) Regulations (B(P)R);

(vii) the Site shall be provided with means of obtaining access thereto from a street under the B(P)R 5 and emergency vehicular access (EVA) shall be provided under the B(P)R 41D. The applicant's attention is drawn to the requirement of EVA from Ping Che Road to the Site under PNAP APP-136;

(viii) if the Site does not abut a specified street of not less than 4.5m wide, the development intensity shall be determined by the Building Authority under B(P)R 19(3) at the building plan submission stage; and

(ix) formal submission under the BO is required for any proposed new works, including any temporary structures. Detailed comments under the BO will be provided at the formal building plan submission stage;

(f) to note the comments of Chief Town Planner/Urban Design & Landscape, Planning Department that the applicant should be 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 works; and

(g) to note the comments of Director of Food and Environmental Hygiene on the following:

(i) if any FEHD's facility and/or service is affected by the development, FEHD's prior consent must be obtained. Reprovisioning of the affected facilities by the project proponent up to the satisfaction of FEHD may be required. Besides, the project proponent should provide

sufficient amount of additional recurrent cost for management and maintenance of the reprovisioned facilities to FEHD;

(ii) if FEHD is requested to take up management responsibility of new public toilets and refuse collection points, FEHD should be separately consulted. Prior consent from FEHD must be obtained and sufficient amount of recurrent cost must be provided;

(iii) if provision of cleansing service for new roads, streets, cycle tracks, footpaths, paved areas etc, is required, FEHD should be separately consulted. Prior consent from FEHD must be obtained and sufficient amount of recurrent cost must be provided;

(iv) no pest problem and/or environmental hygiene nuisance should be generated to the surroundings. Also, for any waste generated from the operations and works, the project proponent should arrange its disposal properly at their own expenses; and

(v) if FEHD is requested to provide household waste collection service, FEHD shall be separately consulted. FEHD will not provide cleansing service within the site under private grant; and