S12A AMENDMENT OF PLAN APPLICATION

APPROVED TUNG TSZ OUTLINE ZONING PLAN NO. S/NE-TK/19

PROPOSED REZONING FROM "AGR" & "GB" TO "G/IC" FOR A PROPOSED "SOCIAL WELFARE FACILITIES" (RESIDENTIAL CARE HOMES FOR THE ELDERLY) (RCHE)

AT LOT 232 RP, 232 S.A RP, 232 S.A ss. 1 to 14, 232 S.B RP, 232 S.B ss. 1 to 27, 232 S.C to 232 S.E, 233 RP, 233 S.A to 233 S.M, 237 RP, 237 S.A to 237 S.R, 239 RP, 239 S.A to 239 S.G IN D.D. 23, Tung Tsz, Tai Po, N.T.

SUPPORTING PLANNING STATEMENT

DECEMBER 2024

R LEE ARCHITECTS LTD

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Executive Summary

This Planning Application is prepared and submitted on behalf of Mr. YUEN SHU MING ("the Applicant") to seek approval from the Town Planning Board ("TPB" / "the Board") under section 12A of the Town Planning Ordinance for a proposed amendment to the approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19. The proposed amendment is to rezone a site from "AGR" & "GB" to "G/IC" to allow the development of a RCHE.

The proposed development is a 10-storey RCHE comprising about 265 bedspaces. The Application Site locates in the rural part of Tai Po and is surrounded by lovely Landscape. The majority of the Site, although zoned "AGR", has no agricultural activities and have been abandoned for years.

The proposed development would make optimal use of scarce land resources to address the demand for elderly home care services in the vicinity. As detailed in the Planning Statement, the proposed development is fully justified to the following reasons:

- The proposed development is in line with the Government's recent Policy Direction to increase RCHEs bedspace supply and would alleviate the shortfall of RCHEs in Hong Kong in view of the increasing trend of the aging population.

- Since the launch of Encouragement Scheme by the Social Welfare Department in 2003, only one RCHE complying the standard completed in 2019. The approval of this S12A application would aid in speeding up the supply further.

- The GFA of about 8,300 sm of the proposed development comply with the latest Policy to encourage provision of RCHEs premises in new private development and is eligible for exemption from assessment of premium which could provide timely elderly home care services in the Tai Po.

- The Lot is under the Applicant's sole ownership and could speedily redeveloped upon TPB approval.

- Technical assessments demonstrated that the proposed development would not result in insurmountable visual, traffic, environmental, sewerage and drainage impact on the surrounding areas.

In view of the above and the list of detailed planning justifications in this Planning Statement, the Board is respectfully requested to consider the current planning application favorably.

行政摘要

(以英文版本為準)

此規劃申請是代表申請人“Mr. Yuen Shu Ming” (下稱「申請人」) 根據城市規劃條例第 12A 條，向城市規劃委員會(下稱城規會) 遞交規劃申請，擬議對大埔洞梓路計劃大綱核准圖編號 No. S/NE-TK/19 作出修訂。是次申請擬議就“農業” 和 “綠化地帶” 更改為”政府、機構或社區”地帶。

擬議發展將於申請地點內興建一座樓高 10 層，包括大概 265 張床位的社會福利設施(安老院舍)。申請地點位於大埔鄉郊，風景宜人。該場地的大部分區域雖然被劃為”農業”地帶，但已長時間沒有農業活動，並且已荒廢多年。

該發展將有效充分利用短缺的土地資源以回應政府對解決長者護理服務設施需求。申請人提出是次規劃申請是基於以下理據：

- 擬議發展符合政府最新的政策方向以適時回應社會對安老院舍的需求，並可緩解香港因人口老化趨勢而出現的安老院舍床位短缺問題。

- 自 2003 年社會福利署推行私人土地發展安老院舍鼓勵計劃以來, 只有一所安老院舍符合標準並於 2019 年落成。若此申請獲批，將可增加未來安老院舍的供應。

- 擬議發展提供一個整體樓面積 8,300 平方米的安老院舍，符合最新的「鼓勵在新私人發展物業內提供安老院舍院址計劃」的指引，亦符合資格獲豁免繳付地價，為建立安老院舍提供誘因。

- 申請人屬申請地點內的私人土地的唯一土地擁有人。若是次規劃申請獲得城規會同意，可迅速作出重建。

- 多個技術評估均證明是次發展計劃不會對附近地區造成不可逾越的視覺、交通、環境、排污及排水影響。

根據以上各點，申請人希望是次規劃申請能在規劃及技術層面獲城規會支持。

1.0 INTRODUCTION

1.1 Background

1.1.1 This planning application is submitted to seek permission from the Town Planning Board (the Board) in support of a proposed S12A Amendment to the Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 to rezone a site from "AGR" & "GB" to "G/IC" in order to allow the development of a RCHE.

1.1.2 The location of the subject Lot is Lot 232 RP, 232 S.A RP, 232 S.A ss. 1 to 14, 232 S.B RP, 232 S.B ss. 1 to 27, 232 S.C to 232 S.E, 233 RP, 233 S.A to 233 S.M, 237 RP, 237 S.A to 237 S.R, 239 RP, 239 S.A to 239 S.G in D.D. 23, Tung Tsz Road, Tai Po, N.T. ***(Figure 1 refers)***

1.1.3 Although the majority of the Site is zoned "AGR", there is a very small portion of the Site encroach into the "GB" zone to the North-West. ***(Figure 5 refers)***

1.1.4 The Farmlands exist in the Site and the surroundings have been abandoned and left vacant for years. The existing ground has been concreted for easy maintenance. Majority of the vegetations have been cleared and there are no existing trees in the Site. ***(Figure 3 refers)***

1.1.5 The proposed amendment involves a development of a 10 Storeys RCHE of GFA of app. 8,300 sm, equivalent to a P.R. of 5.569 and a height of 31 m. There are similar approved applications as detailed in Section 4.

1.1.6 The proposal is solely based on public interest to provide enough G/IC / RCHEs facilities to serve foreseeable increase in aging population. It also responds to better utilization of the scare land resources.

1.1.7 The site is in a pleasant setting and is surrounded by abundant greenery as a back drop. The Greenery could effectively shield off the increase in building bulk. The effect would be demonstrated by the Visual Impact Analysis as per attached

1.1.8 This Planning Statement consists of the following sections in support of the Proposed Development:

Section 2: Site and Surroundings
Section 3: Proposed Development
Section 4: Planning and Development Context
Section 5: Planning Justifications
Section 6: Conclusion

2.0 SITE AND SURROUNDINGS

2.1 Location and Access

2.1.1 The Application Site locates at Lot no. 232 RP, 232 S.A RP, 232 S.A ss. 1 to 14, 232 S.B RP, 232 S.B ss. 1 to 27, 232 S.C to 232 S.E, 233 RP, 233 S.A to 233 S.M, 237 RP, 237 S.A to 237 S.R, 239 RP, 239 S.A to 239 S.G in D.D. 23, Tung Tsz, Tai Po, N.T. is accessible by an Access Road of about 120m long with varying width not less than 4.5m ***(Figure 4 refers)***.

The Access Road is an unleased and unallocated Government Land maintained and vested by DLO. The Access Road is fitted with Lamp Posts, Public Drains and Sewers. It is connected to the Tung Tsz Road to the South-East side which finally discharged to Ting Kok Road.

2.1.2 The Site possesses an area of about 1,490 sm (16,090 sf) locates at the fringe of “AGR” zone, and closely adjoin a “V” zone to its West and North-West. Although majorly zone as “AGR”, a very small corner to its North-West encroaches onto “GB” zone. Its East and South-East bound on abandoned Agricultural Land located in the same “AGR” zone.

2.1.3 Groups of Village Houses, the “Treasure Spot Garden” located at a “V” zone, adjoin closely to this “AGR” zone to the West and South-West. While similar Village House Developments, the “Jade View Villa” located slightly further away to the East. “Tsz Shan Monastery” is situated at an “G/IC” zone to the North-East. A “GB” zone located to the North which serves as a Back Drop. ***(Figure 1 refers)***.

2.2 Land Status

2.2.1 The Application Site Situates in Old Schedule Agricultural Lots held under Block Government Lease of D.D. 23. It is held under Mr. Yuen Shu Ming and Union Sino Limited, which is also controlled by Mr. Yuen Shu Ming.

2.2.2 Upon TPB approval, Land Exchange is required. Subject to Guidance Notes issued by the Social Welfare Department, and the Practice Notes issued by LD, with the exemption from payment of Land premium.

2.3 BD / FSD Issues

Although the Access Road is of varying width, it is vested under DLO and is of not less than 4.5m wide. It complies with BD's requirement to be classified as a "Class A" Site.

However, difficulties to fully complied with B(P)R 41 regarding the EVA width is encountered due to its topographic restraints. Therefore, suitable enhancement provision to the FS System could be agreed during BD submission.

2.4 Accessibility

2.4.1 The Application Site is easily accessible by Private Cars, Ambulance, Minibus and Goods Vehicles ***(Figure 5 refers)***. It is also served by existing minibus and bus route per the followings:

Minibus:			
20B	Tai Po Market Station	↔	Tung Tsz
20C	Tai Po Market Station	↔	Tai Mei Tuk
20E	Tai Po Market Station	↔	Ting Kok (Shan Liu Rd)
20R	Tai Po Market Station	↔	Wu Kau Tang
20T	Tai Po Market Station	↔	Tsz Shan Monastery
Bus:			
73P	Tsuen Wan (Nina Tower)	↔	Tai Mei Tuk
74E	Kwun Tong Ferry	↔	Tai Mei Tuk
75K	Tai Po Market Station	↔	Tai Mei Tuk
275R	Tai Po Market Station	↔	Wu Kau Tang
Resident's Bus (Open to Public):			
NR532	Tai Po Market Station	↔	Tung Tsz Villas

3.0 PROPOSED DEVELOPMENT

3.1 Proposed RCHE Development

3.1.1 The proposed RCHE Development is of 10 storeys high, with lower 9 storeys (LG/F to 7/F) to be served as RCHE Dormitories. The Floor Level of 7/F is within 24m from Ground Floor, which comply with relevant Regulation. ***(Figure 8 refers)***

A range of Dormitory sizes from Shared Rooms with individual privacy on lower floors, to individual Suites of various sizes on upper floors. The Suites on 7/F are equipped with open Flat Roofs for extra enjoyment or even individual hobby farming.

3.1.2 A range of Common Facilities like Café Lounge, Multi-function Rooms, Library, Gymnasium, etc. locate on LG/F, next to a generous Entrance Lobby (at level +3.50).

Loading/ Unloading of Goods and Passengers are also provided adjacent to the Entrance Lobby. Plenty of Greenery, Garden, Outdoor Exercise and Sitting-out Spaces are also planned on various outdoor areas.

3.1.3 The Floor above the Dormitories (8/F) is designed for supportive functions like Administration Office, Meeting/ Interview Rooms, Kitchen, Laundry and Linen Stores, etc.

9 Staff Quarters are also provided for Staffs on 8/F so that overnight staffs could provide more timely services to the Elderly in case needed.

3.1.4 The Top of the Building on Roof Floor (at level +34.50) is designed as an Open Roof Garden for the Leisure of the Staffs and Visitors. It also serves to provide Roof Greeney according to SBDG.

3.1.5 The GFA allocation is tabulated as below:

Site Area		: 1,494.67 m^2	16,088.62 ft^2
Class of Site		: A	
Proposed Plot Ratio for Non-Domestic		: 5.57 < 9.5	
Proposed Site Coverage above for Non-Domestic (Above 15m)		: 61.09% < 80%	
Maximum Gross Floor Area		8,323.83 m^2	89,597 ft^2
Proposed Building Height		34.50 mPD	
Absolute Height		31.0 m	
Proposed No. of Storey		10 STOREYS	
Proposed Gross Floor Area			
LG/F	ENTRANCE & CARPARK	606.13 m^2	
UG/F	RCHE	613.16 m^2	
1/F – 5/F	RCHE	916.89 m^2 x 5 storeys =4584.45 m^2	45 no. of beds x 5 storeys
6/F	RCHE	886.14 m^2	17 no. of suites
7/F	RCHE	759.44 m^2	11 no. of suites
8/F	MANAGEMENT OFFICE	764.44 m^2	
R/F	SKY GARDEN	110.07 m^2	
TOTAL		**8,323.83 m^2**	**28 no. of suites & 225 no. of beds**
Parking Spaces: (Loading/ Unloading)			
No. of LGV		1 Nos.	
No. of Minibus		1 Nos.	
No. of Private Car Parking		1 Nos.	
No. of Accessible Private Car Parking		1 Nos.	
No. of Motorcycle Parking		1 Nos.	

Please refer to ***Figure 3*** for the Proposed Development

3.2 Design Concept

Diagram showing Concept Design is described in ***Figure 9*** and should be read in conjunction to illustrates the following Design Concepts.

3.2.1 ①-The Main Entrance for Pedestrians and Traffic are planned on the South-West Side, adjoining the Access Road.

3.2.2 ②-Building setback. Due to the irregular Site profile, the building was set back for a distance up to 5 m near the front Entrance.

This serves to widen the passage in front for pedestrian and traffic.

3.2.3 ③ - Entrance Lobby and other Communal Facilities like Multi-Function Rooms, Library and Gymnasium are planned on the right-hand side of LG/F.

3.2.4 ④- Numerous scattered Greenery Open Spaces surrounding the LG/F to ensure Green View and are accessible for Outdoor Activities directly.

3.2.5 ⑤- Adequate Loading/ Unloading, Car Parking Spaces and Supporting Plant Rooms are placed next to the Entrance Lobby.

3.2.6 ⑥- Since the Site possess Green View in transient setting, Dormitories are planned facing both long sides to maximize View and Ventilation. Wide Corridor and Spacious Communal Dining Spaces are offered in the middle.

3.2.7 ⑦- Spacious Suites are planned on Upper Floors to serve the Elderly with greater mobility who require considerable privacy at the same time. The setback on higher Floors create accessible Flat Roofs for the Suites with canopy and trellis to shield off direct sun light, for sitting out or hobby farming purpose. The setback also aid in alleviating the Building Bulk effect.

3.2.8 ⑧- A floor for General Administration Locates above the Dormitory Room on the Upper most floor.

In addition to general administration need, it provides 8 Staff Quarters, which may benefit the Elderly for after-hours emergency services and consideration is also given to the flexibility to employ "Epidemic Close Circuit Management" in case needed.

3.2.9 ⑨ -A roof garden consist of outdoor Leisure Spaces, Equipment and Individual Farming Areas for interest and hobby is provided on Roof Floor.

3.3 Visual Impact Assessment

A Report of the Visual Impact Assessment of the Development prepared by RLEE Architects Ltd is enclosed as per Appendix 1. It presents the Findings and Surveys conducted and summarized that NO adverse Impact to the Visual Aspect is created due to the increased in Plot Ratio and Height.

3.4 Traffic Impact Assessment

A Report of the Traffic Impact Assessment of the Development prepared by CKM Asia Limited is enclosed as per Appendix 2. It presents the Findings and Surveys conducted and summarized that NO adverse Impact to the Traffic Aspect is created due to the increased in Plot Ratio.

3.5 Environmental Impact Assessment

A Report of the Environmental Impact Assessment of the Development prepared by Novox Limited is enclosed as per Appendix 3. It presents the Findings and Surveys conducted and summarized that NO adverse Impact to the Environmental Aspect is created due to the increased in Plot Ratio.

3.6 Landscape Master Planning

A Report of the Landscape Master Planning of the Development prepared by R LEE Architects Limited is enclosed as per Appendix 4. The Landscaping design could benefit the surroundings by improving the visual, Air Purification and Micro-Climate aspects.

4.0 PLANNING AND DEVELOPMENT CONTEXT

4.1 Surrounding Land Uses Pattern

4.1.1 Please refer to ***Figure 6*** for the extracted OZP No. S/NE-TK/19.

Majority of the Site situates in the fringe "AGR" zone with a very small portion encroach onto "GB" zone to the North-West. It closely adjoins a "V" zone to the West where numerous Low-density Village House Development exist. There is a "GB" zone to the North of the Site.

4.1.2 In the Notes of the current "AGR" zone, (***Figure 6 refers***) no provision for "Social Welfare Facility for building RCHE exists. Therefore, an application under S12A is required to rezone the Site from "AGR" and "GB" to "G/IC" to facilitate the RCHE Development.

4.2 The Proposed S12A application

4.2.1 ***Figure 7*** show the proposal amendment to rezone the Site to "G/IC" zone whereas, the use of "Social Welfare Facility" is always permitted under Column 1 with no restriction on GFA no. of Storeys. The Application Site could be re-zoned into this Category, if so approved.

4.3 Similar Approved S12A Planning Applications

4.3.1 Three approved similar S12A rezoning cases are shortlisted below, for rezoning to "G/IC" Uses for RCHE Development:

Location	OZP No.	Original Zone	S12A approved rezoning
No. 8-12 Hi Yip Street, Yuen Long (Application No. Y/YL/6)	S/YL/27	"OU(B)"	"G/IC"
Lot No. 953 RP (Part) in D.D. 92, Kam Hang Road, Kwu Tung South (Application No. Y/NE-KTS/16)	S/NE-KTS/21	"REC"	"G/IC"
Lot 4823 in D.D. 104, Ngau Tam Mei, Yuen Long (Application No. Y/YL-NTM/9)	S/YL-NTM/13	"R(C)"	"G/IC"

4.4 Similar Approved S16 Planning Applications

4.4.1 Three approved similar S16 application cases are shortlisted below, which happen in a "V" zone.

They are in comparable settings to the Application Site, where a RCHE adjoin low-rise, low-density Village House environment. The Building Height and Bulk difference are similar :

Existing Zoning	Amended Zoning	Location	Application No.	Status
V	N/A	Lots 1695 S.D RP, 1741 RP (Part) and 1394 S.B RP (Part) in D.D. 120 and adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories	A/YL/263	Approved 05/02/2021
V	N/A	Lots 834 and 838 RP in D.D. 52 and adjoining Government Land, Tin Ping Road, Sheung Shui, New Territories	A/FSS/279	Approved 29/10/2021
V	N/A	Various Lots in D.D. 51, Fanling, New Territories	A/FSS/276	Approved 06/11/2020

4.5 Similar Approved LSP Scheme

4.5.1 Similar successful re-zoning cases from "AGR" zone as approved by the Chief Executive under the LSP Schemes are listed below for reference. Those successful rezoning set precedent cases for the rezoning of "AGR" zone into "R" and "G/IC" facilities.

Location	OZP	Original Zone	LSP Approved Rezoning
LSPS/003 She Shan Road and Lam Kam Road, Tai Po, N.T. (Original Site Area 193,397 sm, majorly zoned "AGR") ***Figure 10 refers***	S/NE-LT/11	"AGR" & "G/IC"	"Residential" with "G/IC" Facilities
LSPS/004 Tin Wo Road and South of She Shan Road, Lam Tsuen, Tai Po, N.T. (Original Site Area 68,348 sm, zoned "AGR") ***Figure 11 refers***	S/NE-LT/11	"AGR"	"Residential" with "G/IC" Facilities

4.5.3 It worth notice that the above approved re-zoning cases, although aid to house a great no. of population and associated G/IC facilities, deprive huge Agricultural Land at the same time.

5.0 PLANNING JUSTIFICATION

5.1 The Aging Community Structure

Hong Kong continues to have the longest life expectancy in the world. According to a report published by the Government Census and Statistics Department in 2021, Hong Kong has a population of approximately 7 million, and the population over the age of 65 is approximately 1.45 million. The aging trend of the population continues, until 2046 (i.e. 25 years later) it will increase to 2.74 million people.

As of 2021, public and private residential care homes for the elderly in Hong Kong provide a total of about 70,000 beds. If it accounts for 5% of the population over 65 years old. According to estimates by the Census and Statistics Department, the number of RCHEs needed will increase to 137,000 by 2046. That means 2,680 new beds need to be added every year. Assuming a RCHE of average 300 beds, nine new RCHE will need to be built every year! However, according to the number of RCHEs completed in recent years, an average of 2 to 3 number are built each year. In the long run, demand will definitely exceed supply.

The government launched a land premium exemption policy in 2003 to encourage private construction of RCHE, but the results have been ineffective. As of 2019, 16 years later, only one RCHE, completed in Hu Tei, Tuen Mun. In 2024, the market response is not positive.

The construction of a RCHE is a time and money consuming process. Planning approval is being the first hurdle in the process. Therefore, the approval of this S12A application would aid to foster another successful RCHE Development.

5.2 Scare Standalone RCHEs

In view of the scarce land resources and dense population, majority of the existing RCHEs are transformed from podium floors of existing aged Residential and Commercial Mixed Uses Developments. Not only do it create the problem of circulation needs for Lift Usage, it also induces certain nuisance like noise and hygiene problem to the residents in daily operation.

Standalone RCHEs might be a way out for the problem. The subject Standalone application with its independent Vehicles, Pedestrian and Services Access, would create no inconvenience to the surroundings and the general public. In addition, this purpose built RCHEs would fully utilize the Land's Developmental Potential through necessary relaxation in no. of storeys and Plot Ratio.

5.3 Restrictions on Plot Ratio & No. of Storeys in “G/IC” Zone

5.3.1 “G/IC” zone is designated for Government, Institution and Community uses. Those should be built according to their needs for individual merit and their bulks are usually governed by relevant Regulations. Normally, the Plot Ratio are not restricted but some restrictions may apply to the No. of Storeys on Building Height.

5.3.2 Similar decision on relaxation of no. of storeys restriction can be noted from the Town Planning Board Meeting on 17.9.2021 on Proposed Amendments to the Draft Yau Ma Tei Outline Zoning Plan No. S/K2/22 (TPB Paper No. 10773), the Town Planning Board Chairman and the Planning Department were of the view that in the absence of concrete redevelopment proposals, it was difficult to predetermine any appropriate BHR for the “G/IC” sites. Plan D would, with the benefit of the redevelopment proposal(s) so put forward, review the BHRs of those sites and make suitable amendments to the OZP. The same principle of ”case-by-case” should be applied to other similar “G/IC” sites in Hong Kong as well, where the BHR should be imposed based on individual proposals, subject to no significant adverse impact from planning and technical points of view.

5.3.3 As revealed from the Design of the proposed development and Building Bulk Study as per the Visual Impact Assessment. The proposed Plot Ratio of 5.53 and the Height of 31 m (10 Storeys) for this Planning Application is justified.

5.4 Similarity to RCHE Developments approved in "V" zone

The Application Site, although zoned "AGR" and "GB", locates at the fringe of "AGR" zone and adheres closely to a "V" zone to the West. It possesses similar feature to a "V" zone.

There are two approved S16 cases located in South Yuen Long (no. A/YL/302 and A/YL/263) which situate closely to a "V" zone (***Figure 1 in Figure 9a refers***). The resulting building height difference are 18.17 m and 14.77 m respectively.

Referring to our Application case, as revealed from ***Figure 2 in Figure 9a***, the resulting building height difference is 25.55 m, which is similar to the above mentioned cases.

Since there are precedent cases for successful S16 planning application from "V" zone to a "Social Welfare Facility" for RCHE Development. Similar approval could be favorably considered to this S12A Application.

5.5 Conversion of "AGR" Use become irresistible

Although "AGR" Lands, like other Land Resources in Hong Kong, are precious. In line with the City's development, there are pressing needs for various type of developable Lands.

The Two massive rezoning Cases in the LSP Scheme as listed in ***Figure 10 and 11*** set a good precedent cases for the rezoning from quality Agricultural Lands in the "AGR" zone to "Residential" with "G/IC" Facilities.

Similarly, this S12A Application propose to convert recently under developed, abandoned Agricultural Land into a RCHE which would benefit Hong Kong in the long run.

In view of the Limited Land Resources of Hong Kong in general, the trend seemed to be irresistible and The Society's interest, however, needed to be balanced.

5.6 Consideration of Green Building Design and Sustainable Building Design Guidelines (SBDG)

5.6.1 Green Building Design

A List of Green Building Design including G/F Greenery Open Spaces and Open Roof Garden are elaborated in Section 3.2.

5.6.2 Sustainable Building Design Guideline

The Site area of the Development is below 2,000m², of which SBDG (PNAP) APP-152 would not be applicable. However, every effort is made to comply with the Guideline as much as possible in order to contribute to improve the overall Built Environment. Those are summarized as Follows:

5.6.2.1 Building Length

The projected facade length of the proposed building abutting the street is below 60m which is below the stipulation under the SBDG.

5.6.2.2 Greenery

In order to improve the environmental quality of the urban space, particularly of the pedestrian level to mitigate the heat island effect, Greenery is proposed on various locations to satisfy that required under SBDG. The details are summarized in a LMP report as attached in Appendix 6.

6.0 CONCLUSION

6.1 This supporting Planning Statement is submitted under Section 12A of the TPO to seek approval for the rezoning of the subject site from "AGR" & "GB" to "G/IC", for the proposed RCHE.

6.2 The proposed RCHE with a focus on Public Interest is justified based on the followings:

6.2.1 In view of the Aging Population growth, there is a strong demand of RCHEs in the Territory in the long run.

6.2.2 In consideration of the scarce land resources, the replacement of the existing underutilized, abandoned Agricultural Land by a RCHE of higher Plot Ratio is justified.

6.2.3 The Applicant has located a number of potential experienced RCHEs Operators and would assign one of them as the Operators in future.

6.2.4 It is a sizable standalone RCHEs development that comply with the Encouragement Scheme of the Social Welfare Development. Since the launching of the Scheme in 2003, there is only one successful RCHE built in 2019. The approval on this S12A application would aid to speed up more RCHE developments.

6.2.5 By situating at the fringe of "AGR" zone and closely adjoin a "V" zone. It exhibits similar Height and Bulk difference comparing to a few previously approved S16 Schemes. The site is also surrounded by abundant Greenery and the increase in Building Bulk is adequately shield off.

6.2.6 There are Two similar rezoning LSP Schemes which involve rezoning from "AGR" zone to "Residential" with "G/IC" Facilities in bigger scales. Those set good precedent cases for this S12A Application.

6.2.7 The site is under single ownership, it could be readily re-developed to aid to solve the RCHEs demand in short term.

6.3 In addition to the planning and design merits, it is also demonstrated by technical assessments on the Environmental Impact, Traffic and Landscape aspects that the Proposed Development will NOT generate insurmountable impacts to the Application Site and its surroundings.

6.4 In the light of the planning merits and justifications put forward in this Supporting Planning Statement, we sincerely seek for the favourable consideration from the TPB to give support to this Application.

FIGURES

FIGURE 1

Location Plan

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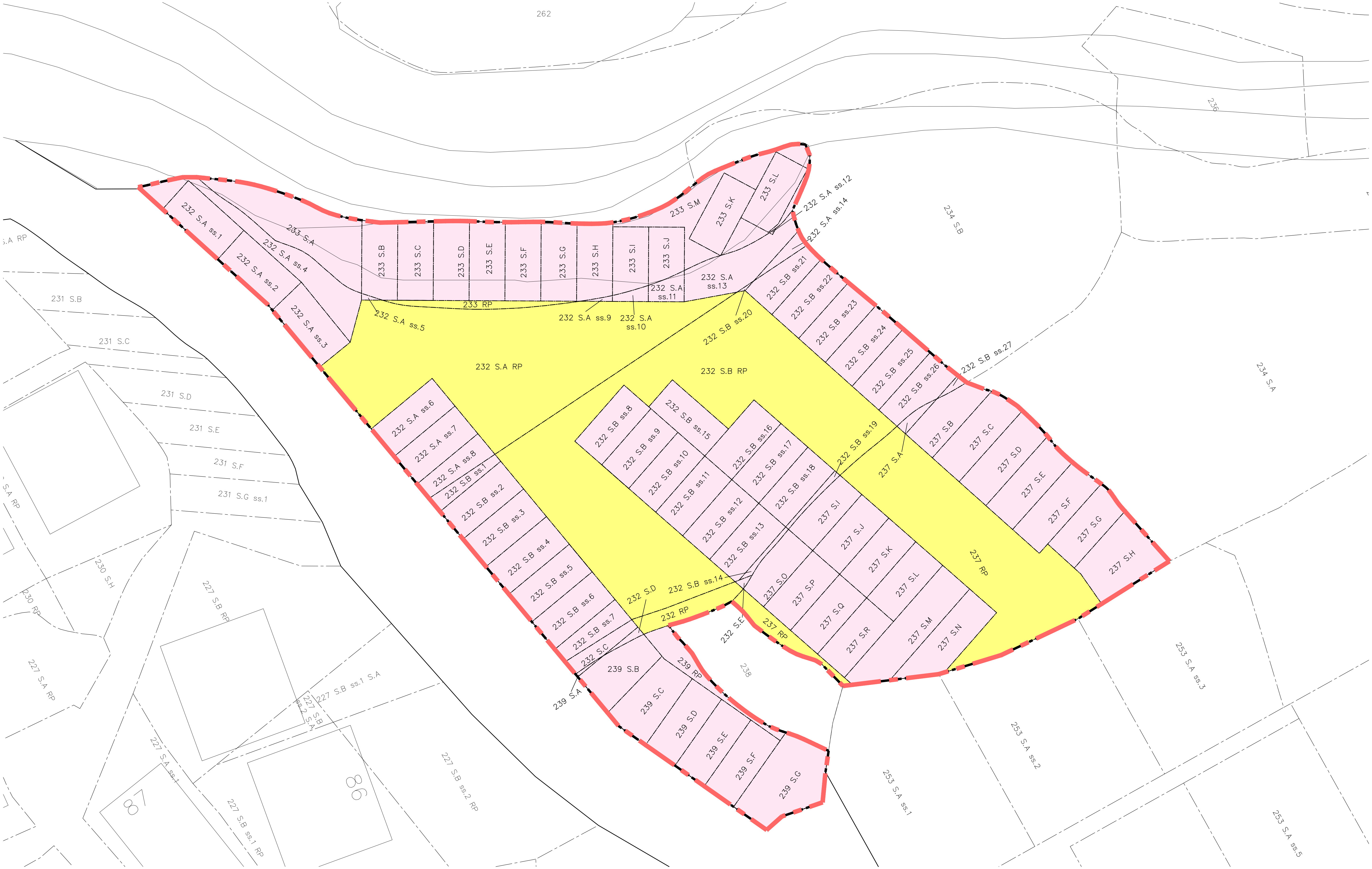
FIGURE NO.	TITLE			
1	LOCATION PLAN	1:13000 (A4)	-	OCT. 2024

FIGURE 2

Lot Index Plan



N

LOTS OWNED BY UNION SINO LTD

LOTS OWNED BY MR. YUEN SHU MING

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	LOT INDEX PLAN	FIG.2	1:250 (A3)	B A -	JAN.2024 DEC.2024 OCT.2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

FIGURE 3

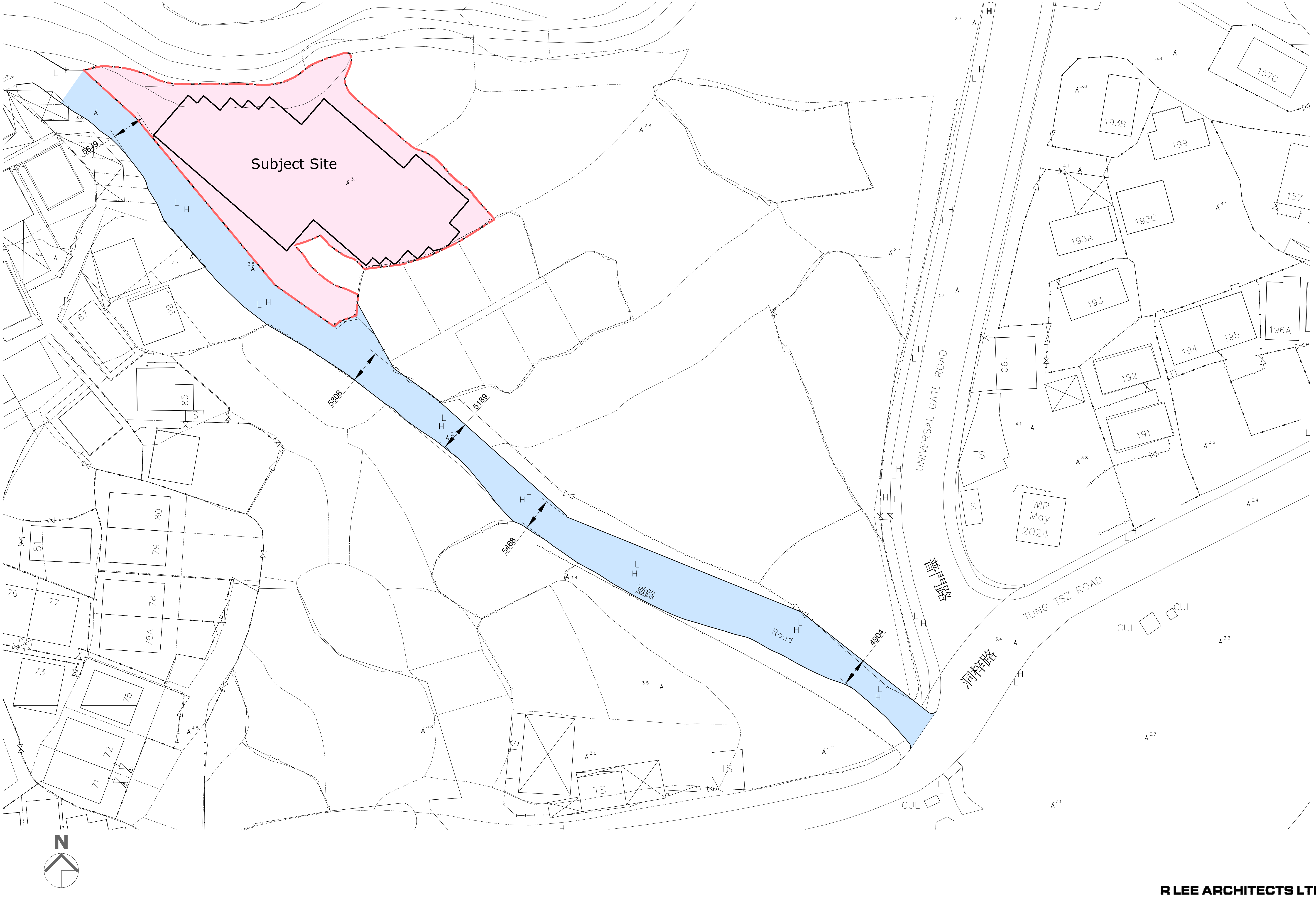
Aerial Photo Showing the Subject Site

And Surrounding “AGR” Zone are abandoned Farmlands

N
Burial Urns
Subject Site
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 3A
BLOCK 5
BLOCK 6
BLOCK 28
BLOCK 8
TUNG TSZ ROAD
193A
193C
193
192
191
190
TS

FIGURE 4

Access Road to Subject Site



2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	ACCESS ROAD TO SUBJECT SITE	FIG.4	1:600 (A3)	-	OCT.2024

Do not scale drawing.
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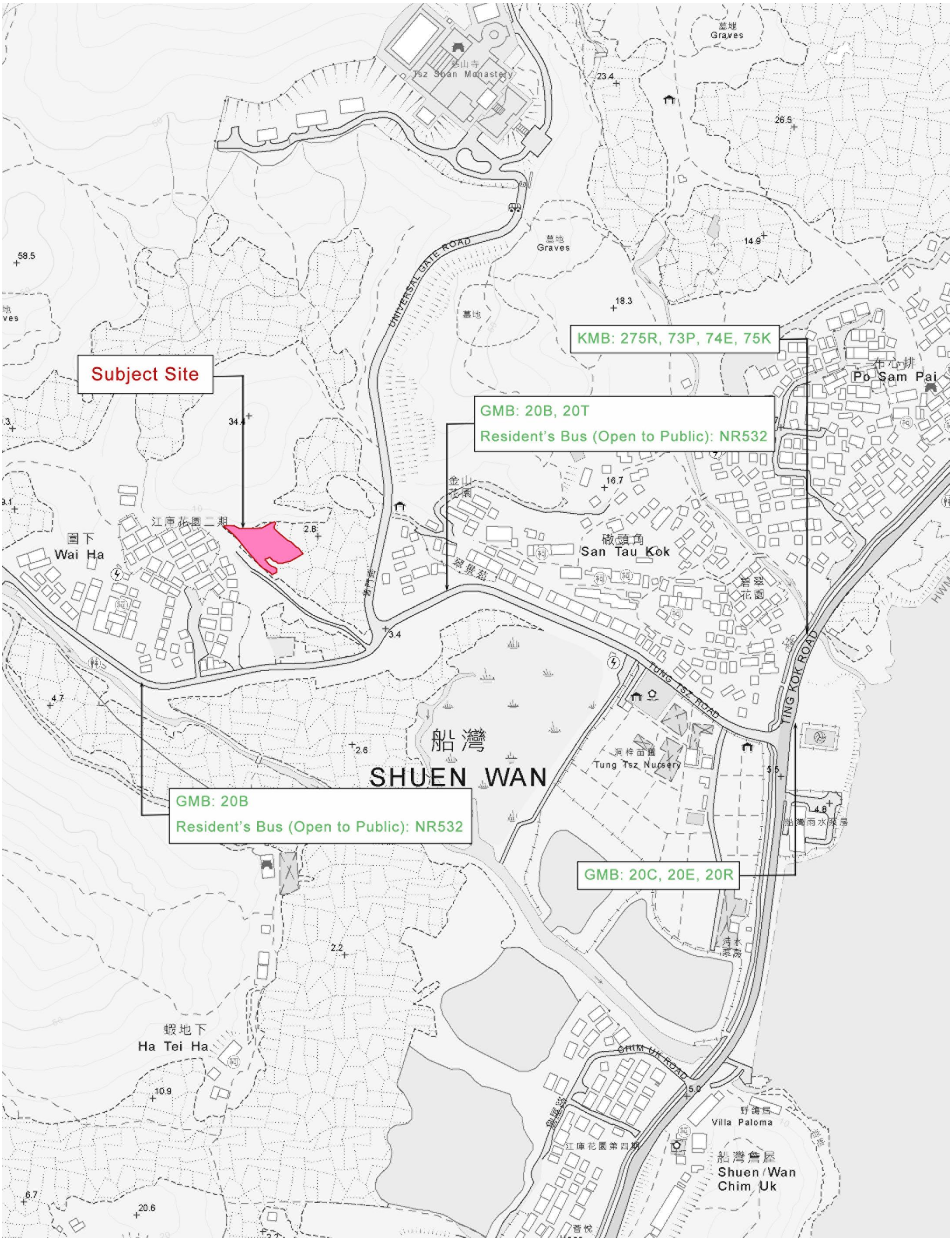
FIGURE 5

Figure showing availability of
Public Transport in the vicinity

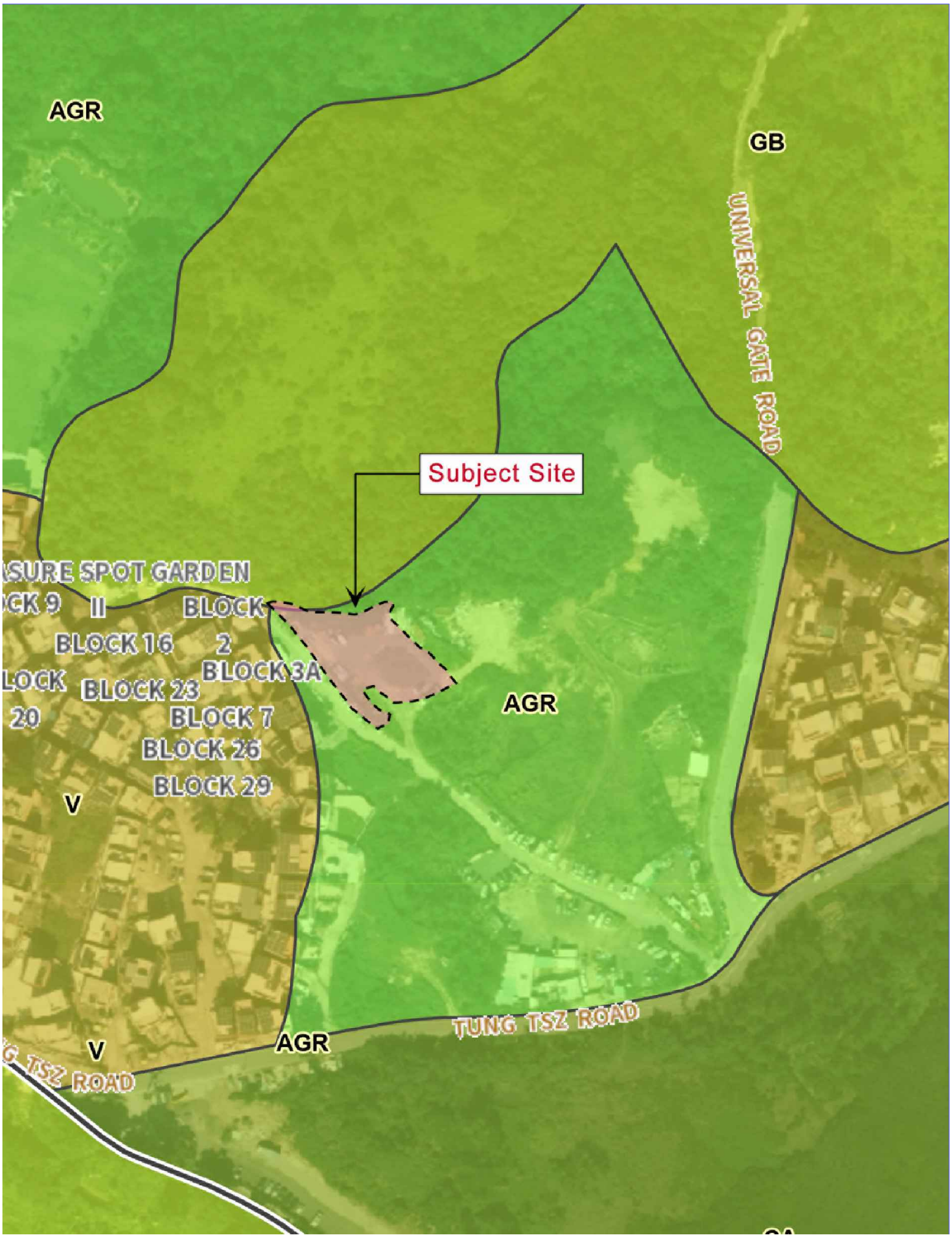


慈山寺
Tsz Shan Monastery
墓地
Graves
UNIVERSAL GATE ROAD
Subject Site
KMB: 275R, 73P, 74E, 75K
GMB: 20B, 20T
Resident's Bus (Open to Public): NR532
布心排
Po Sam Pai
金山花園
江庫花園二期
圍下
Wai Ha
碰頭角
San Tau Kok
碧翠花園
TUNG TSZ ROAD
TING KOK ROAD
洞梓苗圃
Tung Tsz Nursery
船灣
SHUEN WAN
GMB: 20B
Resident's Bus (Open to Public): NR532
GMB: 20C, 20E, 20R
蝦地下
Ha Tei Ha
CHIM UK ROAD
野鴿居
Villa Paloma
江庫花園第四期
船灣詹屋
Shuen Wan
Chim Uk

FIGURE 6

Outline Zoning Plan

No. S/NE-TK/19



N

0.4km 0.8km 1.2km 1.6km 2.4km

R LEE ARCHITECTS LTD

FIGURE NO.	TITLE	1:4000 (A4)	- OCT. 2024
6	OUTLINE ZONING PLAN		

AGRICULTURE

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre only) On-Farm Domestic Structure Public Convenience Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Animal Boarding Establishment Barbecue Spot Burial Ground Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (New Territories Exempted House only, other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Picnic Area Place of Recreation, Sports or Culture (Horse Riding School, Hobby Farm, Fishing Ground only) Public Utility Installation Religious Institution (not elsewhere specified) School Utility Installation for Private Project

Planning Intention

This zone is intended primarily to retain and safeguard good quality agricultural land/farm/fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.

Remarks

(a) Any filling of pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the interim development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

(Please see next page)

AGRICULTURE (Cont'd)

Remarks (Cont'd)

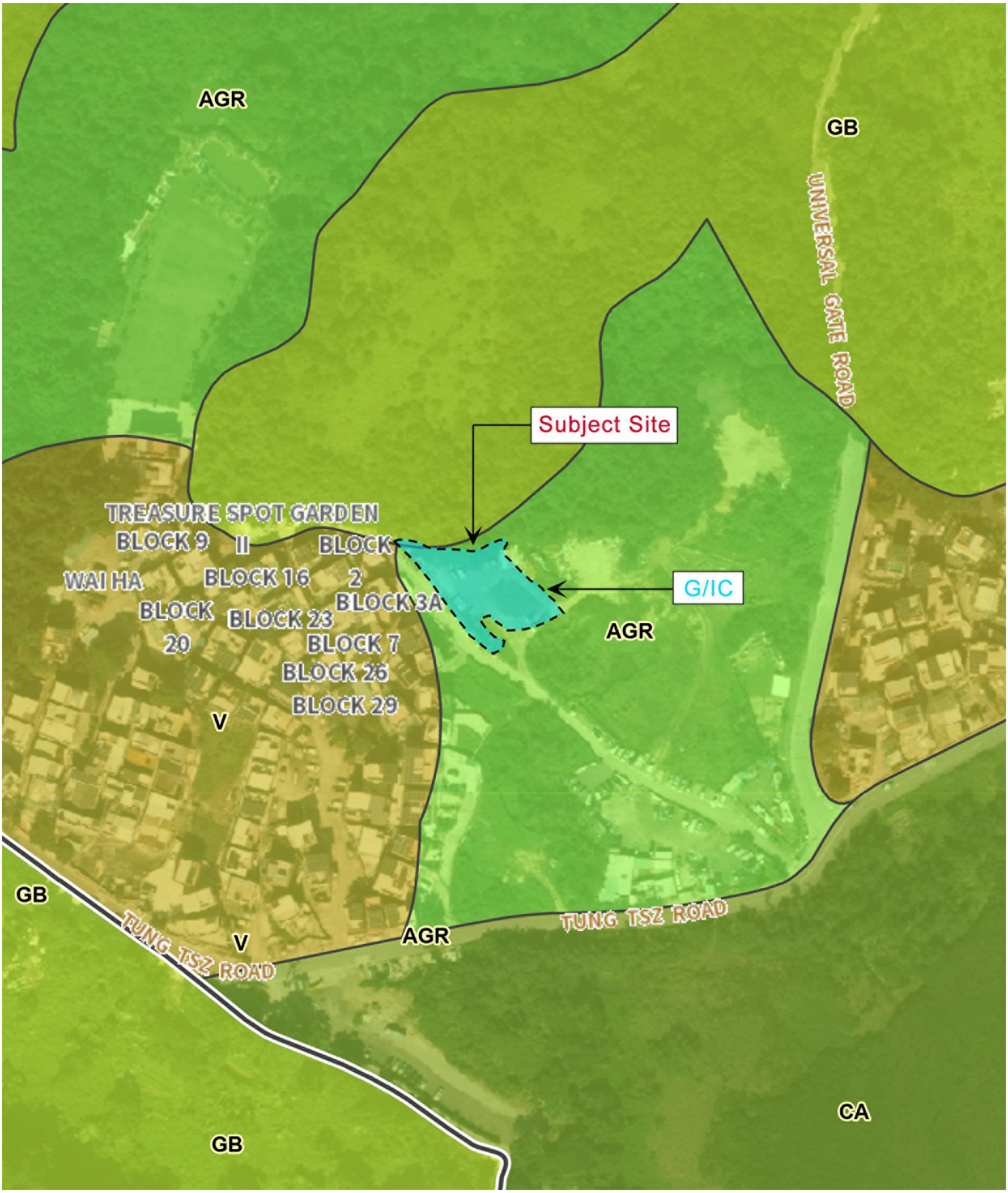
(b) Any filling of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft Ting Kok Outline Zoning Plan No. S/NE-TK/11 without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance. This restriction does not apply to filling of land specifically required under prior written instructions of Government department(s) or for the purposes specified below:

(i) laying of soil not exceeding 1.2m in thickness for cultivation; or

(ii) construction of any agricultural structure with prior written approval issued by the Lands Department.

FIGURE 7

Proposed Rezoning to “G/IC” Use


AGR
GB
UNIVERSAL GATE ROAD
Subject Site
TREASURE SPOT GARDEN
BLOCK 9
II
BLOCK
WAI HA
BLOCK 16
2
G/IC
BLOCK 3A
BLOCK
BLOCK 23
AGR
20
BLOCK 7
BLOCK 26
BLOCK 29
V
GB
TUNG TSZ ROAD
V
AGR
TUNG TSZ ROAD
CA
GB

GOVERNMENT, INSTITUTION OR COMMUNITY

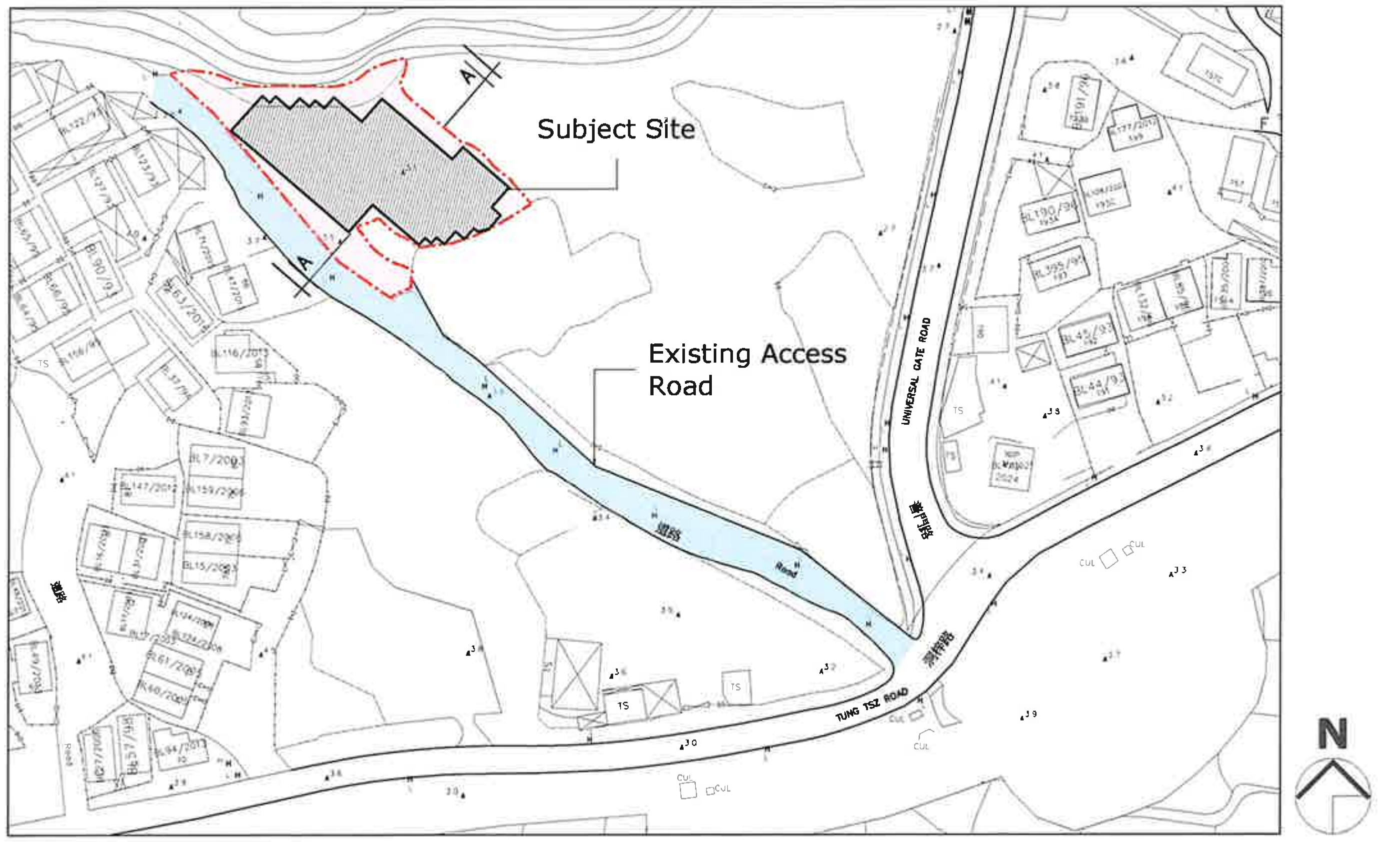
Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

Planning Intention

This zone is intended 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.

FIGURE 8

Proposed Conceptual Building Plan



BLOCK PLAN SCALE – 1:1500

DEVELOPMENT SCHEDULE:

Site Area	:	1494.67 m² (16088.62 ft²)
Class of Site	:	A
Proposed Plot Ratio For Non-Domestic	:	5.57 < 9.5
Proposed Site Coverage above For Non-Domestic (Above 15m)	:	61.09% <80%
Proposed Building Height	:	34.50 mPD
Absolute Height	:	31.0 m
Proposed No. Of Storey	:	10 STOREYS

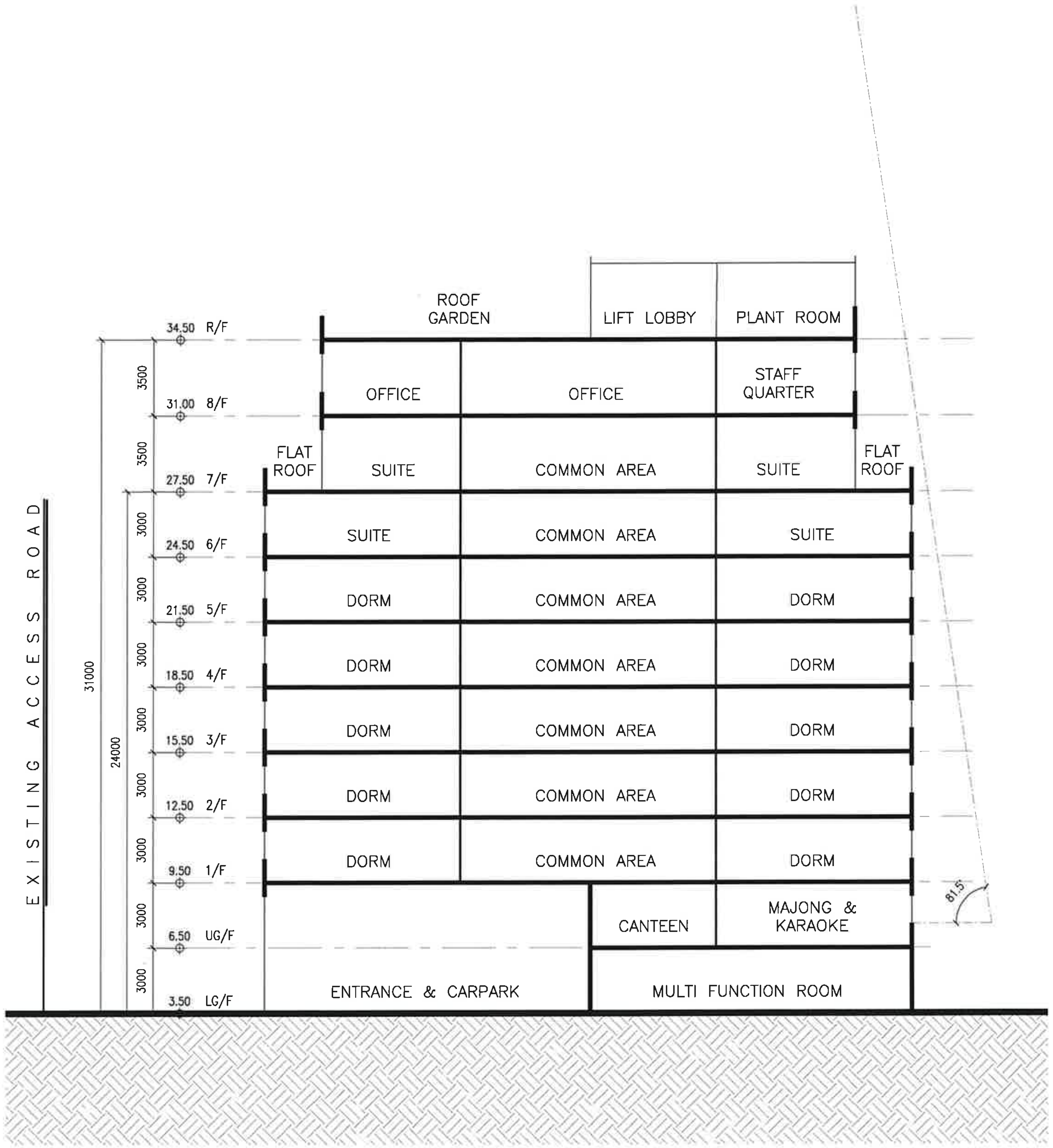
Proposed Gross Floor Area

LG/F (ENTRANCE & CARPARK)	:	606.13m²	
UG/F (RCHE)	:	613.16 m²	
1/F-5/F (RCHE)	:	916.89m² x 5 storeys = 4584.45 m²	(45 no. of beds x 5 storey)
6/F (RCHE)	:	886.14 m²	(17 no. of suites)
7/F (RCHE)	:	759.44 m²	(11 no. of suites)
8/F (MANAGEMENT OFFICE)	:	764.44 m²	
R/F (SKY GARDEN)	:	110.07 m²	
TOTAL	:	**8323.83 m² (89597 ft²) (28 no. of suites & 225 no. of beds)**	

Parking Spaces :

No. of LGV (3.5m x 7m x 3.6m H.)	: 1 Nos.
No. of Minibus (3m x 8m x 3.6m H.)	: 1 Nos.
No. of Private Car Parking (2.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Accessible Private Car Parking (3.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Motorcycle Parking (1m x 2.4m x 2.4m H.)	: 1 Nos.

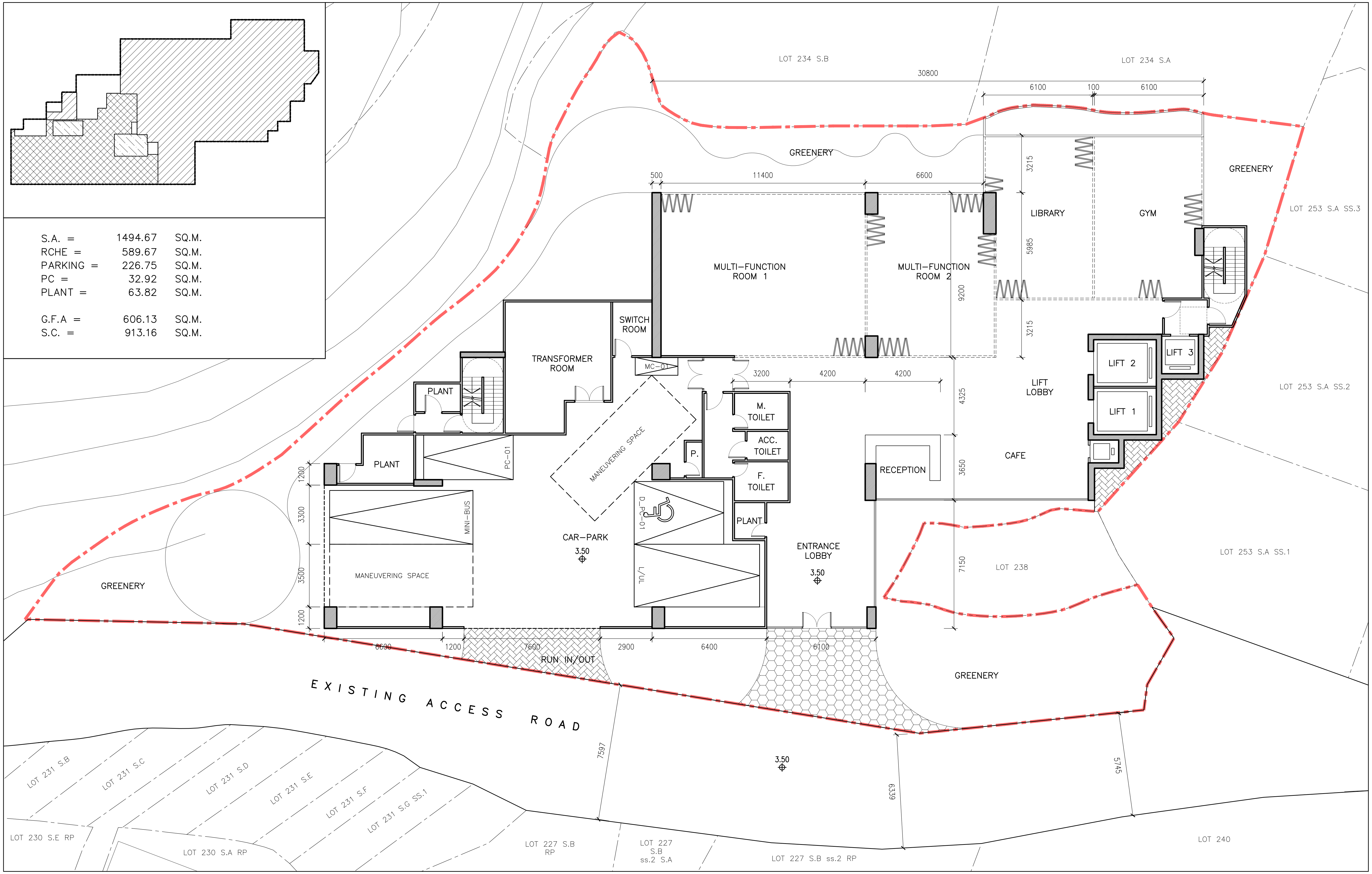
BOUNDARY LINE



SECTION A-A SCALE – 1:250

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	DEVELOPMENT SCHEDULE & SECTION	G-01	N.T.S. (A3)	D JAN. 2025 C DEC. 2024 B OCT. 2024 A SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD



S.A. =	1494.67	SQ.M.
RCHE =	589.67	SQ.M.
PARKING =	226.75	SQ.M.
PC =	32.92	SQ.M.
PLANT =	63.82	SQ.M.
G.F.A =	606.13	SQ.M.
S.C. =	913.16	SQ.M.

N

BOUNDARY LINE

R LEE ARCHITECTS LTD

2483

PROPOSED RCHE DEVELOPMENT
at TUNG TSZ,
TAI PO, N.T.

LG/F PLAN
ENTRANCE & CARPARK

G-02

1:200 (A3)

C	DEC. 2024
B	OCT. 2024
A	SEP. 2024
-	SEP. 2024

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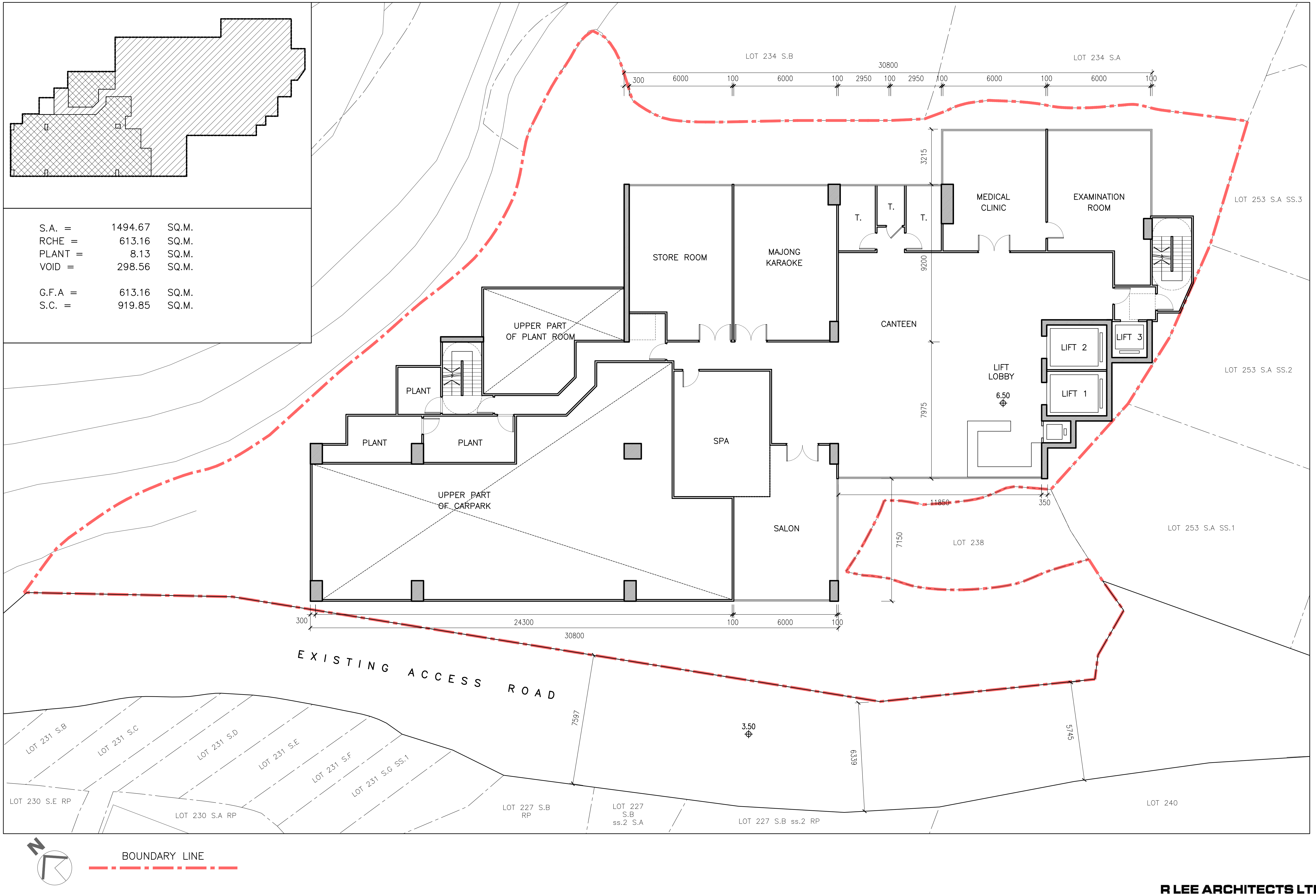
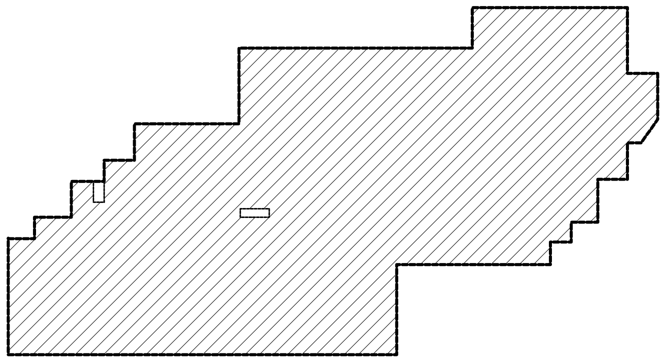
This drawing is not for construction purposes unless expressedly certified.



S.A. =	1494.67	SQ.M.
RCHE =	613.16	SQ.M.
PLANT =	8.13	SQ.M.
VOID =	298.56	SQ.M.
G.F.A =	613.16	SQ.M.
S.C. =	919.85	SQ.M.

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	UG/F PLAN RCHE	G-03	1:200 (A3)	D JAN. 2025 C DEC. 2024 B OCT. 2024 A SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



S.A. =	1494.67	SQ.M.
RCHE =	916.89	SQ.M.
PLANT =	2.96	SQ.M.
G.F.A =	916.89	SQ.M.
S.C. =	919.85	SQ.M.

BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	TYPICAL/F PLAN RCHE	G-04	1:200 (A3)	C DEC. 2024 B OCT. 2024 A SEP. 2024 - SEP. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
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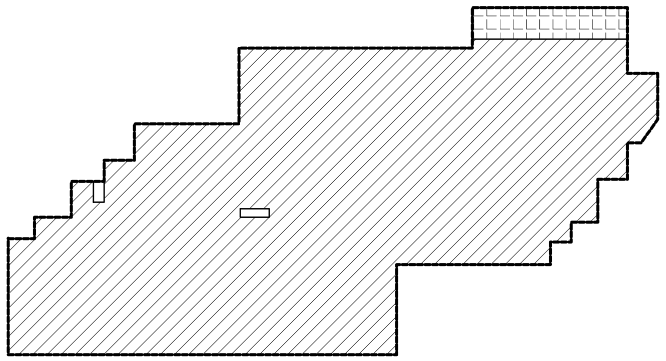
The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD

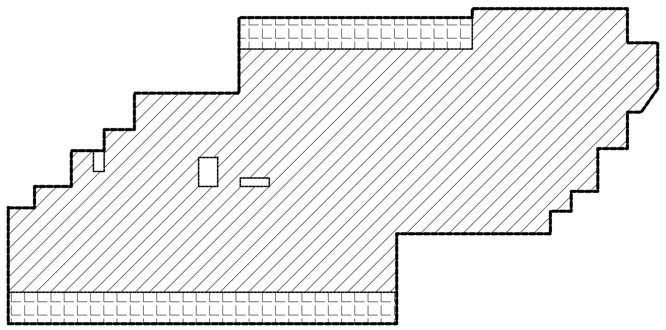


S.A. =	1494.67	SQ.M.
RCHE =	886.14	SQ.M.
PLANT =	2.96	SQ.M.
FLAT ROOF =	30.75	SQ.M.
G.F.A =	886.14	SQ.M.
S.C. =	919.85	SQ.M.

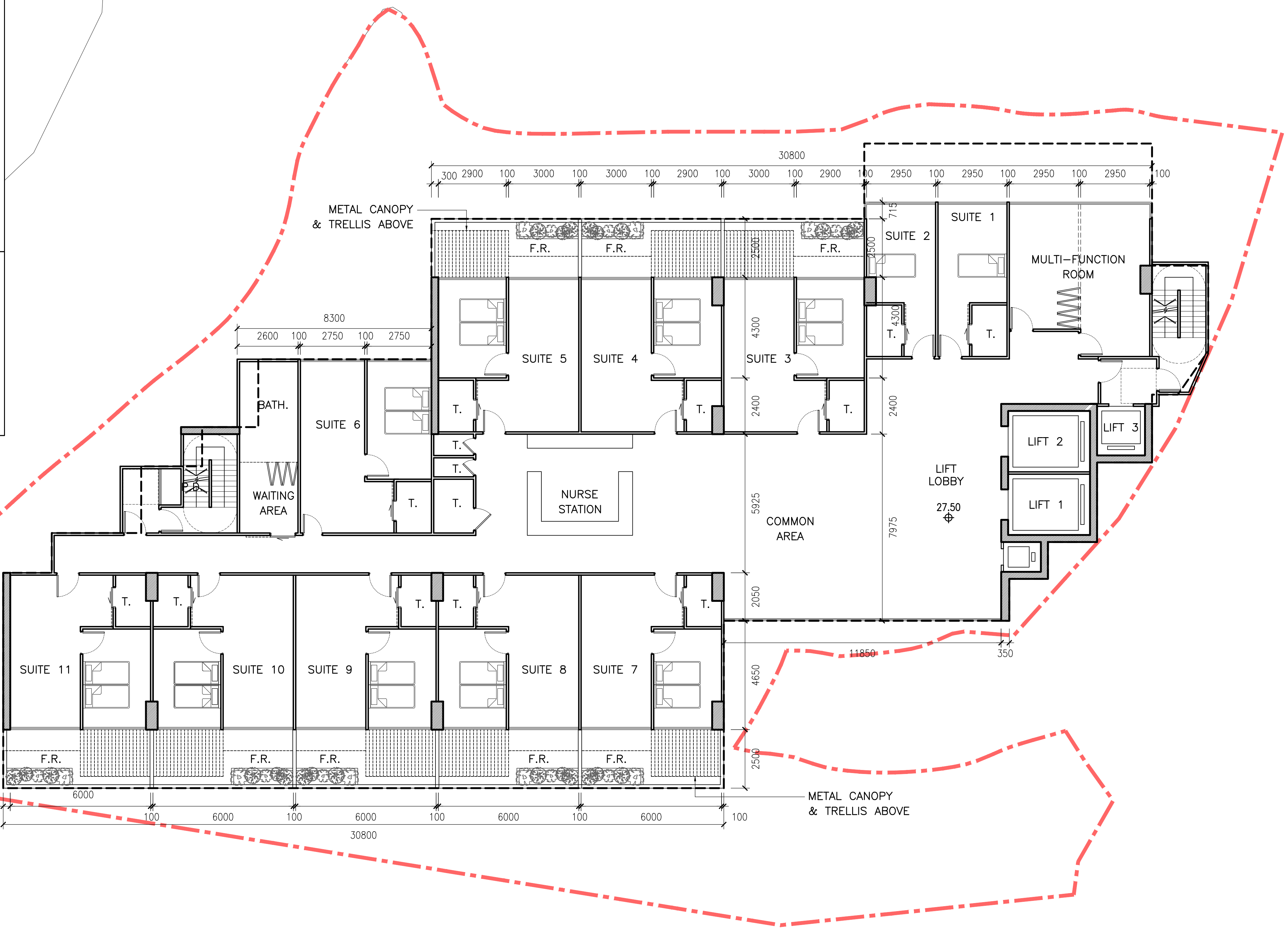
BOUNDARY LINE

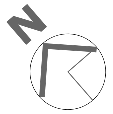
2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	6/F PLAN RCHE	G–05	1:200 (A3)	C B A -	DEC. 2024 OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD



S.A. =	1494.67	SQ.M.
RCHE =	759.44	SQ.M.
FLAT ROOF =	123.25	SQ.M.
PLANT =	6.41	SQ.M.
G.F.A =	759.44	SQ.M.
S.C. =	889.10	SQ.M.





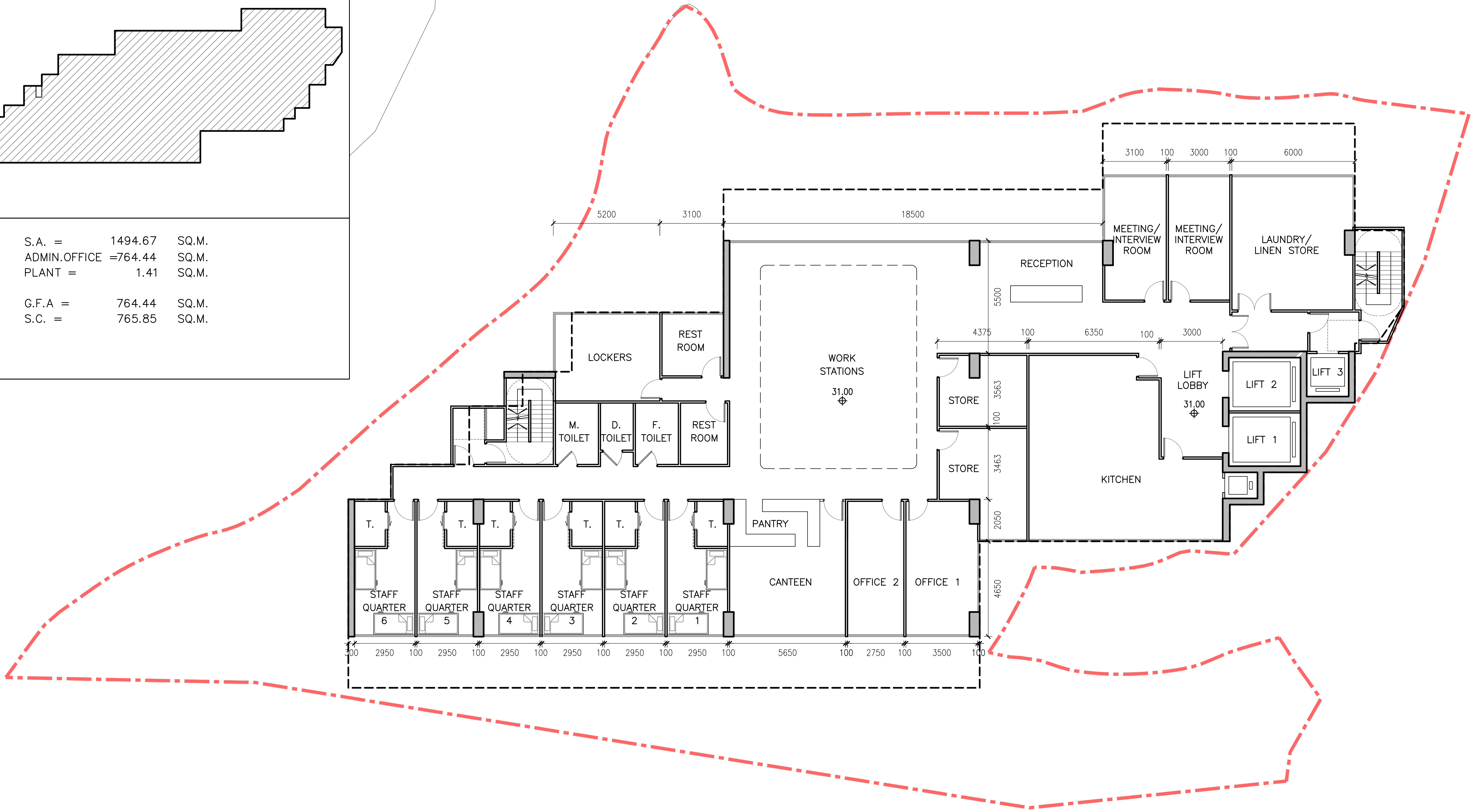
BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	7/F PLAN RCHE	G-06	1:200 (A3)	B OCT. 2024 A SEP. 2024 - SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD

S.A. = 1494.67 SQ.M.
ADMIN.OFFICE =764.44 SQ.M.
PLANT = 1.41 SQ.M.

G.F.A = 764.44 SQ.M.
S.C. = 765.85 SQ.M.



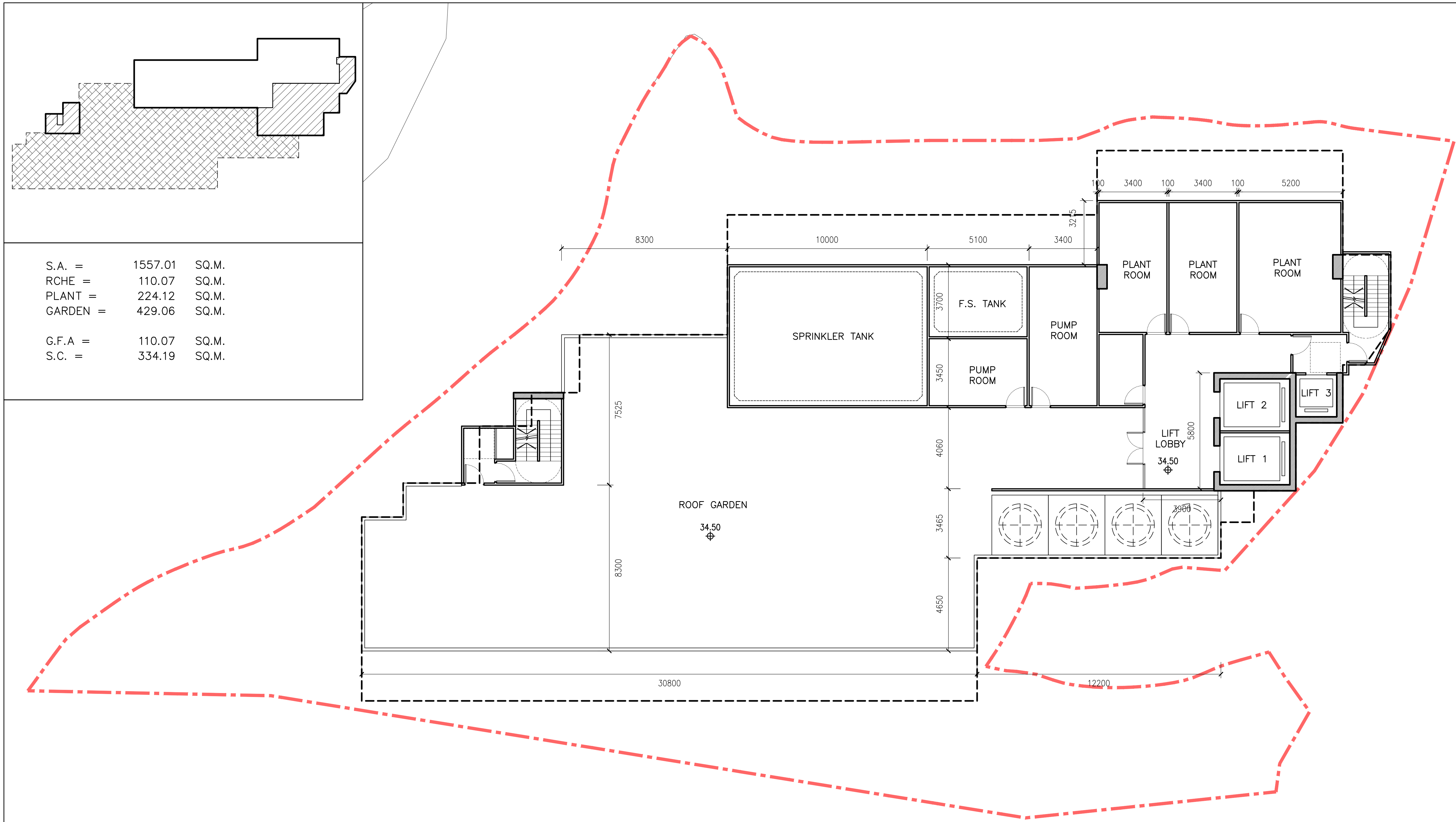
N

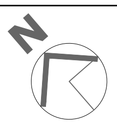
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	8/F PLAN RCHE	G-07	1:200 (A3)	B A -	OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

S.A. =	1557.01	SQ.M.
RCHE =	110.07	SQ.M.
PLANT =	224.12	SQ.M.
GARDEN =	429.06	SQ.M.
G.F.A =	110.07	SQ.M.
S.C. =	334.19	SQ.M.





BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	ROOF PLAN ROOF GARDEN	G-08	1:200 (A3)	B A -	OCT. 2024 SEP. 2024 SEP. 2024

Do not scale drawing.
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This drawing is not for construction purposes unless expressedly certified.

FIGURE 9

Design Concept

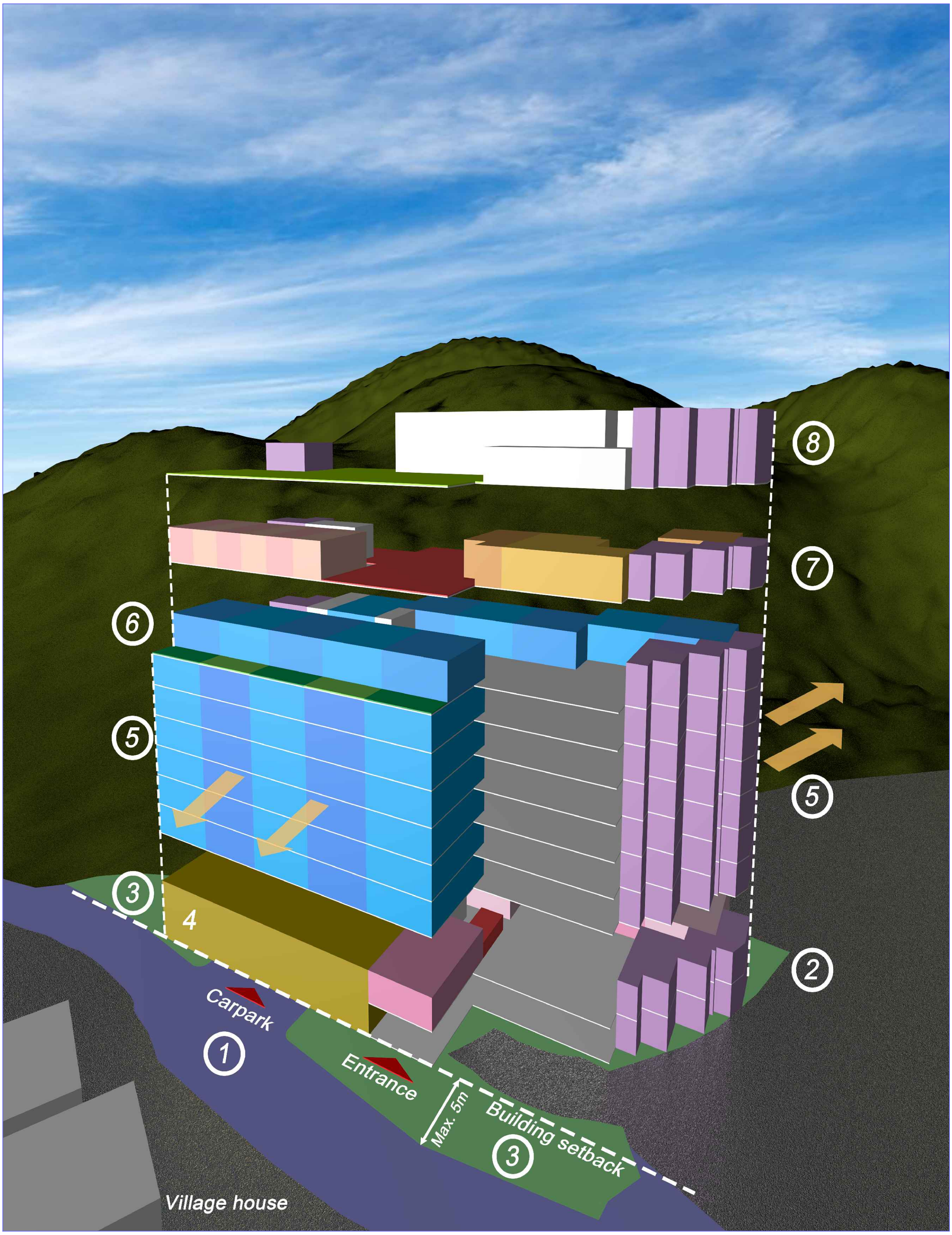
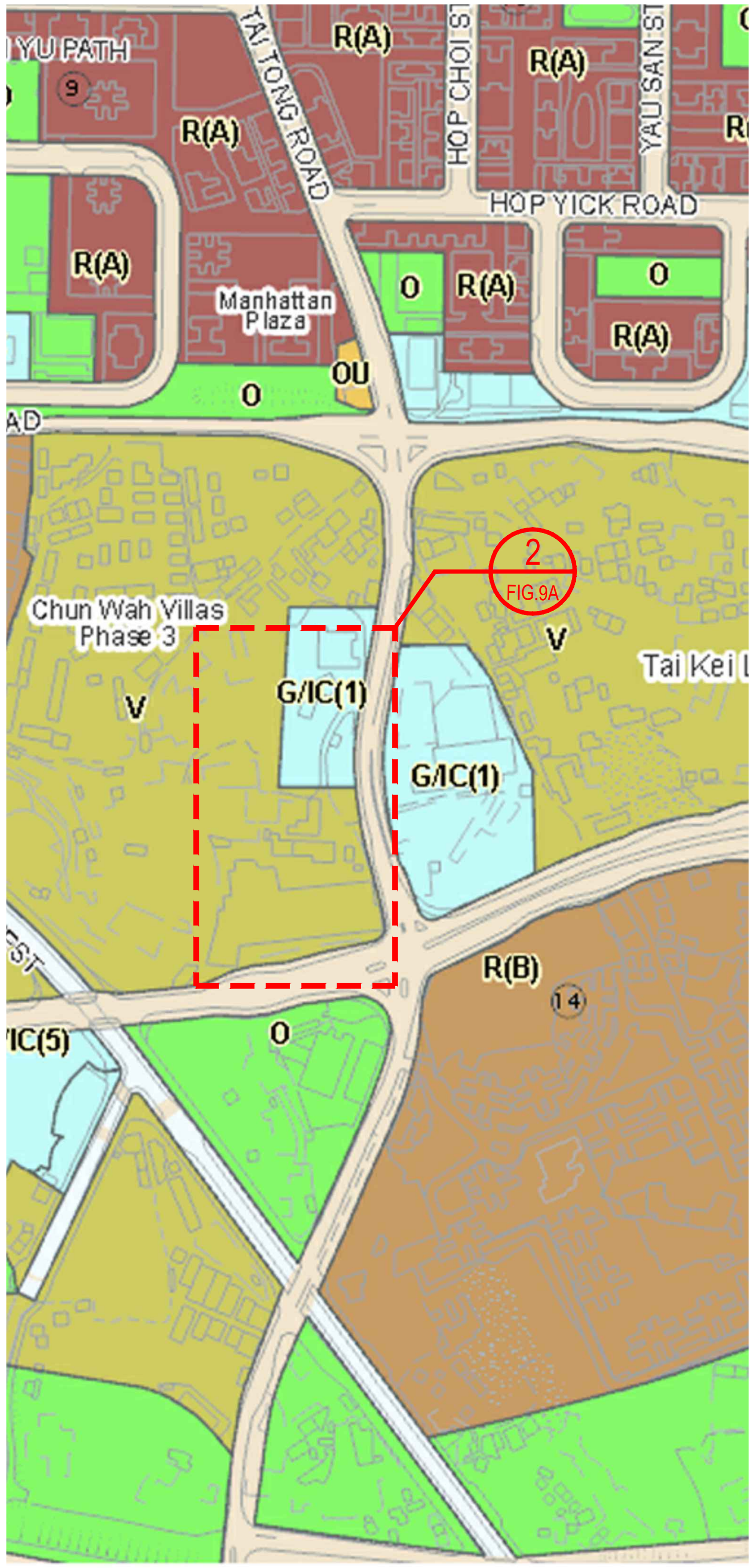


FIGURE NO.	TITLE	N.T.S (A4)	- OCT. 2024	R LEE ARCHITECTS LTD
9	DESIGN CONCEPT			

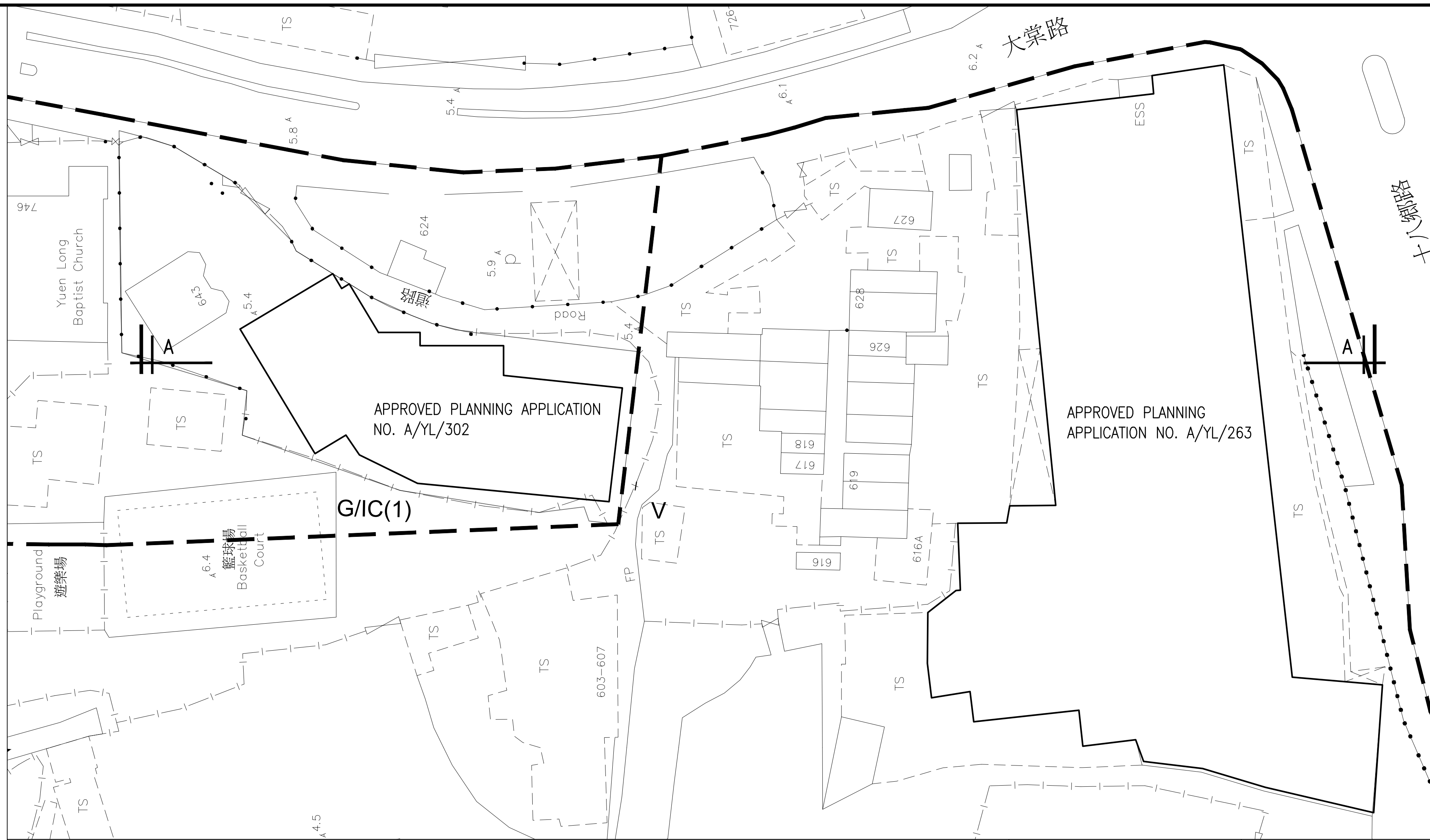
FIGURE 9a

Comparison of Building Height Difference
to Approved Applications in “V” zone

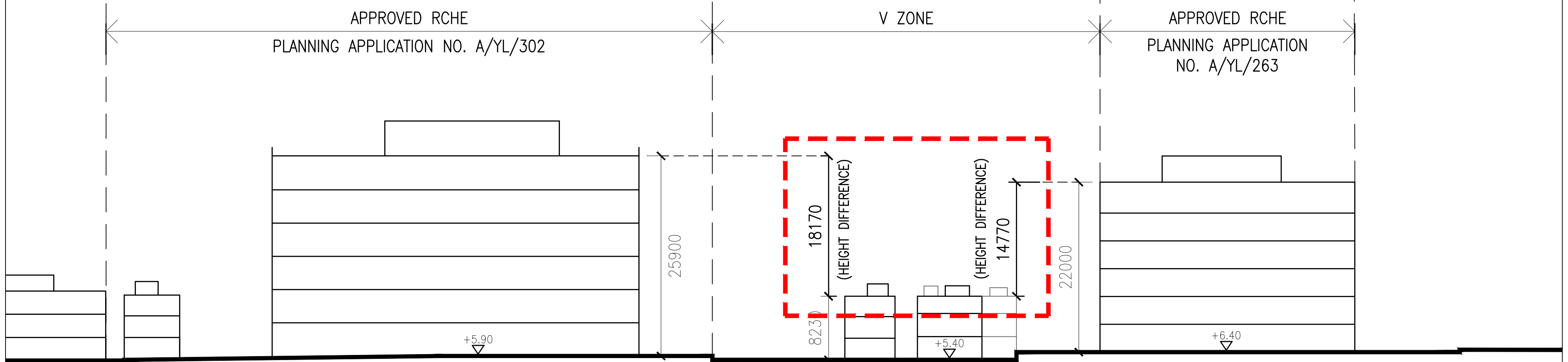


N

1 FIG.9A OZP no. S/YL/25
SCALE :N.T.S.



2 FIG.9A LOCATION PLAN
SCALE :1:800



3 FIG.9A SECTION A-A
SCALE :1:800

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	COMPARISON OF BUILDING HEIGHT FOR RCHE IN "G/IC" DEVELOPMENT ADJOINGING LOW DENSITY DEVELOEPMENT	FIG.9A	1:200 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

FIGURE 10

Reference of Re-zoning Case in LSP Scheme
approved by the Chief Executive in principle

LSPS/003 She Shan Road and Lam Kam Road, Tai Po, N.T.
From "AGR" and "G/IC" Zone
To "Residential" with "G/IC" Facilities

Gist of LSPS Application No. LSPS/003
(Revised Development Proposal by Applicant)
土地共享先導計劃申請編號 LSPS/003 摘要
（經申請人修訂的發展計劃）

Part One **第一部分**	**Application Site** **申請地點**
1. Applicant 申請人	Ocean Target Enterprises Limited (parent company: Henderson Land Development Company Limited), Gettenwood Company Limited and Fullmark Development Limited (parent company of both is Wheelock Properties Limited) 海騰企業有限公司（母公司：恒基兆業地產有限公司）、Gettenwood Company Limited 及溢輝發展有限公司（母公司均為會德豐地產有限公司）
2. Location/address (*Plan 1: Location Plan*) 位置/地址（*圖 1：位置圖*）	She Shan Road and Lam Kam Road, Tai Po, NT (Various lots in D.D. 7 and D.D. 19 and adjoining Government land) 新界大埔社山路及林錦公路 （丈量約份第 7 約及第 19 約多個地段及毗鄰政府土地）
3. Application Site Area (sq.m.) 申請地點面積（平方米）	About 約 193,397 (Including Government land of about 包括政府土地約 23,438 sq.m. 平方米 and third-party private land of about 及第三方私人土地約18,370sq.m. 平方米)
	Including 包括： - Total Development Site Areas[1] 發展用地總面積[1] — 108,012 - Land designated for Infrastructure, Government, Institution or Community (GIC) facilities (including Open Space) 作基建及政府、機構或社區設施（包括休憩用地）的土地 — 85,385
4. Statutory Plan 法定圖則	Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11 林村分區計劃大綱核准圖編號 S/NE-LT/11
5. Zoning 土地用途地帶	"Agriculture" and "Government, Institution or Community" 「農業」及「政府、機構或社區」

[1] Includes Private Development Portion and Public Housing/Starter Homes Portion.
包括私人發展部分及公營房屋／「首置」部分。

Part Two **第二部分**			**Development Proposal** **擬議發展計劃**	
Development Parameters[2] (*Plan 2: Master Layout Plan submitted by the applicant*) 發展參數[3]（*圖 2：申請人提交的總綱發展藍圖*）			Private Housing Development Portion 私人房屋發展部分	Public Housing/ Starter Homes Portion 公營房屋／「首置」部分
1. Development Site Area (sq.m.) 發展用地面積（平方米）			About 約 37,318	About 約 70,694
2. Plot ratio 地積比率	住用 Domestic		4.87	6.5
	非住用 Non-domestic		1.05	0.04
3. Gross floor area (sq.m.) 總樓面面積（平方米）	住用 Domestic	Generated under LSPS 因土地共享先導計劃新增	About 約 181,804 [30%]	About 約 424,210 [70%]
		From Government's resumption of the third-party private land 因政府收回第三方私人土地而產生	N/A 不適用	About 約 35,301
		Total 總數	About 約 181,804	About 約 459,511
	非住用 Non-domestic		About 約 39,287	About 約 3,000
4. No. of block 幢數	住用 Domestic		0	6
	非住用 Non-domestic		0	0
	綜合 Composite		10	10
5. Maximum Building height/ Maximum No. of storeys 建築物的最高高度／建築物的最高層數			- m米	- m米
			141 mPD 米 (主水平基準上)	159 mPD 米 (主水平基準上)
			29 Storey(s)層 *excluding Basements 不包括地庫*	39 Storey(s)層 *excluding Basements 不包括地庫*
6. No. of Units 單位數目			3,636	9,190[3]
7. Anticipated Population 預計人口			10,181	25,733[3]
8. Local Open space 休憩用地 （sq. m 平方米）			About 約 10,181	About 約 25,733

2 The development parameters shown are for reference only and subject to detailed technical assessments by the applicant and the infrastructural capacity. They do not represent the eventual parameters to be developed and the details of public housing/Starter Homes to be determined by the Government.
上述所載的發展參數只供參考，並有待申請人提交的詳細技術評估和基礎設施容量再作確實。它們並不代表最終的發展參數及政府決定的公營房屋／「首置」細節。

3 No. of Units and Anticipated Population of Public Housing/Starter Homes Portion are derived based on the assumptions suggested in the "Land Sharing Pilot Scheme Topical Guideline 1" and are for reference only. The Housing Bureau will decide the number of units to be provided in due course.
公營房屋／「首置」部分的單位數目及預計人口是根據《土地共享先導計劃專題指引 1》建議的假設而得出，並只供參考。最終提供的單位數目由房屋局決定。

Part Three **第三部分**	**Proposed Government, Institution or Community (GIC) Facilities** **擬議政府、機構或社區設施**

Details of proposed GIC facilities (*Locations are shown in Plan 2*)
擬議的政府、機構或社區設施之詳情（*其位置於圖 2展示*）

- Public District Open Space of about 31,592 sq.m. 公眾地區休憩用地約 31,592 平方米
- Two Neighbourhood Elderly Centres 兩間長者鄰舍中心
- One Residential Care Home for the Elderly 一間安老院
- One Community Centre 一間社區會堂
- One Child Care Centre 一間幼兒中心
- One Primary School 一所小學
- Cycle Tracks 單車徑
- About 5% of the total domestic GFA of the Public Housing/Starter Homes Portion will be reserved for provision of social welfare facilities
  於公營房屋／「首置」部分住用總樓面面積的約5%將預留作社會福利用途

Part Four **第四部分**	**Proposed Infrastructure** **擬議基建設施**

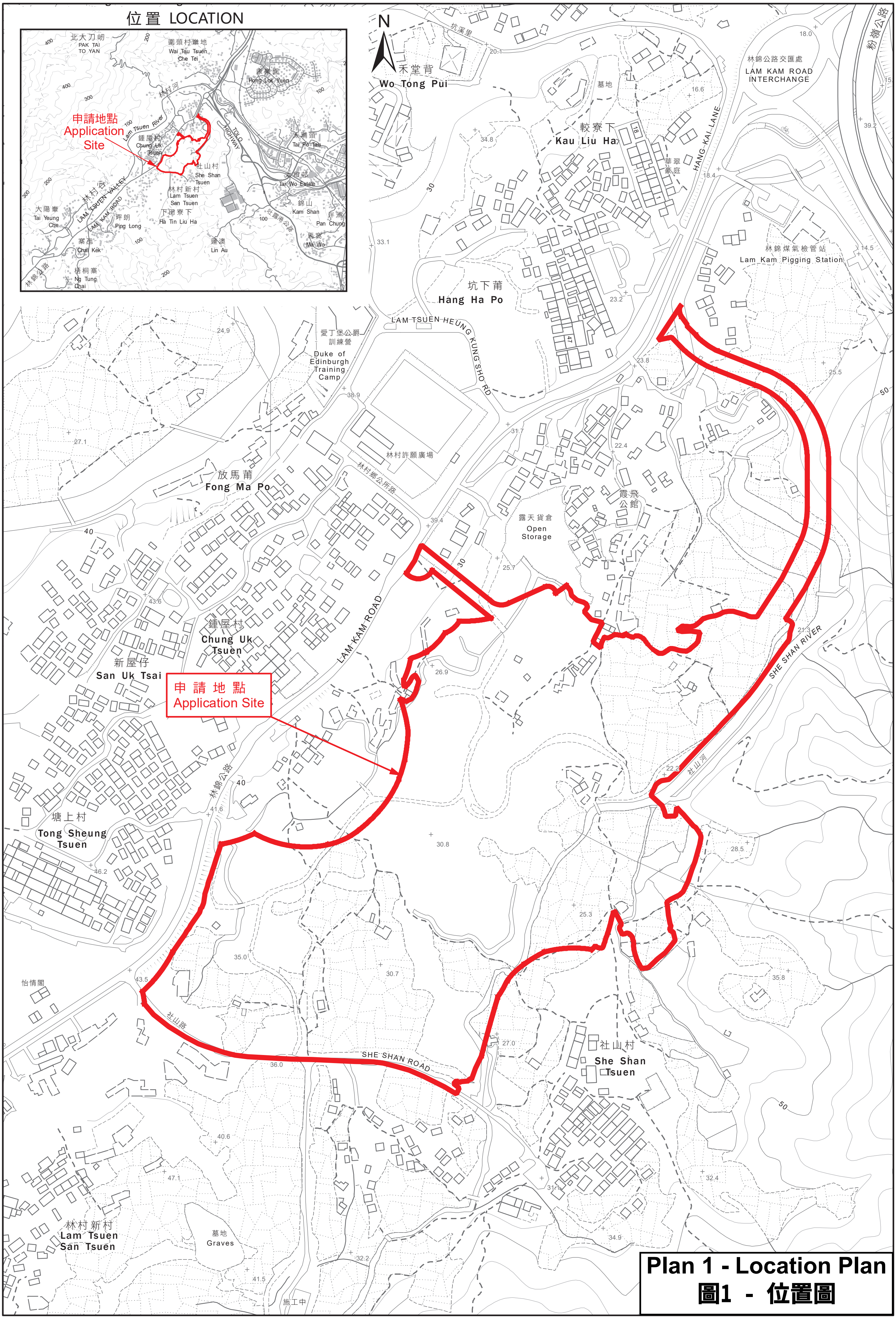
Details of proposed Infrastructure (including any upgrading to the existing infrastructures) (*Plan 3: Infrastructure Location Plan*)
擬議基建設施（包括提升現有基建設施）之詳情（*圖 3：基建設施位置圖*）

1. Within Application Site 位於申請地點內：
   - Site formation works for the Public Housing/Starter Homes Portion
     公營房屋／「首置」部分的地盤平整工程
   - A Public Transport Interchange in the Private Housing Portion
     一個位於私人房屋部分的的公共運輸交匯處
   - A Public Vehicle Park in the Private Housing Portion
     一個位於私人房屋部分的公眾停車場
   - A Sewage Treatment Plant and associated Sewerage Pumping Station
     一個污水處理廠及相關污水抽水站
   - Access road (with associated drainage (including stormwater detention tanks), sewerage, waterworks, noise mitigation measures)
   - 通道（及相關排水（包括雨水蓄洪池）、排污、水務工程、噪音緩解措施）
   - Traffic improvement measures 交通改善措施
   - Existing water supply pipes to be upgraded 提升現有供水管

2. Outside Application Site 位於申請地點外：
   - Traffic improvement measures 交通改善措施
   - Drainage Tunnel 排水隧道
   - Proposed water mains or existing water mains to be upgraded 擬議供水管或提升現有供水管
   - A Fresh Water Service Reservoir 一個食水配水庫

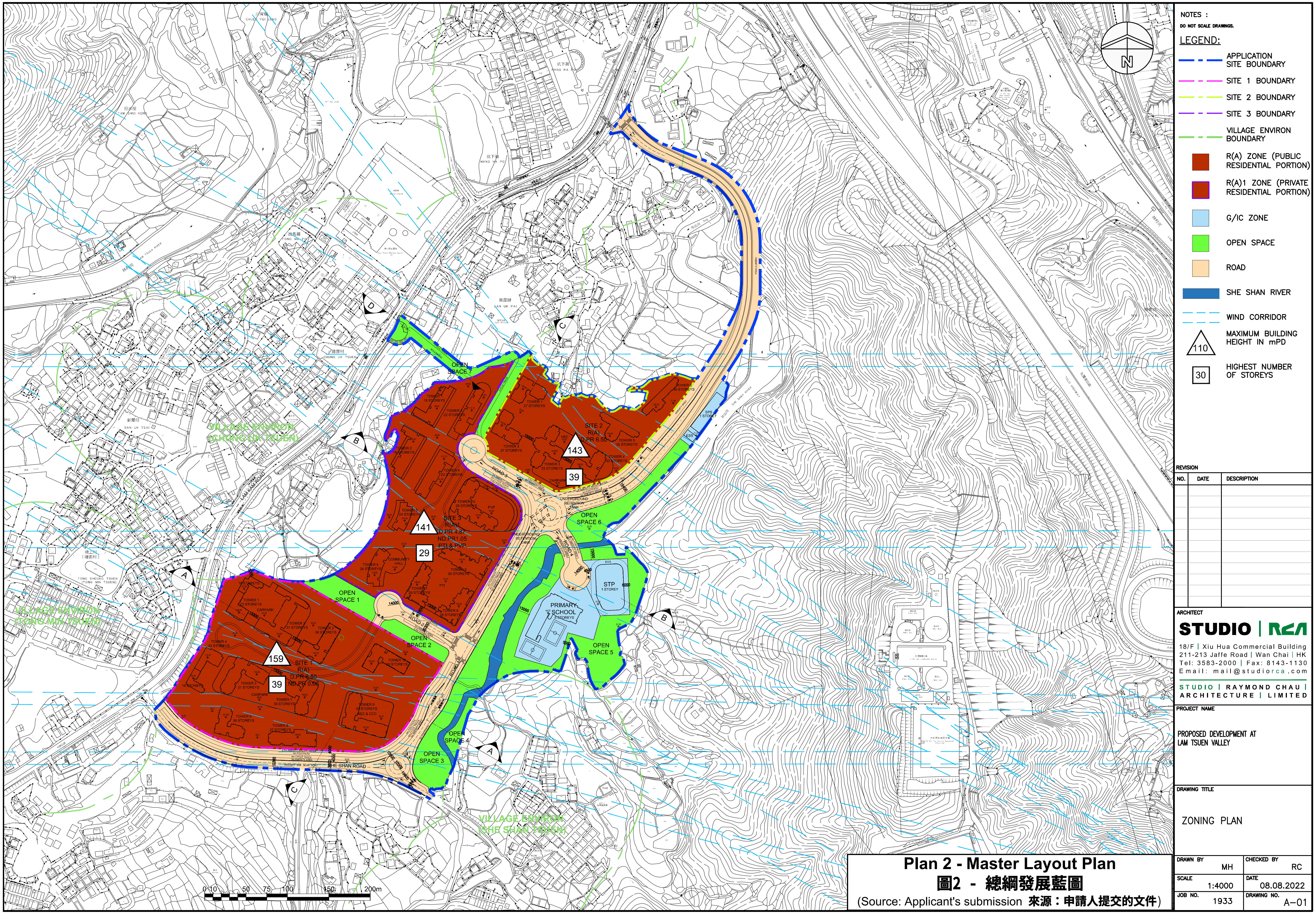
Part Five 第五部分	Tentative Implementation Programme 初步實施時間表
Anticipated date of commencement of statutory procedures on planning and road works: 2023 預計展開規劃及道路工程等法定程序日期：2023 年 Anticipated date of completion of site formation works for Public Housing/Starter Homes Portion: 2028 預計公營房屋／「首置」部分土地平整工程完成日期：2028 年	

Part Six 第六部分	Gist of Panel of Advisors' Comments 顧問小組意見摘要
The Panel supported the proposed scheme, and considered that the concentrated pattern of land owned by the applicant and the scale of the project would enable a better layout for the community and housing blocks. It would also allow the provision of more Government, institution or community facilities to serve the locals and to cater for the needs in the long run. 顧問小組支持該發展方案，認為申請人所擁有的私人土地頗為集中，項目規模理想，有條件提供更理想的社區及樓宇布局，並加入更多政府及機構或社區設施，應付當區及長遠發展需要。	

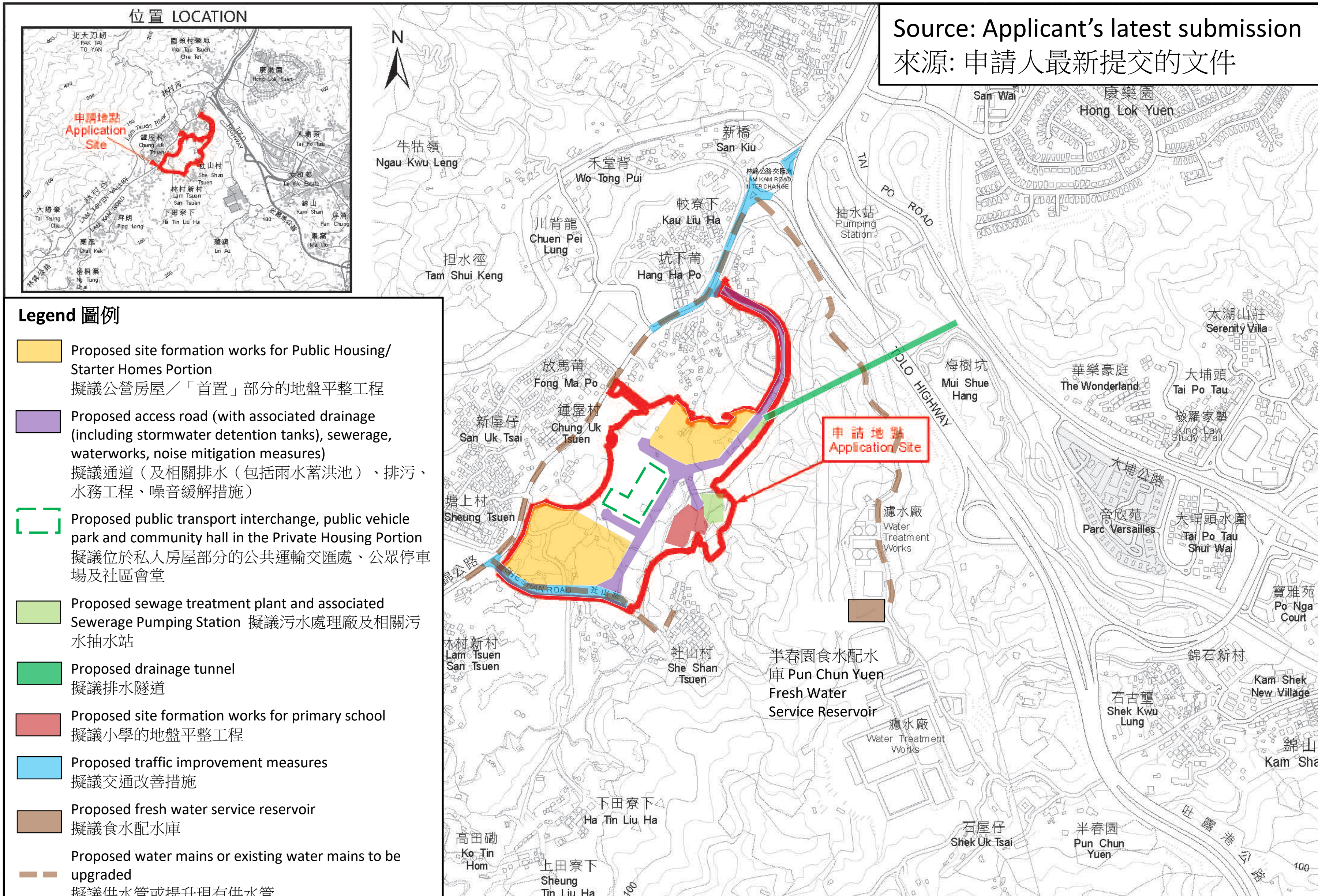


Plan 1 - Location Plan

圖1 - 位置圖



Plan 2 - Master Layout Plan
圖2 - 總綱發展藍圖
(Source: Applicant's submission 來源：申請人提交的文件)



Plan 3 - Infrastructure Location Plan

圖3 - 基建設施位置圖

FIGURE 11

Reference of Re-zoning Case in LSP Scheme
approved by the Chief Executive in principle

LSPS/004 Tin Wo Road and South of She Shan Road,
Lam Tsuen, Tai Po, N.T.
From "AGR" and "G/IC" Zone
To "Residential" with "G/IC" Facilities

<u>Gist of LSPS Application No. LSPS/004</u>
(Revised Development Proposal by Applicant)
<u>土地共享先導計劃申請編號 LSPS/004 摘要</u>
（經申請人修訂的發展計劃）

Part One **第一部分**	**Application Site** **申請地點**
1. Applicant 申請人	Asia Light Development Limited, Clover Success Limited and Gettenwood Company Limited (Parent Company: Wheelock Properties Limited) 亞光發展有限公司、 Clover Success Limited 及 Gettenwood Company Limited（母公司：會德豐地產有限公司）
2. Location/address (*Plan 1: Location Plan*) 位置/地址（*圖 1：位置圖*）	Tin Wo Road and South of She Shan Road, Lam Tsuen, Tai Po, New Territories (Various lots in D.D. 19 and adjoining Government land) 新界大埔林村田禾路及社山路以南 （丈量約份第19約多個地段及毗鄰政府土地）
3. Application Site Area (sq.m.) 申請地點面積 （平方米）	About 約 68,348 (Including Government land of about 包括政府土地約 16,757 sq.m. 平方米) and third-party private land of about 及第三方私人土地約 9,199 sq.m. 平方米)
	<u>Including 包括</u>： - Total Development Site Areas[(1)] 發展用地總面積[(1)] 54,741 - Land designated for Infrastructure, Government, Institution or Community (GIC) facilities 作基建及政府、機構或社區設施的土地 13,607
4. Statutory Plan 法定圖則	Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11 林村分區計劃大綱核准圖編號 S/NE-LT/11
5. Zoning 土地用途地帶	"Agriculture" 「農業」

1 Includes Private Development Portion and Public Housing/Starter Homes Portion.
包括私人發展部分及公營房屋／「首置」部分。

<table>
<tr><td colspan="3">Part Two
第二部分</td><td colspan="2">Development Proposal
擬議發展計劃</td></tr>
<tr><td colspan="3">Development Parameters[2] (Plan 2: Master Layout Plan submitted by the applicant)
發展參數[3]（圖 2：申請人提交的總綱發展藍圖）</td><td>Private Housing Development Portion
私人房屋發展部分</td><td>Public Housing/ Starter Homes Portion
公營房屋／「首置」部分</td></tr>
<tr><td colspan="3">1. Development Site Area (sq.m.)
發展用地面積（平方米）</td><td>About 約 20,423</td><td>About 約 34,318</td></tr>
<tr><td rowspan="2">2. Plot ratio
地積比率</td><td colspan="2">住用 Domestic</td><td>3.02</td><td>6.5</td></tr>
<tr><td colspan="2">非住用 Non-domestic</td><td>0.03</td><td>0.06</td></tr>
<tr><td rowspan="5">3. Gross floor area (sq.m.)
總樓面面積（平方米）</td><td rowspan="4">住用
Domestic</td><td>Generated under LSPS 因土地共享先導計劃新增</td><td>About 約 61,679
[30%]</td><td>About 約 143,918
[70%]</td></tr>
<tr><td>From inclusion of additional Government land 因併入更多政府土地而產生</td><td>N/A 不適用</td><td>About 約 47,854</td></tr>
<tr><td>From Government's resumption of the third-party private land 因政府收回第三方私人土地而產生</td><td>N/A 不適用</td><td>About 約 31,291</td></tr>
<tr><td>Total 總數</td><td>About 約 61,679</td><td>About 約 223,063</td></tr>
<tr><td colspan="2">非住用
Non-domestic</td><td>About 約 535</td><td>About 約 2,230</td></tr>
<tr><td rowspan="3">4. No. of block
幢數</td><td colspan="2">住用
Domestic</td><td>3</td><td>2</td></tr>
<tr><td colspan="2">非住用
Non-domestic</td><td>1</td><td>2</td></tr>
<tr><td colspan="2">綜合
Composite</td><td>2</td><td>4</td></tr>
<tr><td colspan="3" rowspan="3">5. Maximum Building height/ Maximum No. of storeys 建築物的最高高度／建築物的最高層數</td><td>- m米</td><td>- m米</td></tr>
<tr><td>150 mPD 米 (主水平基準上)</td><td>175 mPD 米 (主水平基準上)</td></tr>
<tr><td>28 Storey(s)層 excluding Basements 不包括地庫</td><td>38 Storey(s)層 excluding Basements 不包括地庫</td></tr>
<tr><td colspan="3">6. No. of Units
單位數目</td><td>1,234</td><td>4,055[3]</td></tr>
<tr><td colspan="3">7. Anticipated Population
預計人口</td><td>3,454</td><td>11,354[3]</td></tr>
</table>

2 The development parameters shown are for reference only and subject to detailed technical assessments by the applicant and the infrastructural capacity. They do not represent the eventual parameters to be developed and the details of public housing/Starter Homes to be determined by the Government.
上述所載的發展參數只供參考，並有待申請人提交的詳細技術評估和基礎設施容量再作確實。它們並不代表最終的發展參數及政府決定的公營房屋／「首置」細節。

3 The size of population and number of housing units indicated are for reference only and subject to applicant's detailed design and technical assessments. Eventual numbers for the Public Housing/Starter Homes Portion will also be decided by the Housing Bureau.
人口及單位數目會因應申請人深化後的設計及技術評估而調整，目前所示只供參考。公營房屋／「首置」部分的相關數字，亦將由房屋局決定。

Part Three **第三部分**	**Proposed Government, Institution or Community (GIC) Facilities** **擬議政府、機構或社區設施**
Details of proposed GIC facilities (*Locations are shown in Plan 2*) 擬議的政府、機構或社區設施之詳情（*其位置於圖 2展示*）	
- About 5% of the total domestic GFA of the Public Housing/Starter Homes Portion will be reserved for provision of social welfare facilities 於公營房屋／「首置」部分住用總樓面面積的約5%將預留作社會福利用途	

Part Four **第四部分**	**Proposed Infrastructure** **擬議基建設施**
Details of proposed Infrastructure (including any upgrading to the existing infrastructures) 擬議基建設施（包括提升現有基建設施）之詳情	

Base Scenario – Standalone Development 基本方案 – 單獨發展
(Plan 3a: Infrastructure Location Plan) （圖3a：基建設施位置圖）

1. Within Application Site 位於申請地點內：
   - Site formation works for the Public Housing/Starter Homes Portion
     公營房屋／「首置」部分的地盤平整工程
   - Access road (with associated drainage, sewerage and waterworks)
     通道（及相關排水、排污及水務工程）
   - A Public Transport Interchange underneath the Private Housing Portion
     位於私營房屋部分下的公共運輸交匯處
   - Stormwater retention tank 雨水蓄洪池
   - Sewage treatment plant 污水處理廠

2. Outside Application Site 位於申請地點外：
   - Traffic improvement measures 交通改善措施
   - Fresh water service reservoir 食水配水庫
   - Pumping station 泵房
   - Proposed water mains or existing water mains to be upgraded
     擬議供水管或提升現有供水管
   - Proposed discharge pipes
     擬議排水管

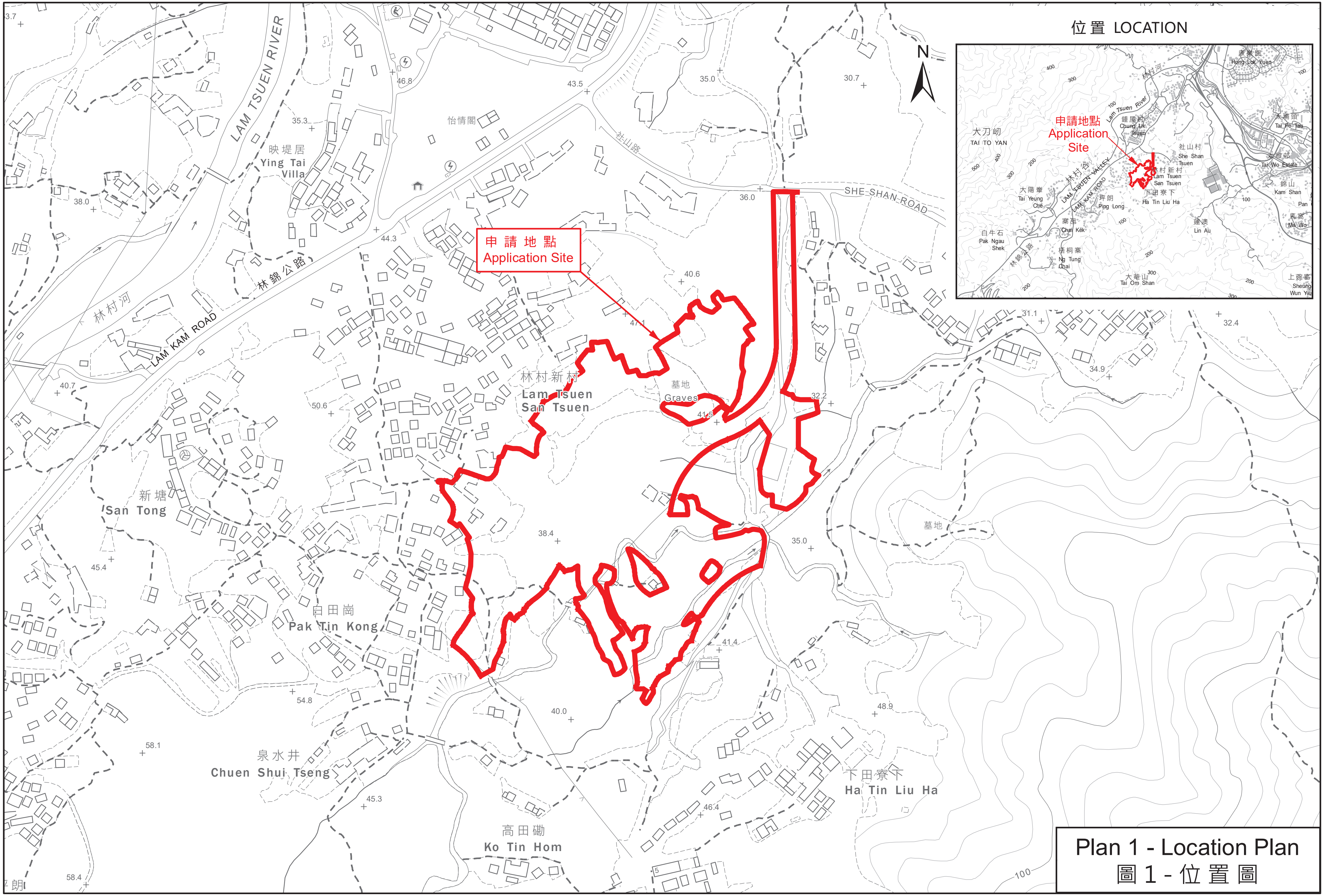
Alternative Scenario – Integrated Development with LSPS Application no. LSPS/003
替代方案 – 與土地共享先導計劃申請編號 LSPS/003整合發展
(Plan 3b: Infrastructure Location Plan) （圖3b：基建設施位置圖）

3. Within Application Site 位於申請地點內：
   - Site formation works for the Public Housing/Starter Homes Portion
     公營房屋／「首置」部分的地盤平整工程
   - Access road (with associated drainage, sewerage and waterworks)
     通道（及相關排水、排污及水務工程）
   - A Public Transport Interchange underneath the Private Housing Portion
     位於私營房屋部分下的公共運輸交匯處
   - Stormwater retention tank 雨水蓄洪池
   - Sewage treatment plant 污水處理廠

4. Outside Application Site 位於申請地點外：
   - Fresh water service reservoir 食水配水庫
   - Proposed water mains or existing water mains to be upgraded
     擬議供水管或提升現有供水管

Part Five **第五部分**	**Tentative Implementation Programme** **初步實施時間表**
Anticipated date of commencement of statutory procedures on planning and road works: 2025 預計展開規劃及道路工程等法定程序日期：2025 年 Anticipated date of commencement of site formation works for Public Housing/Starter Homes Portion: 2031 預計公營房屋／「首置」部分土地平整工程開展日期：2031年	

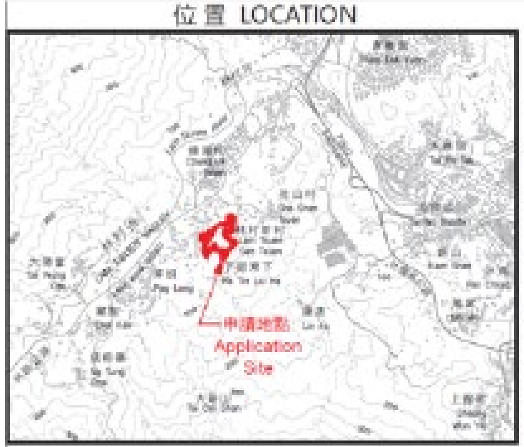
Part Six **第六部分**	**Gist of Panel of Advisors' Comments** **顧問小組意見摘要**
The Panel supported the proposed scheme, and considered that, based on the existing ownership pattern of the land, the scheme had optimised the development potential of the land with more emphasis on the production of public housing. The Government might also benefit from, through synergy with the adjacent LSPS proposal which endorsement in-principle had already been obtained earlier, a more holistic planning and more cost effective for the provision of infrastructures and Government, institution or community facilities. 顧問小組支持此發展方案，認為基於土地業權現有分布，計劃優化了土地的發展潛力並重點加強公共房屋的供應；另一方面，亦可與毗鄰早前已獲得原則性同意的土地共享先導計劃產生協同效應，綜合規劃所需的基礎設施及政府、機構或社區設施，增加項目成本效益。	

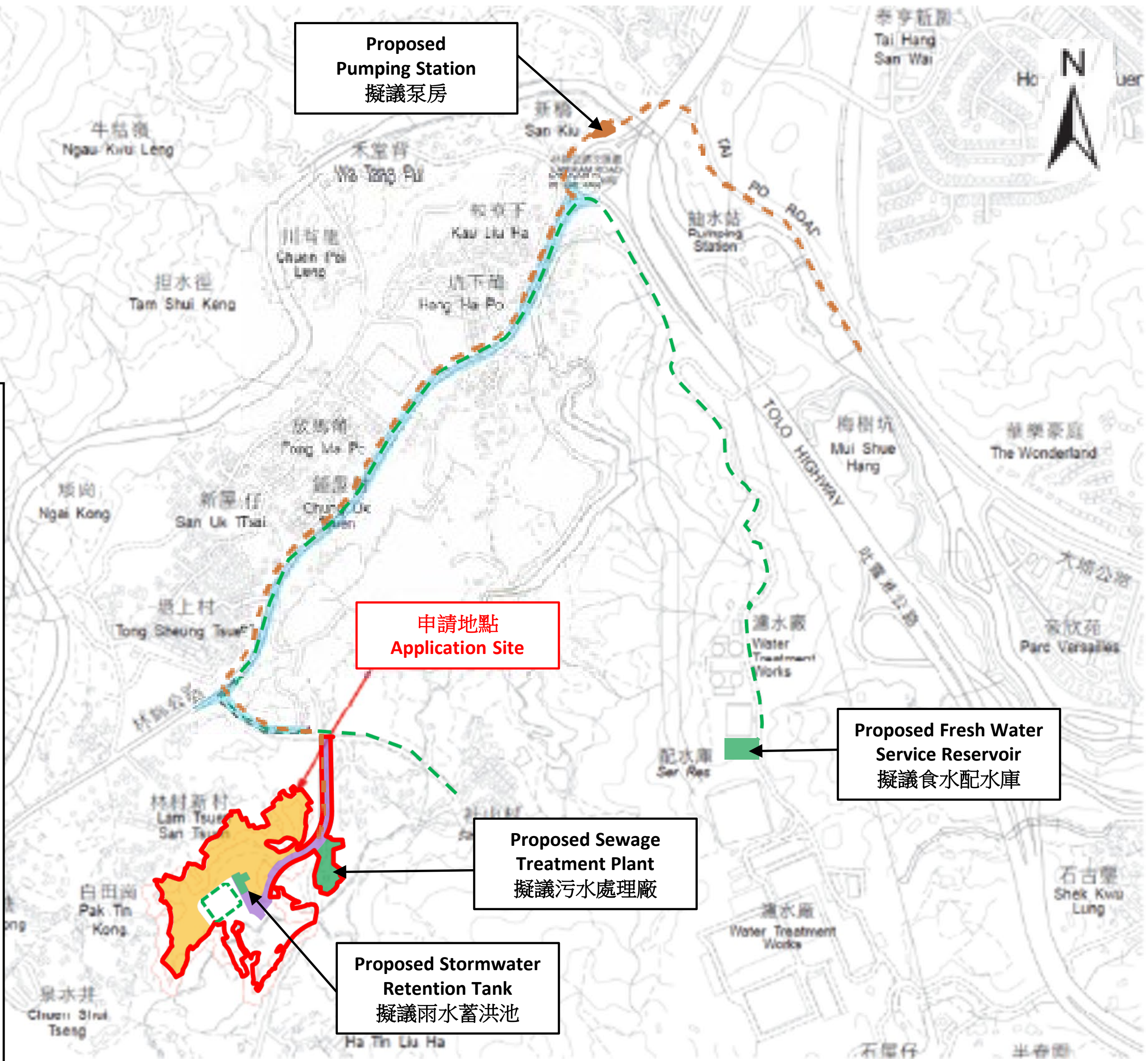


Plan 1 - Location Plan

圖 1 - 位 置 圖

Plan 2 –
Master Layout Plan
圖 2 – 總綱發展藍圖
(Source: Applicant's submission
來源: 申請人提交的文件)





Site formation works for Public Housing/ Starter Homes Portion
公營房屋／「首置」部分的地盤平整工程

Proposed access road (with associated drainage, sewerage and waterworks
擬議通道（及相關排水、排污、水務工程）

Proposed traffic improvement measures
擬議交通改善措施

Proposed Public Transport Interchange underneath the Private Housing Portion
位於私營房屋部分下的擬議公共運輸交匯處

Proposed Stormwater Retention Tank, Sewage Treatment Plant and Fresh Water Service Reservoir
擬議雨水蓄洪池、污水處理廠和食水配水庫

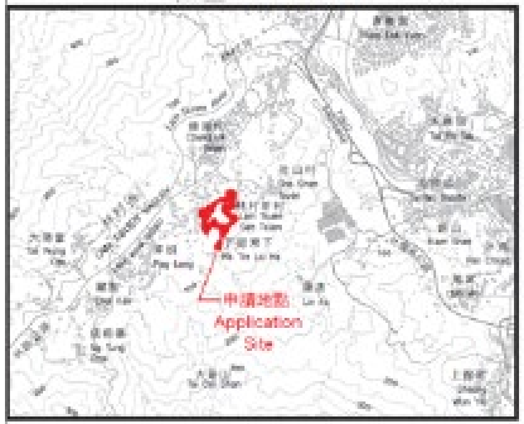
Proposed Pumping Station
擬議泵房

Proposed water mains or existing water mains to be upgraded
擬議供水管或提升現有供水管

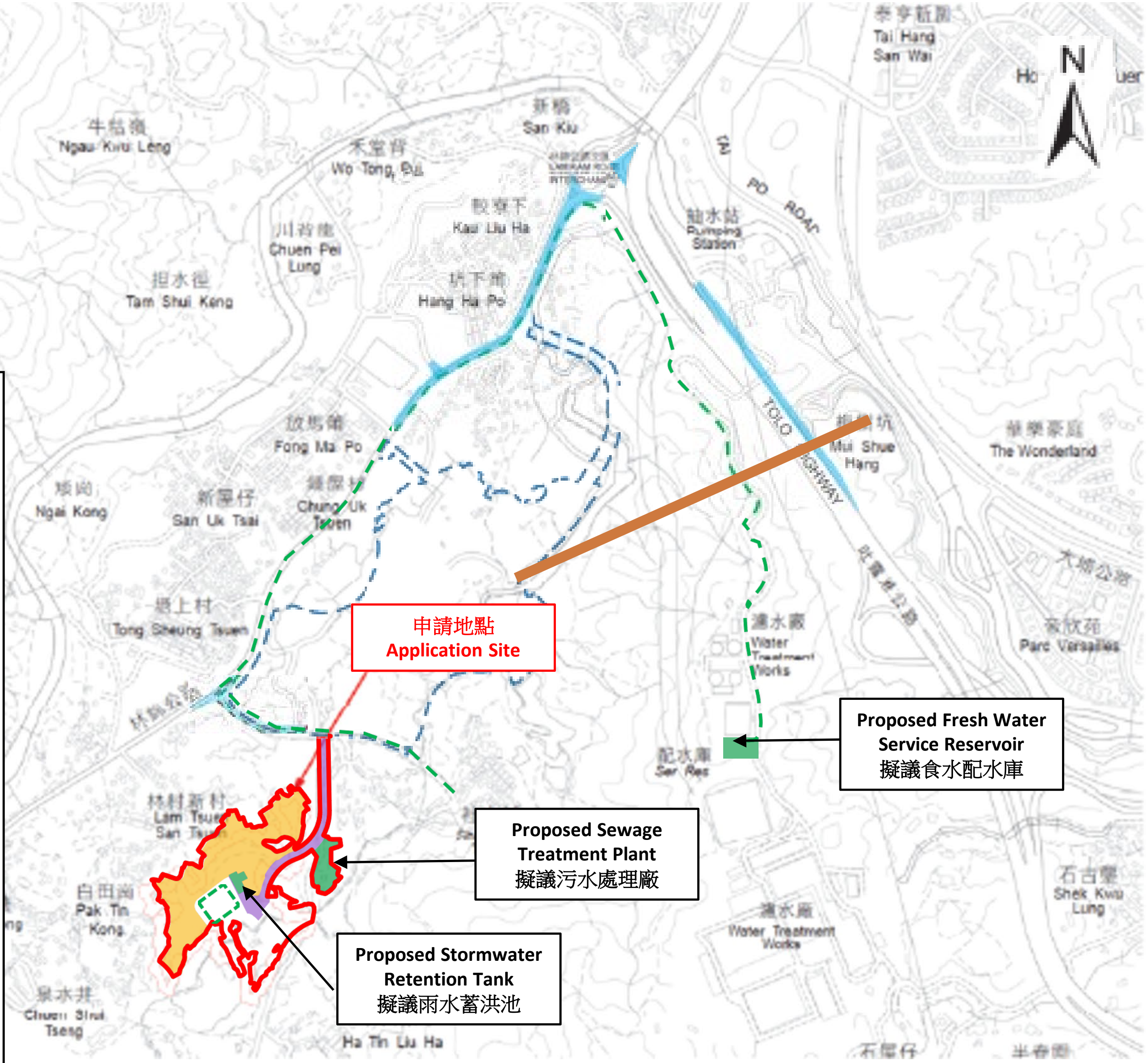
Proposed discharge pipes
擬議排水管

Plan 3a – Infrastructure Location Plan (Base Scenario – Standalone Development)
圖3a – 基建設施位置圖 (基本方案 -單獨發展)

位置 LOCATION



- Site formation works for Public Housing/ Starter Homes Portion
  公營房屋／「首置」部分的地盤平整工程
- Proposed access road (with associated drainage, sewerage and waterworks
  擬議通道（及相關排水、排污、水務工程）
- Proposed traffic improvement measures by LSPS/003
  申請編號 LSPS/003擬議交通改善措施
- Proposed Public Transport Interchange underneath the Private Housing Portion
  位於私營房屋部分下的擬議公共運輸交匯處
- Proposed Stormwater Retention Tank, Sewage Treatment Plant and Fresh Water Service Reservoir
  擬議雨水蓄洪池、污水處理廠和食水配水庫
- Proposed Drainage Tunnel Shared with proposed development under Application No. LSPS/003
  與擬議發展項目（申請編號 LSPS/003）共用的擬議雨水排放隧道
- Proposed water mains or existing water mains to be upgraded
  擬議供水管或提升現有供水管



Plan 3b – Infrastructure Location Plan (Alternative Scenario – Integrated Development with LSPS Application no. LSPS/003)

圖3b –基建設施位置圖 (替代方案 - 與土地共享先導計劃申請編號 LSPS/003整合發展)

APPENDIX 1

Visual Impact Assessment

PROPOSED REZONING FROM "AGR" & "GB" TO "G/IC"
FOR A PROPOSED "SOCIAL WELFARE FACILITES"
(RESIDENTIAL CARE HOMES FOR THE ELDERLY) (RCHE)
Tung Tsz, Tai Po, N.T.

R LEE ARCHITECTS LTD

CONTENTS

Figure

1.0 Introduction

1.1 This Visual Impact Assessment (VIA) is prepared in support of the S12A application for a proposed amendment to the approved Tung Tsz Outline Zoning Plan ("the approved OZP") No. S/NE-TK/19.

The proposed amendment is to rezone a Site from "AGR" & "GB" zone to "G/IC" zone to facilitate the development of a proposed RCHE.

1.2 The Application Site locates at Lot No. 232 RP, 232 S.A RP, 232 S.A ss. 1 to 14, 232 S.B RP, 232 S.B ss. 1 to 27, 232 S.C to 232 S.E, 233 RP, 233 S.A to 233 S.M, 237 RP, 237 S.A to 237 S.R, 239 RP, 239 S.A to 239 S.G in D.D. 23, Tung Tsz, Tai Po, N.T. ***(Figure 1 refers).***

1.3 By rezoning the Site into "G/IC" zone, the restriction on Plot Ratio should be waived. The height of the RCHE is governed by regulation and is proposed to be 31m for the time being.

1.4 According to the Point e of Para. 2.3 of the Town Planning Board Guidelines (TPB PG) no. 41, a VIA is required to the proposals that "involves, modification of development parameters of a Site to deviate from the statutory planning restrictions applicable to the Site or the neighbourhood, and the modification will all amount to pronounced increase in development scale and intensity and visual changes from key public viewing points". The visual impacts of the Proposed Scheme are evaluated against the existing condition, surrounding building(s) in order to ensure compatibility of the Proposed Scheme.

1.5 The VIA evaluates the visual compatibility and degree of anticipated visual impacts of the Proposed Scheme on the Visually Sensitive Receivers relevant to the Application Site. Based on the evaluation, the VIA comments on the visual acceptability of the Proposed Scheme.

1.6 The outline for the VIA is set out below:

- Section 2 outlines Proposed Development Particulars
- Section 3 identifies the Assessment Area and provides analysis of the viewing points;
- Section 4 assesses the visual impacts; and
- Section 5 concludes the VIA

2.0 Proposed RCHE Development Particulars

2.1 Local Context

2.1.1 The application site with an area of Approx. 1,495m^2 and is accessible from an Access Road which discharge to Tung Tsz Road, then finally to Ting Kok Road, at level +3.5 mPD by the North-West.

2.1.2 It adjoins a "V" zone Development, "Treasure Spot Garden" to the West and a few pieces of abandoned Farmlands on the other sides.

To the North of the Site, there is a piece of "GB" zone full of natural vegetation which serve as a back drop to the Development.

2.1.3 By closely adjoining a "V" zone to the West, the Site possesses similar features and settings as a "V" zone.

2.2 Proposed RCHE Development Parameters

2.2.1 The proposed RCHE Development is of 10 storeys high, with lower 9 storeys (LG/F to 7/F) to be served as RCHE Dormitories. The Floor Level of 7/F is within 24m from Ground Floor, which comply with relevant Regulation. ***(Figure 2 refers)***

A range of Dormitory sizes from Shared Rooms with individual privacy on lower floors, to individual Suites of various sizes on upper floors. The Suites on 6/F and 7/F are equipped with open Flat Roofs for extra enjoyment or even individual hobby farming.

2.2.2 A range of Common Facilities like Café Lounge, Multi-function Rooms, Library, Gymnasium, etc. locate on LG/F, next to a generous Entrance Lobby (at level +3.50).

Loading/ Unloading of Goods and Passengers are also provided adjacent to the Entrance Lobby. Plenty of Greenery, Garden, Outdoor Exercise and Sitting-out Spaces are also planned on various outdoor areas.

2.2.3 The Floor above the Dormitories (8/F) is designed for supportive functions like Administration Office, Meeting/ Interview Rooms, Kitchen, Laundry and Linen Stores, etc.

6 Staff Quarters are also provided for Staffs on 8/F so that overnight staffs could provide more timely services to the Elderly in case needed.

2.2.4 The Top of the Building on Roof Floor (at level +34.50) is designed as an Open Roof Garden for the Leisure of the Staffs and Visitors. It also serves to provide Roof Greeney according to SBDG.

2.2.5 The GFA allocation is tabulated as below:

Site Area		: 1,494.67 m^2	16,088.62 ft^2
Class of Site		: A	
Proposed Plot Ratio for Non-Domestic		: 5.57 < 9.5	
Proposed Site Coverage above for Non-Domestic (Above 15m)		: 61.09% < 80%	
Maximum Gross Floor Area		8,323.83 m^2	89,597 ft^2
Proposed Building Height		34.50 mPD	
Absolute Height		31.0 m	
Proposed No. of Storey		10 STOREYS	
Proposed Gross Floor Area			
LG/F	ENTRANCE & CARPARK	606.13 m^2	
UG/F	RCHE	613.16 m^2	
1/F – 5/F	RCHE	916.89 m^2 x 5 storey =4584.45 m^2	45 no. of beds x 5 storeys
6/F	RCHE	886.14 m^2	17 no. of suites
7/F	RCHE	759.44 m^2	11 no. of suites
8/F	MANAGEMENT OFFICE	764.44 m^2	
R/F	SKY GARDEN	110.07 m^2	
TOTAL		**8,323.83 m^2**	**28 no. of suites & 225 no. of beds**
Parking Spaces: (Loading/ Unloading)			
No. of LGV		1 Nos.	
No. of Minibus		1 Nos.	
No. of Private Car Parking		1 Nos.	
No. of Accessible Private Car Parking		1 Nos.	
No. of Motorcycle Parking		1 Nos.	

Please refer to ***Figure 2*** for the Proposed Development

3.0 Assessment Area & Selection of Viewing Points

3.1 Assessment Area

3.1.1 According to the Guideline as per TPB PG-No. 41 para 4.3, the Assessment Area is expected to cover the area of visual influence within which the proposed development is pronouncedly visible from key sensitive viewers. The actual assessment area, i.e. the visual envelope, is determined having regard to the size of the proposed development, the distance of the development and its potential visibility from the selected viewing points, and the actual site and surrounding topographical conditions by ground inspection.

Five View Points are selected ranging from 100m to 480m away from the boundary of the Subject Site. ***(Figure 3 refers)***

The visual assessment will be conducted by comparing the conditions before the rezoning (i.e. vacant Agricultural Land) (Scheme A) and after the rezoning (i.e. the RCHE) (Scheme B).

Scheme A would be a vacant, undeveloped Agricultural Land, which is comparatively flat at a level of +3.5 mPD. It gains its access from an Access Road of about 120 m long, leading to Tung Tsz Road to the South-East.

Scheme B would be a RCHE of 10 storeys high, with the Vehicular and Pedestrian Entrance at +3.5 mPD and the Main Roof of the RCHE is at +34.5 mPD. The absolute height is 31m. ***(Figure 2 refers)***

3.2 The Criterias for Viewing Points

3.2.1 Visual impact has taken into account views from key strategic and popular local vantage points, as well as local visual impacts on the adjacent neighbourhood area. In the interest of the public, public views are protected, particularly those easily accessible and popular to the public or tourists in the vicinity.

VIA should primarily assess the impact on sensitive public viewers from the most affected viewing points. The viewing points could be kinetic or static. They include key pedestrian nodes, popular areas used by the public or tourists for outdoor activities, recreation, rest, sitting-out, leisure, walking, sight-seeing, and prominent travel routes where travellers' visual attention may be caught by the proposed development. Viewing points should be at human eye level for a realistic presentation of view.

3.2.2 The visual sensitivity of the public viewers from the viewing points can be qualitatively graded as **high**, **medium** or **low**, taking into account the activity of the viewers, the duration and distance over which the proposed development would remain visible, and the public perception of value attached to the views being assessed.

3.2.3 When assessing the potential visual impacts of the Proposed Schemes, the clarification of VPs is categorized as follows:

Table 3.1 Classification of Visual Sensitivity

Receivers	Main Activities	Sensitivity
Recreational	Those viewers who would view the Application Site while engaging in recreational activities	High
Travellers	Those viewers who would view the Application Site from vehicles or on foot	Medium
Occupational	Those viewers who would view the Application Site from their workplaces	High

3.3 The View Points

Five VPs including medium and long ranges are considered to be the most affected by any development on the Application Site ***(Figure 3 refers)***.

3.3.1 **VP1** : Tung Tsz Road – Shuen Wan Tung Tsz Children's Playground towards North-West (***Figure 4***)

This VP is located South-East and is about 380 m away from the Application Site. It is surrounded by Tall Trees on both sides and the view to the Application Site is limited.

This VP is set to evaluate the Long-Range visual impacts of the Recreation Users. It should be considered as **High** Visual Sensitivity.

3.3.2 **VP2** : Junction of Access Road and Tung Tsz Road towards North-West (***Figure 5***)

This VP is located South-East and is about 130 m away from the Application Site. This view can explore the relationship with the nearby Village Houses on the West and a Hillside to the North.

This VP is set to evaluate the Medium-Range visual impacts of the Travellers. It should be considered as **Medium** Visual Sensitivity.

3.3.3 **VP3** : "慈心亭" along the Universal Gate Road towards South-West (***Figure 6***)

This VP is located North-East and is about 100 m away from the Application Site. It is surrounded by heavy Vegetation in front.

This VP is set to evaluate the Medium-Range visual impacts of the Recreation Users. It should be considered as **High** Visual Sensitivity.

3.3.4 **VP4** : Tsz Shan Monastery towards South-West (***Figure 7***)

This VP is located North-East and is about 480 m away from the Application Site. It is towards the direction which the visitors of the Monastery may view.

This VP is set to evaluate the Long-Range visual impacts of the Recreation Users. It should be considered as **High** Visual Sensitivity.

3.3.5 **VP5** : A Pavilion along Tung Tsz Road towards South-East (***Figure 8***)

This VP is located North-West and is about 350 m away from the Application Site. The View Point is shielded off by heavy vegetation at low level and it may have partial view to the Application Site.

This VP is set to evaluate the Long-Range visual impacts of the Recreation Users. It should be considered as **High** Visual Sensitivity.

4.0 Assessment of Visual Impact

This Section evaluate the Visual Impact of the Vacant Agricultural Land (Scheme A) to the "Proposed RCHE" (Scheme B).

The overall visual resultant impact of the Proposed Schemes are appraised based on the classifications of visual impact as set in the TPB PG-No.41, which include 'enhanced', 'party enhanced/ party adverse', 'negligible', 'slightly adverse', 'moderately adverse' and 'significantly adverse'.

4.1 **VP1** : Tung Tsz Road – Shuen Wan Tung Tsz Children's Playground towards North-West (***Figure 4***)

4.1.1 This Long Range VP1 located South-West of the Site across Tung Tsz Road. It represents the View received by Recreation Users on the spot. Therefore, the visual sensitivity is considered **High**. Part of **Scheme B** is visible at the VP.

The Visual Composition comprise Greenery and Rows of tree on both sides which partly shield off the Visual Effect.

The view to **Scheme B** is very limited, only on certain location of the playground. In addition, the effect is somehow shield off and soften by the Greenery around. The Recreation Users may not easily notice the presence of **Scheme B**.

4.1.2 Conclusion :

As a conclusion, the Visual Impact of **Scheme B** compared to **Scheme A** would be **slightly adverse**.

4.2 **VP2** : Junction of Access Road and Tung Tsz Road towards North-West (***Figure 5***)

4.2.1 This Medium Range VP2 located South-East of the Site across Tung Tsz Road. It represents the View received by Travellers on foot and by vehicles. Therefore, the visual sensitivity is considered **Medium**. **Scheme B** is visible at the VP.

The Visual Composition comprise a distant view to **Scheme B**, with rows of Village Houses situated to its West. The Hillside to the North, with a hill top level of +34.4 mPD, it serves as a back drop to **Scheme B**.

A significant portion of **Scheme B** is visible in this view point. However, it is softened by heavy vegetation in front and the ridge line to its far back is preserve.

4.2.2 Conclusion :

As a conclusion, the Visual Impact of **Scheme B** would be **moderately adverse**.

4.3 **VP3** : “慈心亭” along the Universal Gate Road towards South-West (***Figure 6***)

4.3.1 This Short Range VP3 located to the North-East of the Site across Universal Gate Road. It represents the View received by Recreation Users. Therefore, the visual sensitivity is considered **High**. **Scheme B** is partly visible of this View Point.

The Visual Composition comprise heavy Greenery in the front and back. The vegetation partly shields off the Visual Effect.

Scheme B is partly visible at this view point. However, the effect is somehow shield off and soften by the Greenery around.

4.3.2 Conclusion :

As a conclusion, the Visual Impact of **Scheme B** would be **slightly adverse**.

4.4 **VP4** : Tsz Shan Monastery towards South-West (***Figure 7***)

4.4.1 This Long Range VP4 located North-East and is about 480 m away from the Application Site. It is on the platform of the Tsz Shan Monastery. It represents the view received by Recreation Users who are visitors to the Monastery. Therefore, the visual sensitivity is considered **High**. **Scheme B** is hardly visible at the VP.

The Visual Composition comprise full range of Greenery surrounding the Application site, front and back.

Since Tsz Sha Monastery situates at platforms of somehow nearly +80 mPD, which is far higher than the Roof Top of **Scheme B**, which is only +34.5 mPD. Therefore, **Scheme B** is hardly visible from this view point.

4.4.2 Conclusion :

As a conclusion, the Visual Impact of **Scheme B** would be **negligible**.

4.5 **VP5** : A Pavilion along Tung Tsz Road towards South-East (***Figure 8***)

4.5.1 This Long Range VP5 located on a Pavilion situates at Tung Tsz Road to the North-West about 350 m away from the Application Site. It represents the View received by Recreation Users. The visual sensitivity is considered **High**.

The Visual Composition comprise heavy Greenery in front and **Scheme B** is partly visible in this View Point. This View Point seems to be under-utilized by Residents.

4.5.2 Conclusion :

As a conclusion, the Visual Impact of **Scheme B** compared to **Scheme A** would be **slightly adverse**.

5.0 Conclusion

5.1 The Below Table summarize the Visual Impact of Scheme A (vacant Agricultural Land) compared to Scheme B (Proposed RCHE) in the five VPs:-

V.P.	Visual Sensitivity	Visual Impact	Conclusion
VP1: Tung Tsz Road – Shuen Wan Tung Tsz Children's Playground towards North-West	High	Slightly adverse	Slightly adverse
VP2: Junction of Access Road and Tung Tsz Road towards North-West	Medium	Moderately adverse	Moderately adverse
VP3: "慈心亭" along the Universal Gate Road towards South-West	High	Slightly adverse	Slightly adverse
VP4: Tsz Shan Monastery towards South-West	High	Negligible	Negligible
VP5: A Pavilion along Tung Tsz Road towards South-East	High	Slightly adverse	Slightly adverse

5.2 A total of five VPs (including short to long range VPs) were assessed in this Visual Impact Assessment, covering VPs in Medium to High visual sensitivity.

With the provision of numerous planning and design merits in our Proposed Scheme, three VPs are identified with **slightly adverse** visual impact, one VP are identified with **negligible** visual impact and one VP are identified with **moderately adverse** visual impact.

5.3 The Site already set back from Tung Tsz Road for more than 100 m. It is considered adequate for not creating adverse visual impact.

5.4 Based on the above, the Proposed Scheme is considered to be fully acceptable in terms of visual impact.

FIGURE 1

Location Plan

FIGURE NO.	TITLE	1:13000 (A4)	-	OCT. 2024
1	LOCATION PLAN			

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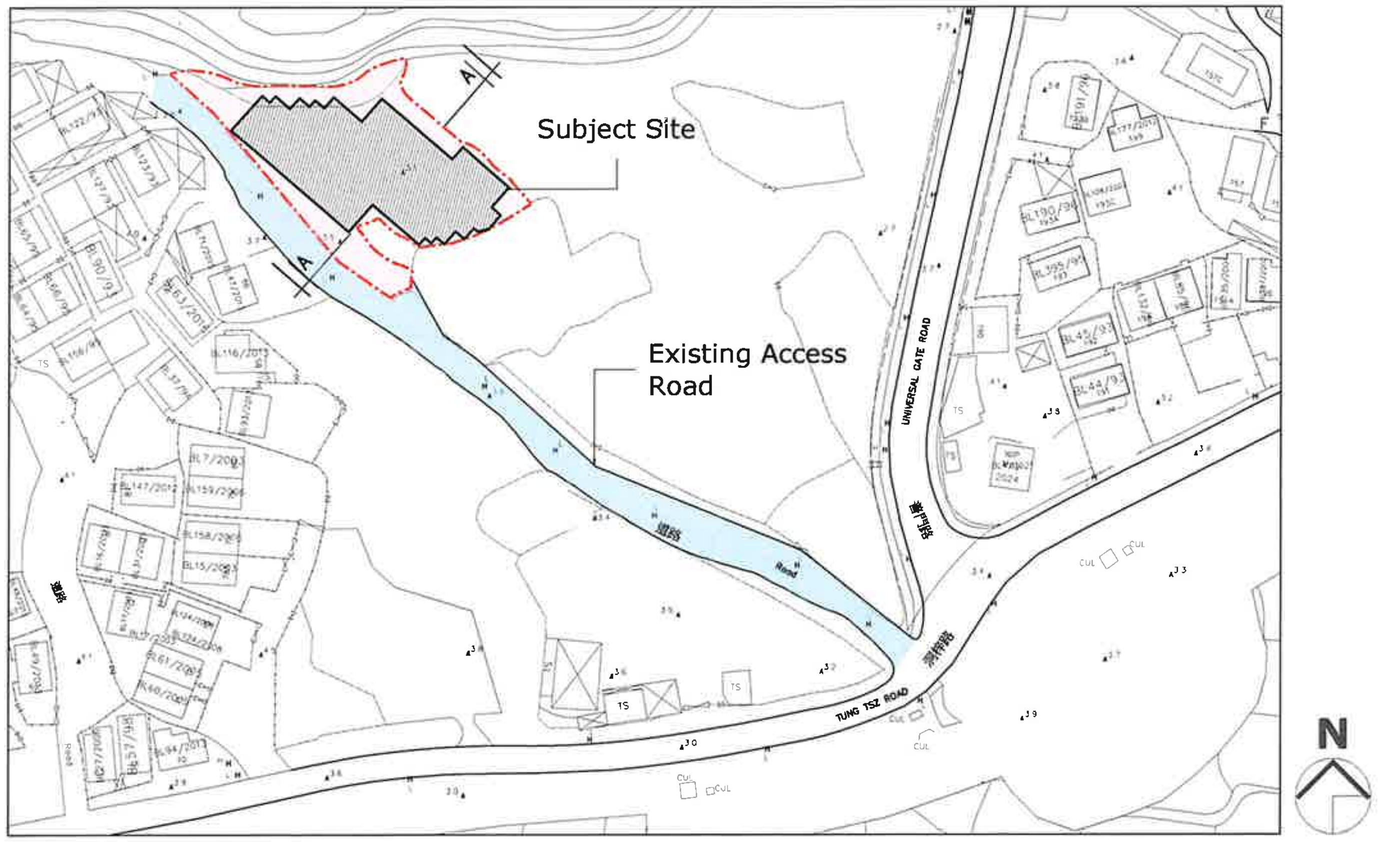
FIGURE 2

Proposed RCHE Design



BLOCK PLAN SCALE – 1:1500

DEVELOPMENT SCHEDULE:

Site Area	:	1494.67 m² (16088.62 ft²)
Class of Site	:	A
Proposed Plot Ratio For Non-Domestic	:	5.57 < 9.5
Proposed Site Coverage above For Non-Domestic (Above 15m)	:	61.09% <80%
Proposed Building Height	:	34.50 mPD
Absolute Height	:	31.0 m
Proposed No. Of Storey	:	10 STOREYS

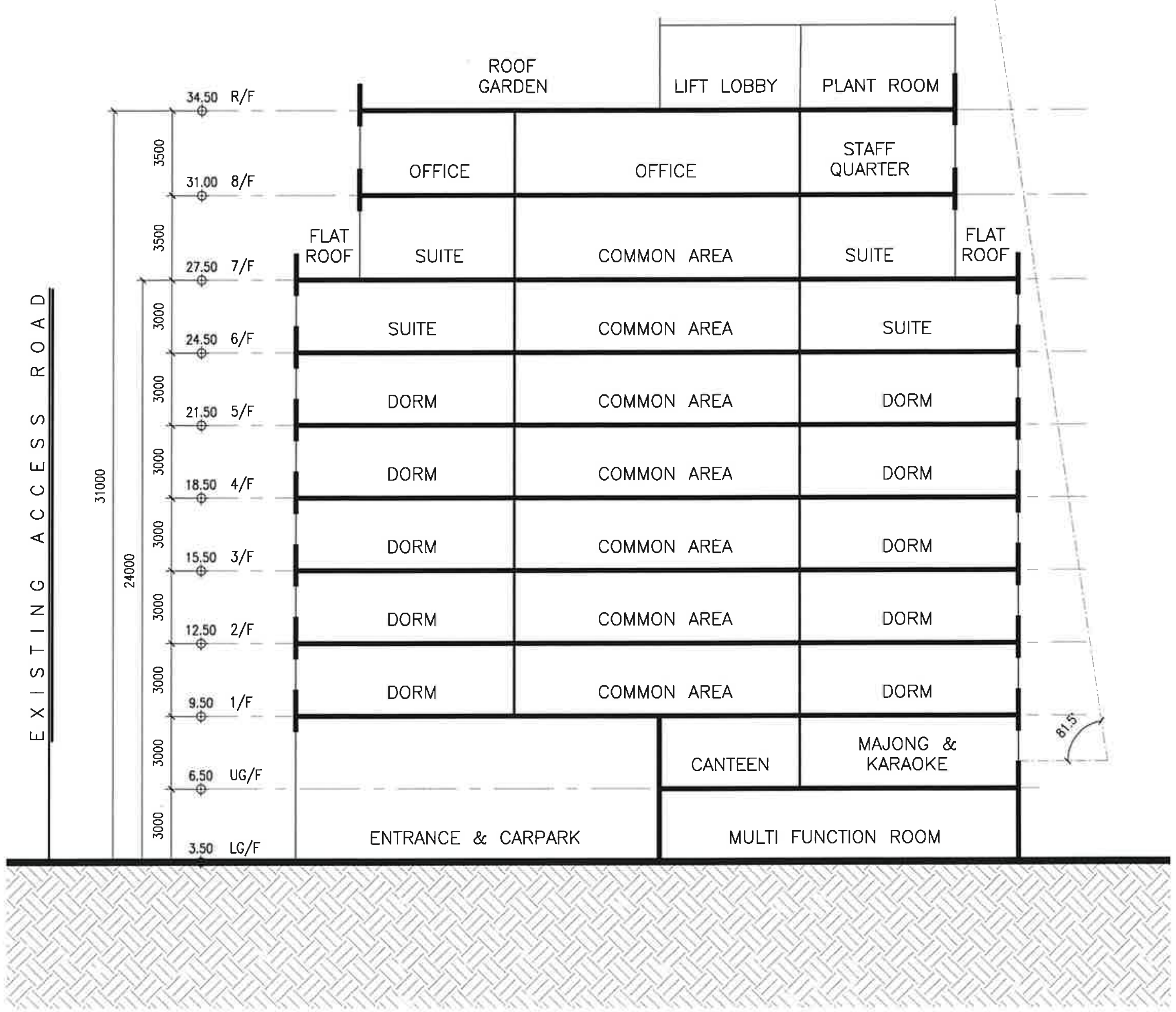
Proposed Gross Floor Area

LG/F (ENTRANCE & CARPARK)	:	606.13m²	
UG/F (RCHE)	:	613.16 m²	
1/F-5/F (RCHE)	:	916.89m² x 5 storeys = 4584.45 m²	(45 no. of beds x 5 storey)
6/F (RCHE)	:	886.14 m²	(17 no. of suites)
7/F (RCHE)	:	759.44 m²	(11 no. of suites)
8/F (MANAGEMENT OFFICE)	:	764.44 m²	
R/F (SKY GARDEN)	:	110.07 m²	
TOTAL	**:**	**8323.83 m² (89597 ft²) (28 no. of suites & 225 no. of beds)**	

Parking Spaces :

No. of LGV (3.5m x 7m x 3.6m H.)	: 1 Nos.
No. of Minibus (3m x 8m x 3.6m H.)	: 1 Nos.
No. of Private Car Parking (2.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Accessible Private Car Parking (3.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Motorcycle Parking (1m x 2.4m x 2.4m H.)	: 1 Nos.

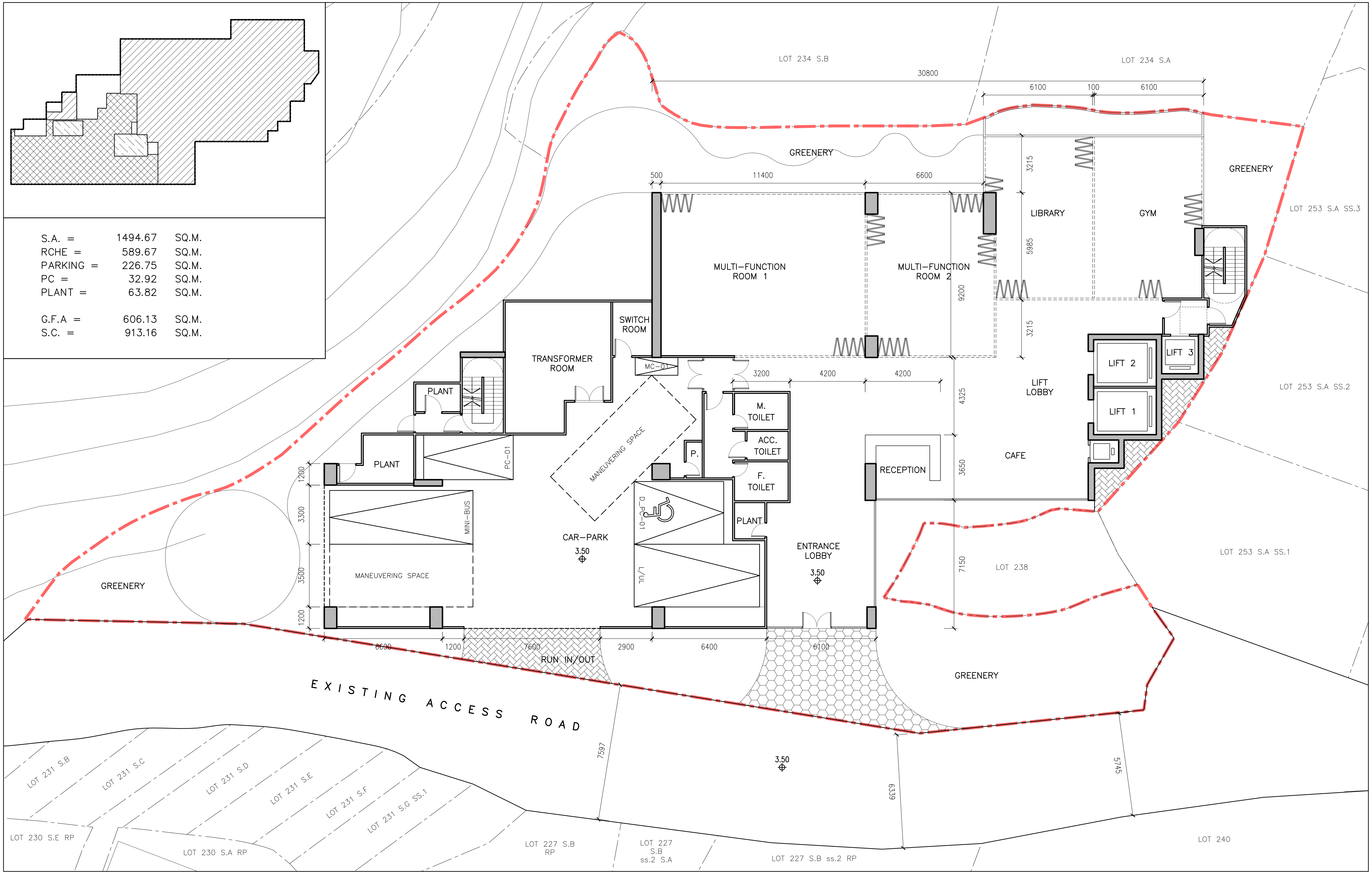
BOUNDARY LINE



SECTION A-A SCALE – 1:250

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	DEVELOPMENT SCHEDULE & SECTION	G-01	N.T.S. (A3)	D C B A	JAN. 2025 DEC. 2024 OCT. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

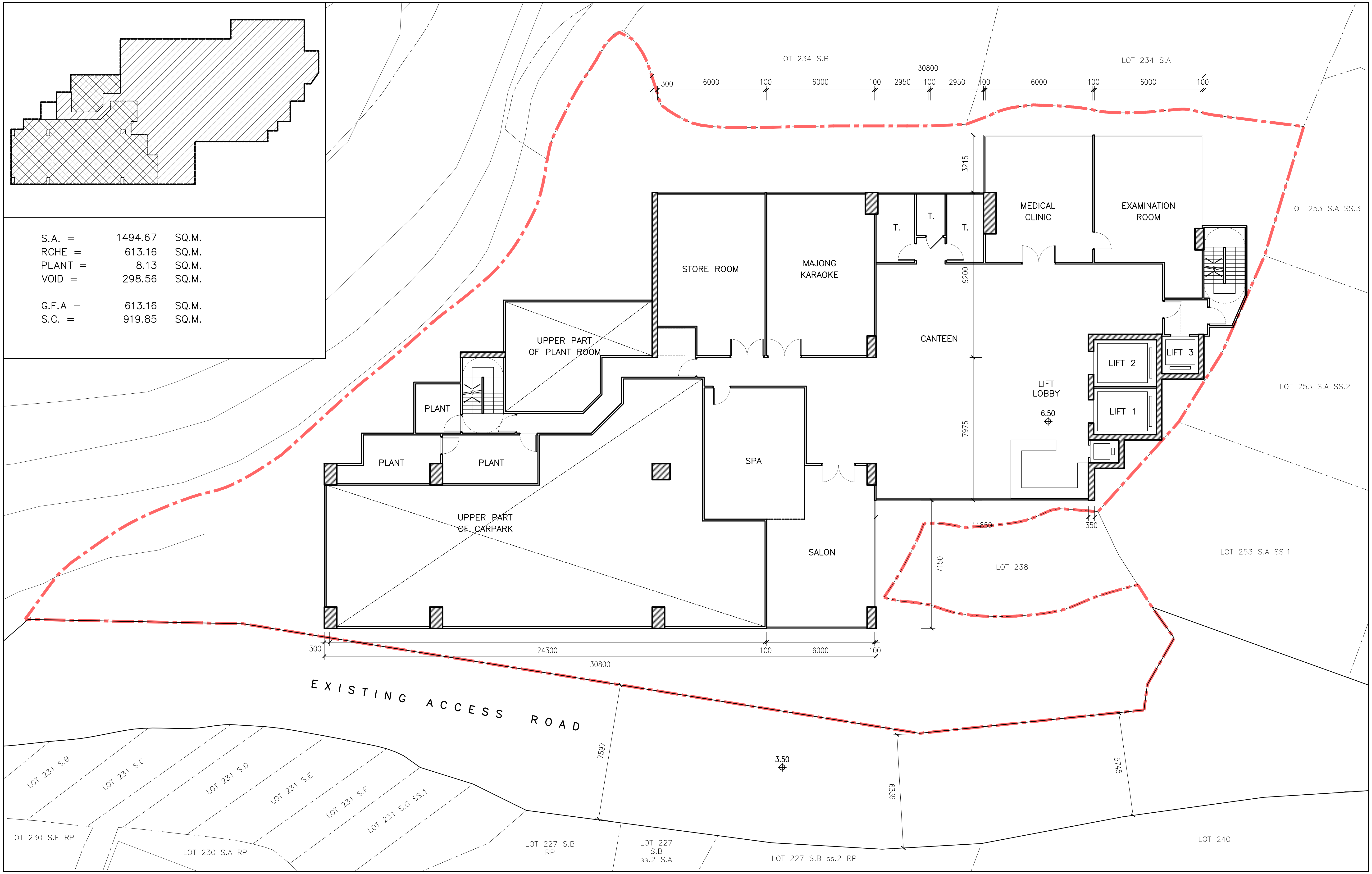


N

BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	LG/F PLAN ENTRANCE & CARPARK	G–02	1:200 (A3)	C DEC. 2024 B OCT. 2024 A SEP. 2024 - SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



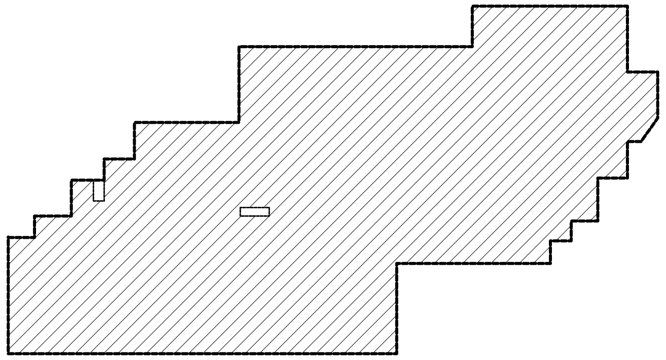
S.A. =	1494.67	SQ.M.
RCHE =	613.16	SQ.M.
PLANT =	8.13	SQ.M.
VOID =	298.56	SQ.M.
G.F.A =	613.16	SQ.M.
S.C. =	919.85	SQ.M.

N

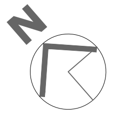
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	UG/F PLAN RCHE	G-03	1:200 (A3)	D C B A	JAN. 2025 DEC. 2024 OCT. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



S.A. =	1494.67	SQ.M.
RCHE =	916.89	SQ.M.
PLANT =	2.96	SQ.M.
G.F.A =	916.89	SQ.M.
S.C. =	919.85	SQ.M.



BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	TYPICAL/F PLAN RCHE	G−04	1:200 (A3)	C DEC. 2024 B OCT. 2024 A SEP. 2024 - SEP. 2024

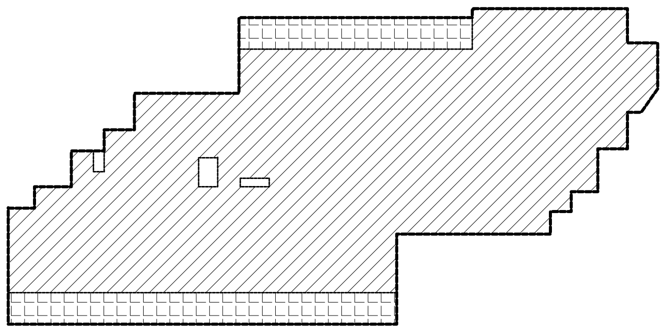
Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "RLee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

S.A. =	1494.67	SQ.M.
RCHE =	886.14	SQ.M.
PLANT =	2.96	SQ.M.
FLAT ROOF =	30.75	SQ.M.
G.F.A =	886.14	SQ.M.
S.C. =	919.85	SQ.M.

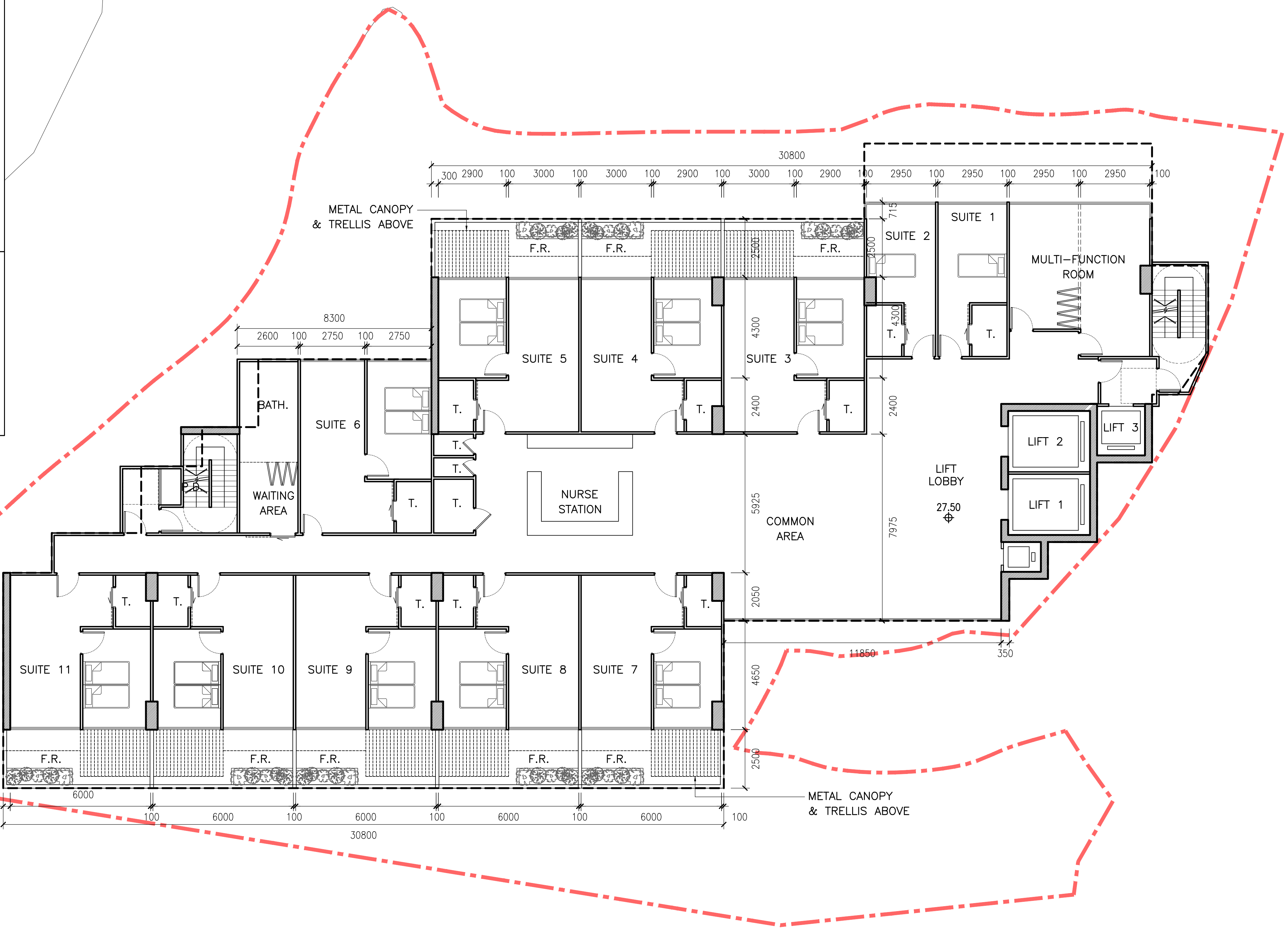
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	6/F PLAN RCHE	G-05	1:200 (A3)	C B A -	DEC. 2024 OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



S.A. =	1494.67	SQ.M.
RCHE =	759.44	SQ.M.
FLAT ROOF =	123.25	SQ.M.
PLANT =	6.41	SQ.M.
G.F.A =	759.44	SQ.M.
S.C. =	889.10	SQ.M.



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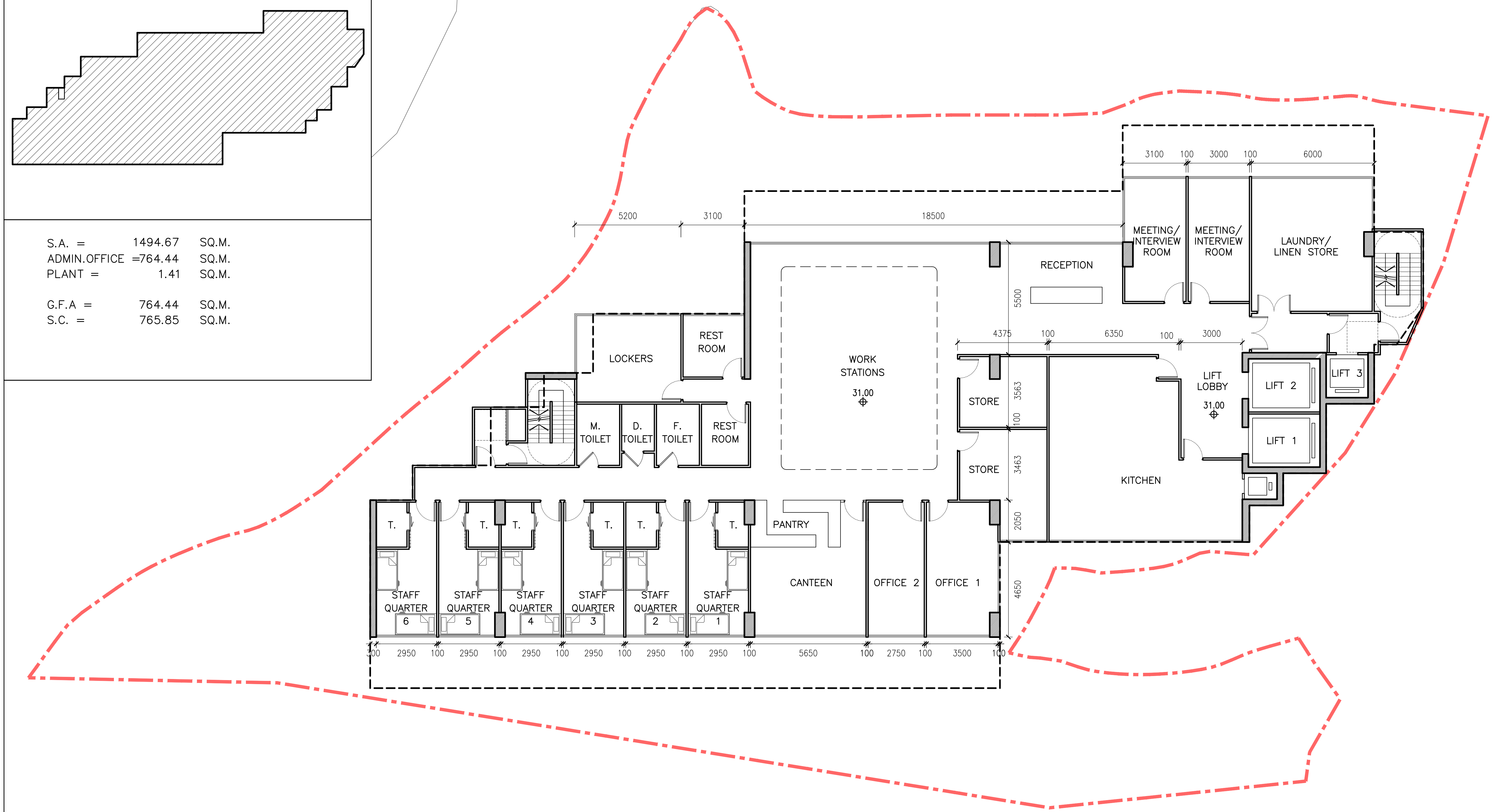
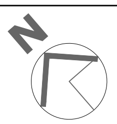
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	7/F PLAN RCHE	G–06	1:200 (A3)	B OCT. 2024 A SEP. 2024 - SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

S.A. =	1494.67	SQ.M.
ADMIN.OFFICE =	764.44	SQ.M.
PLANT =	1.41	SQ.M.
G.F.A =	764.44	SQ.M.
S.C. =	765.85	SQ.M.





BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	8/F PLAN RCHE	G-07	1:200 (A3)

B	OCT. 2024
A	SEP. 2024
-	SEP. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

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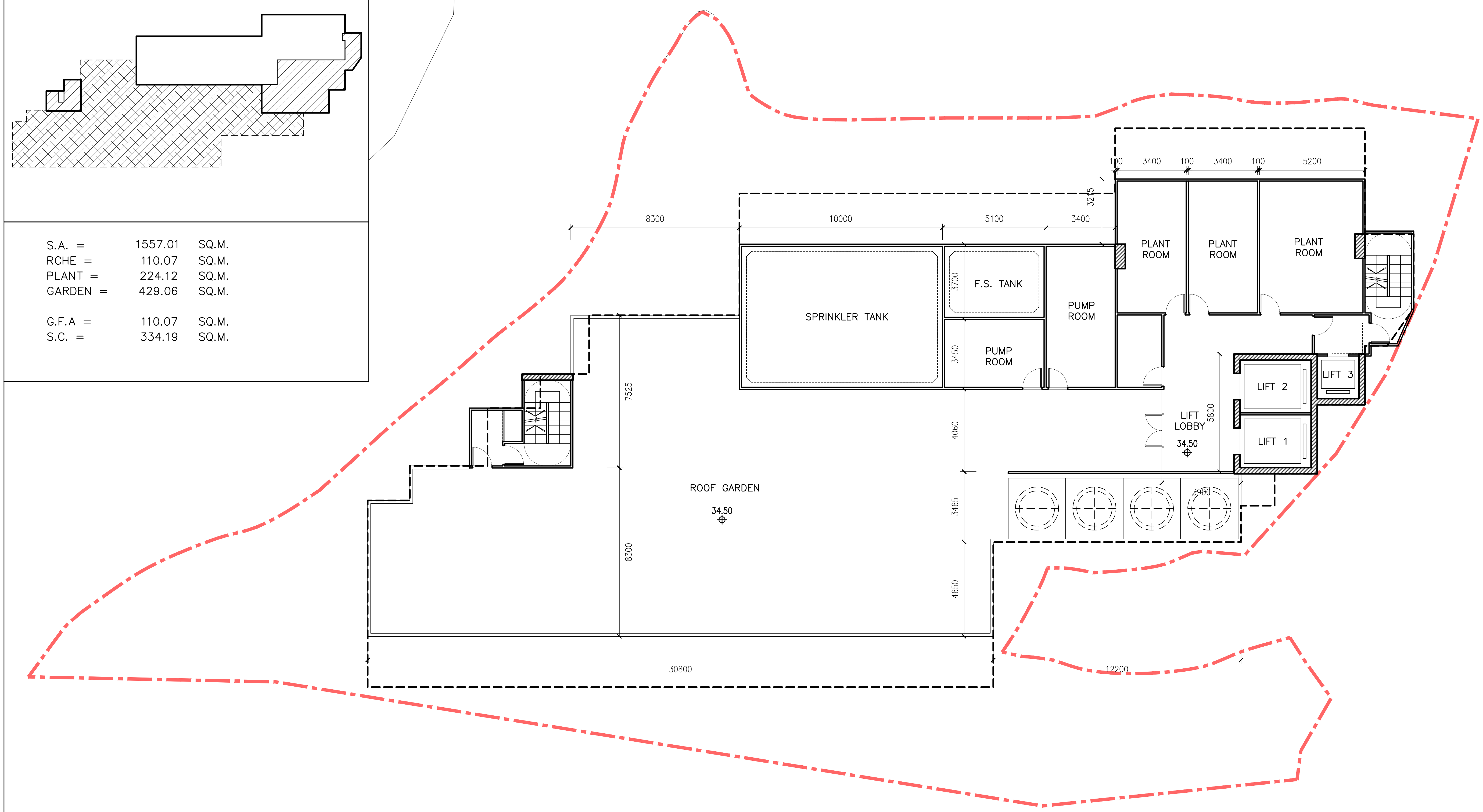
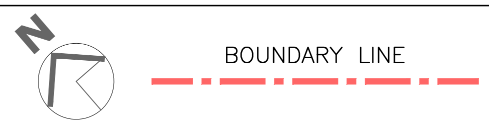
S.A. =	1557.01	SQ.M.
RCHE =	110.07	SQ.M.
PLANT =	224.12	SQ.M.
GARDEN =	429.06	SQ.M.
G.F.A =	110.07	SQ.M.
S.C. =	334.19	SQ.M.





R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	ROOF PLAN ROOF GARDEN	G-08	1:200 (A3)	B A -	OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

FIGURE 3

Location of Viewpoints

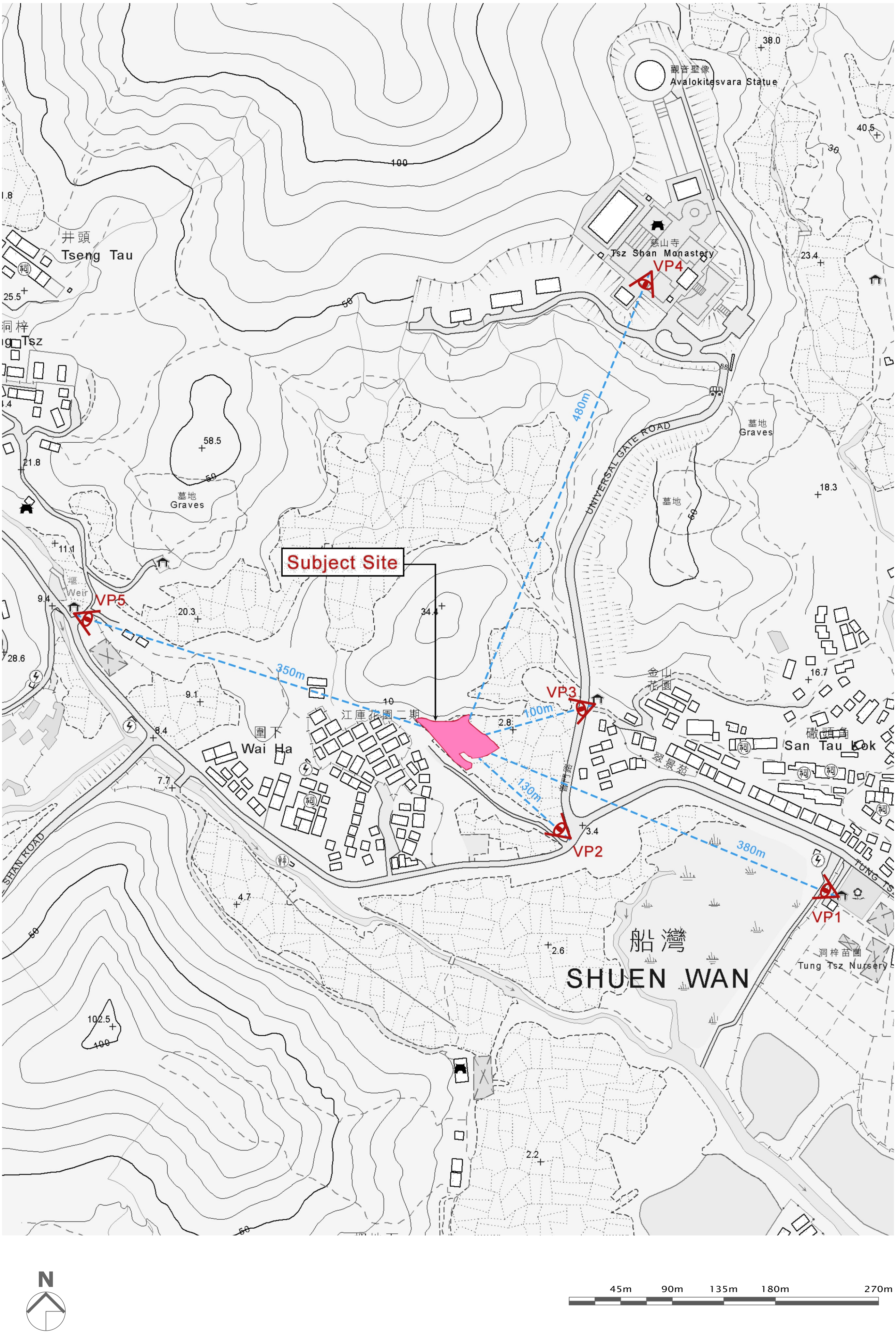


FIGURE NO.	TITLE			
3	VIEWPOINT LOCATION PLAN	1:4500 (A4)	-	OCT. 2024

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FIGURE 4 to FIGURE 8

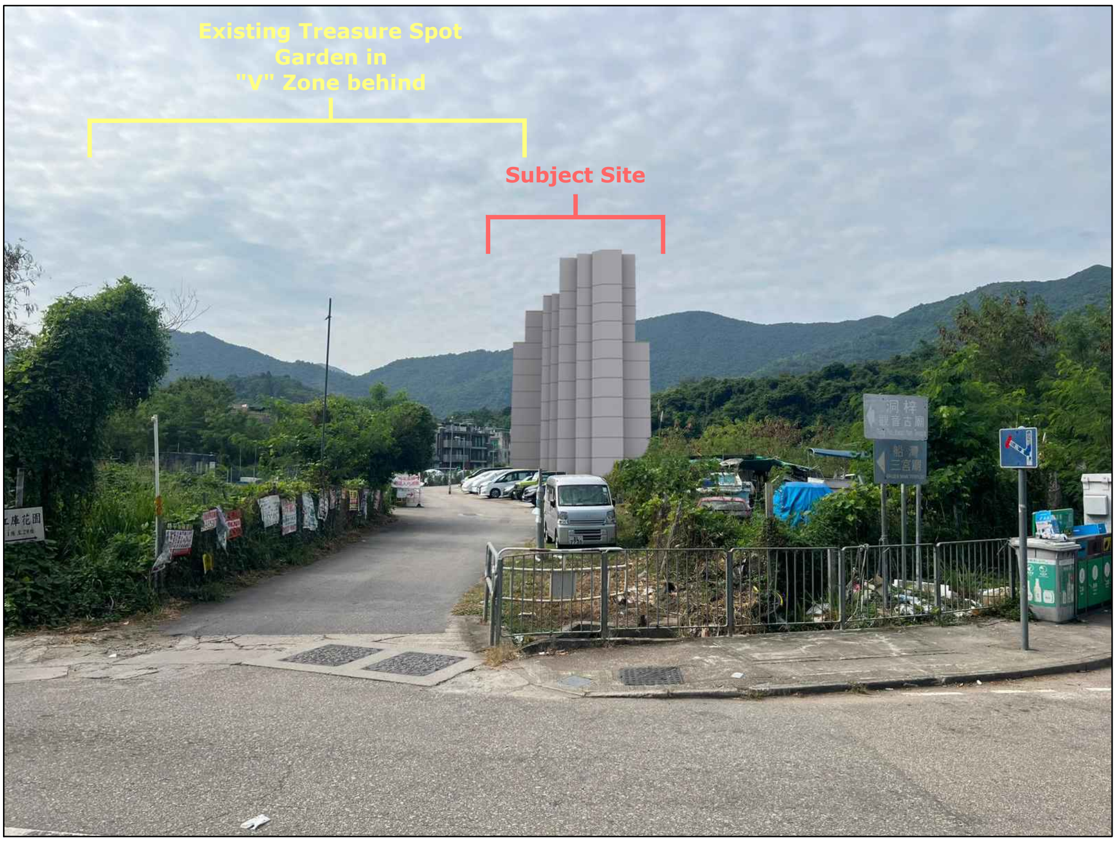
Viewpoint 1 to Viewpoint 5

Existing condition (Scheme A)

Proposed development (Scheme B)

FIGURE NO.	TITLE	N.T.S. (A4)	- OCT. 2024	R LEE ARCHITECTS LTD
4	VIEWPOINT 1			

Existing condition (Scheme A)



Proposed development (Scheme B)

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FIGURE NO.	TITLE	N.T.S. (A4)	- OCT. 2024
5	VIEWPOINT 2		

Existing condition (Scheme A)

Proposed development (Scheme B)

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FIGURE NO.	TITLE	N.T.S. (A4)	- OCT. 2024
6	VIEWPOINT 3		

Existing condition (Scheme A)

Proposed development (Scheme B)

FIGURE NO.	TITLE	N.T.S. (A4)	- OCT. 2024	R LEE ARCHITECTS LTD
7	VIEWPOINT 4			

Existing condition (Scheme A)

Proposed development (Scheme B)

FIGURE NO.	TITLE	N.T.S. (A4)	- OCT. 2024	R LEE ARCHITECTS LTD
8	VIEWPOINT 5			

APPENDIX 2

Traffic Impact Assessment

S12A Amendment of Plan Application
Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19
Proposed Re-zoning from “AGR” to “G/IC” for a
Proposed “Social Welfare Facilities”
Residential Care Home for the Elderly (RCHE)
At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T

TIA Report

December 2024

CTA Consultants Limited

志達顧問有限公司

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APPENDIX

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1. INTRODUCTION

1.1 Background

1.1.1 CTA Consultants Limited was commissioned as the traffic consultant to prepare a Traffic Impact Assessment Report for proposed re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) at various lots in D.D. 23, Tung Tsz, Tai Po, New Territories (hereafter called “proposed development”).

1.1.2 The location of the proposed development is shown in **Figure 1.1**.

1.2 Study Objectives

1.2.1 The main objectives of this study are as follows:

- To assess the existing traffic conditions in the vicinity of the proposed development;
- To forecast traffic demands on the adjacent road network in the design year;
- To estimate the likely traffic generated by the proposed development;
- To assess the impacts of traffic generated by the proposed development on the adjacent road network; and
- To recommend improvement measures, if necessary, to alleviate any traffic problems on the road network

2. THE DEVELOPMENT

2.1 Site Location

2.1.1 The proposed development is located at various lots in D.D. 23, Tung Tsz, Tai Po which is bounded by Treasure Spot Garden II to the west as shown in **Figure 1.1**.

2.2 Proposed Development

2.2.1 Development parameters of the proposed development are summarized in **Table 2.1**.

Table 2.1 Development Parameters of the Proposed Development

Site Location	At various lots in D.D. 23, Tung Tsz, Tai Po, New Territories
Site Area	1,494.67 m^2
No. of Blocks	1
No. of Storeys	10
No. of Suites and Beds	~28 nos. of suites and ~225 nos. of beds

2.2.2 It is anticipated that the proposed development will be completed by 2030 tentatively. Therefore, design year 2033 (i.e. 3 years after the planned commencement year of the proposed development) is adopted assessments.

2.3 Proposed Vehicular Access

2.3.1 The proposed vehicular access is located at the southwest of the proposed development. Location of the proposed vehicular access is shown diagrammatically in **Figure 2.1**.

2.4 Internal Transport Facilities Provision

2.4.1 It is noted that the requirement of provision of internal transport facilities for welfare uses are not specified in the latest Hong Kong Planning Standards and Guidelines

(HKPSG). The proposed provision is based on the operator's past experience and future operation need, and summarized in **Table 2.2**.

2.4.2 The ground floor layout plan of the proposed development showing the internal transport provision is shown in **Figure 2.1** and **Figure SP-01** to **Figure SP-03** demonstrating vehicles can be manoeuvred within the site**.**

Table 2.2 Proposed Parking Provision

Parking Spaces	**Dimensions**	**Proposed**
Motorcycle	2.4m(L) x 1m(W)	1 no.
Private Car	5m(L) x 2.5m(W)	1 no.
Private Car for Accessible	5m(L) x 3.5m(W)	1 no.
Loading/Unloading	**Dimensions**	**Proposed**
LGV	7m(L) x 3.5m(W)	1 no.
Minibus	8m(L) x 3m(W)	1 no.

2.5 Public Transport Services in the Vicinity

2.5.1 Numerous road-based public transport services are provided in vicinity of the proposed development. Details of the current services of franchised buses and GMB routes are listed in **Table 2.3** and the service points are demonstrated in **Figure 2.2**. It is revealed that the site is well-served by public transport services in the vicinity.

Table 2.3 Road-Based Public Transport Services in the Vicinity

Service	Route	Origin – Destination	Frequency (Mins)
Ting Kok Road near Ting Kok Village Road			
Franchised Bus	73P(1)	Nina Tower Bus Terminus – Tai Mei Tuk Bus Terminus	2 Departures
		Tai Mei Tuk Bus Terminus - Nina Tower Bus Terminus – Tai Mei Tuk Bus Terminus	2 Departures
	74E(1)	Kwun Tong Ferry – Tai Mei Tuk Bus Terminus	3 Departures
		Tai Mei Tuk Bus Terminus - Kwun Tong Ferry	3 Departures
	75K	Tai Po Market Station Bus Terminus – Tai Mei Tuk Bus Terminus	10-20
		Tai Mei Tuk Bus Terminus - Tai Po Market Station Bus Terminus	8-30
	275R	Tai Po Market Station Bus Terminus – Wu Kau Tang Bus Terminus	10-20
		Wu Kau Tang Bus Terminus - Tai Po Market Station Bus Terminus	10-20
	72C(1)	Tai Mei Tuk Bus Terminus – Tai Po Market Station Bus Terminus	1 Departure
	75P(1)	Tai Mei Tuk Bus Terminus – Tai Po Market Station Bus Terminus	1 Departure
GMB	20C	Tai Mei Tuk Public Transport Interchange – Tai Po Market Station Minibus Terminus	4-10
		Tai Po Market Station Minibus Terminus - Tai Mei Tuk Public Transport Interchange	4-10
		Tai Mei Tuk Public Transport Interchange – Tai Po Market Station Minibus Terminus (via Tai Po Tai Wo Road)	12-15
		Tai Po Market Station Minibus Terminus - Tai Mei Tuk Public Transport Interchange (via Tai Po Tai Wo Road)	12-15
	20C(2)	Tai Po Market Station Minibus Terminus - Tai Mei Tuk Public Transport Interchange (via Shan Liu Road)	4-10
	20E(3)	Tai Po Market Station Minibus Terminus – Shan Liu Road, Elle Villas	30
		Shan Liu Road, Elle Villas – Tai Po Market Station Minibus Terminus	
	20R	Wu Kau Tang – Tai Po Market Station Minibus Terminus	60
		Tai Po Market Station Minibus Terminus - Wu Kau Tang	60

Notes:
(1) Peak Hour Service Only.
(2) Special Route during special traffic and transport arrangements (STTA) days.
(3) Circular Route.

3. THE EXISTING TRAFFIC CONDITIONS

3.1 Critical Junctions

3.1.1 As shown in **Figure 3.1**, 11 junctions were identified to be critical for assessment of traffic impact due to the proposed development. They are listed in **Table 3.1** and their existing junction layout arrangements are shown in **Figures 3.2** to **3.11** respectively.

Table 3.1 Identified Critical Junctions

Ref.	Junction	Method of Control	Figure No.
A	Tung Tsz Road/ Universal Gate Road	Priority	**3.2**
B	Ting Kok Road/ Tung Tsz Road	Priority	**3.3**
C	Ting Kok Road/ Sam Mun Tsai Road	Signal	**3.4**
D	Ting Kok Road/ Lo Fai Road	Signal	**3.5**
E	Ting Kok Road/ Dai Kwai Street	Signal	**3.6**
F	Ting Kok Road/ Dai Fat Street	Signal	**3.7**
G	Ting Kok Road/ Fung Yuen Road	Signal	**3.8**
H	Ting Kok Road/ Yuen Shin Road/ Dai Fuk Street	Signal	**3.9**
I	Yuen Shin Road/ Dai Fat Street	Signal	**3.10**
J	Yuen Shin Road/ Tai Po Tai Wo Road	Signal	**3.11**

3.1.2 In order to establish the existing traffic condition in the above-mentioned critical junctions, traffic survey in form of manual classified count was conducted during the AM and PM peak periods (7:15am to 9:15am and 5:00pm to 7:00pm) on a typical weekday, 6 December 2024. Analysis of the existing traffic data indicates that the AM and PM peak hour flows occurred from 7:45am to 8:45am and 5:15pm to 6:15pm respectively. The existing traffic flows is presented in **Figure 3.12**.

3.1.3 Existing operational performance of the identified critical junctions were assessed. The results are summarized in **Table 3.2** and the junction calculation sheets are attached in **Appendix A**.

Table 3.2 Junction Performance of Identified Critical Junctions in Year 2024

Junction	Junction Location	Method of Control	Year 2024 RC(1)/RFC(2)	
			AM Peak	PM Peak
A	Tung Tsz Road/ Universal Gate Road	Priority	0.03	0.03
B	Ting Kok Road/ Tung Tsz Road	Priority	0.49	0.24
C	Ting Kok Road/ Sam Mun Tsai Road	Signal	>100%	>100%
D	Ting Kok Road/ Lo Fai Road	Signal	56%	84%
E	Ting Kok Road/ Dai Kwai Street	Signal	19%	22%
F	Ting Kok Road/ Dai Fat Street	Signal	20%	47%
G	Ting Kok Road/ Fung Yuen Road	Signal	21%	23%
H	Ting Kok Road/ Yuen Shin Road/ Dai Fuk Street	Signal	31%	33%
I	Yuen Shin Road/ Dai Fat Street	Signal	25%	48%
J	Yuen Shin Road/ Tai Po Tai Wo Road	Signal	27%	44%

Note:
(1) RC = Reserve Capacity for Signalized Junction
RFC = Ratio of Flow to Capacity for Priority Junction

3.1.4 The assessment results in **Table 3.2** indicate that all critical junctions are at present operating within their capacities during peak hours.

4. THE FUTURE TRAFFIC CONDITIONS

4.1 Design Year

4.1.1 The proposed development is anticipated to be completed by year 2030 tentatively. Year 2033 (i.e. 3 years after completion) is therefore adopted as the design year for assessment purpose.

4.2 Traffic Forecasts

4.2.1 The traffic growth can be estimated by applying growth factor, based on the following information source:

I. 2019-Based Territory Population and Employment Data Matrices (TPEDM) published by the Planning Department

Territory Population and Employment Data Matrices

4.2.2 Reference has been made to the latest 2019-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department for years 2019 and 2031 in the study district. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.1**.

Table 4.1 TPEDM Planning Data from 2019 to 2031

Zone	Population						Employment					
	2019	2026	2031	Avg. Annual Growth Rate			2019	2026	2031	Avg. Annual Growth Rate		
				From 2019 to 2026	From 2026 to 2031	From 2019 to 2031				From 2019 to 2026	From 2026 to 2031	From 2019 to 2031
Tai Po	250,050	285,850	263,800	1.93%	-1.59%	0.45%	86,750	83,700	78,550	-0.51%	-1.26%	-0.82%

4.2.3 As shown in the above table, the average annual growth rates of population for the area from year 2019 to 2026 and 2026 to 2031 are +1.93% and -1.59% per annum respectively. The average annual growth rates of employment for the area from year 2019 to 2026 and 2026 to 2031 are -0.51% and -1.26% per annum respectively.

Adopted Growth Rate

4.2.4 As a conservative approach, annual growth **+1.93%** p.a. is adopted rate for traffic flows from existing to 2026 and annual growth **+0.5%** p.a. is adopted rate for traffic flows from 2026 to 2033.

4.3 Traffic Generations of Adjacent New Developments

4.3.1 To fully reflect the growth traffic, trip generation of the future vicinity developments have been taken into consideration. The major planned development is detailed in **Figure 4.1** and the estimated trip rate with reference to TPDM and trips of the adjacent planned developments are shown in **Table 4.2** and **Table 4.3** respectively.

Table 4.2 Estimated Trip Rates of Planned Adjacent Developments

Approved Planning Application No.	Location	Use	Assumed GFA & Flat no.	Units	Trip Rates			
					AM Peak		PM Peak	
					Gen.	Att.	Gen.	Att.
A/TP/672	Government land at Area and Chung Nga Road East, Tai Po, New Territories	Public Housing	~316, 519m^2 7,431flats (av. flat size: 40m^2)	pcu/hr/flat	0.0432[1]	0.0326[1]	0.0237[1]	0.0301[1]
		Retail / Shopping Complex	~29,234 m^2	pcu/hr/100 sq m GFA	0.2296	0.2434	0.31	0.3563
A/TP/700	Chung Nga Road West	Public Housing	1,292 flats (av. Flat size: 40m^2)	pcu/hr/flat	0.0432[1]	0.0326[1]	0.0237[1]	0.0301[1]
		Retail / Shopping Complex	~800m^2	pcu/hr/100 sq m GFA	0.2296	0.2434	0.31	0.3563
		Primary School	-	pcu/hr/ classroom	0.5670[2]	1.000[2]	0.333[2]	0.167[2]
A/NE-TK/753	Government Land in D.D 26, Shuen Wan, Tai Po, New Territories	Proposed Temporary Residential Institution (Transitional Housing) for a period of 5 years	~ 6082.4 m^2 276 flats	-	-[3]	-[3]	-[3]	-[3]
A/NE-TK/702	Various Lots in D.D.26,	Proposed Temporary Residential	~ 21,551 m^2 1,236 flats	-	-[3]	-[3]	-[3]	-[3]

Approved Planning Application No.	Location	Use	Assumed GFA & Flat no.	Units	Trip Rates			
					AM Peak		PM Peak	
					Gen.	Att.	Gen.	Att.
	Wong Yue Tan	Institution (Transitional Housing) with Filing and Excavation Land for a period of 5 years						
LSPS/001	Lo Fai Road and Ting Kok Road	Private Housing	~ 23,000 m^2 460 flats	pcu/hr/flat	0.1021(4)	0.0709(4)	0.0415(4)	0.0464(4)
		Public Housing	~ 64,522 m^2 1,290 flats	pcu/hr/flat	0.0622(5)	0.0426(5)	0.0297(5)	0.0401(5)
		GIC	-	-	-	-	-	-
-	Area 33, Tai Po	Construction Industry Council Training Academy Tai Po Training Ground	-	-	-	-	-	-
-	Tai Po Town Lot 246 (Ex-Shuen Wan Landfill Site)	Golf Course	-	-	-	-	-	-
-	Area 33, Tai Po	Football-cum-rugby pitch/underground public vehicle park 400 car spaces	-	Pcu/hr/ parking space	0.0771(6)	0.0907(6)	0.0493(6	0.0811(6)
-	On Pong Road	Community health centre	4,447m^2	pcu/hr/100 sq m GFA	0.235(7)	0.235(7)	0.23(7)	0.115(7)
-	Future Phase of CDA(1) Zone	Private Housing	~ 14,011 m^2 220 flats	pcu/hr/flat	0.0778(8)	0.063(8)	0.063(8)	0.0593(8)

Notes:
(1) Trip rates for public housing development of 40m^2 is adopted.
(2) Adopted trip rate of primary school in Queen’s Hill.
(3) Adopted trip generations and attractions from TIA report of the relevant planning application.
(4) Upper limit trip rates for private housing development of 60m^2 is adopted.
(5) Trip rates for public housing development of 50m^2 is adopted.
(6) Based on surveyed trip rate at Tai Po Tung Cheong Street Sports Centre Public Vehicle

Park.

(7) Adopted trip rate of community health centre in the approved TIA report for Queen’s Hill, Fanling.

(8) Adopted trip rate of Mont Vert.

Table 4.3 Estimated Trip Generations and Attractions of Planned Adjacent Developments

Approved Planning Application No.	Location	Development	Assumed GFA & Flat no.	Trips: AM Peak (pcu/hr) Gen.	Trips: AM Peak (pcu/hr) Att.	Trips: PM Peak (pcu/hr) Gen.	Trips: PM Peak (pcu/hr) Att.
A/TP/672	Government land at Area and Chung Nga Road East, Tai Po, New Territories	Public Housing	~316, 519m^2 7,431flats (av. flat size: 50m^2)	322	243	177	224
		Retail / Shopping Complex	~29,234 m^2	68	72	91	105
A/TP/700	Chung Nga Road West	Public Housing	1,292 flats (av. Flat size: 40m^2)	56	43	31	39
		Retail and GIC	~800m^2	2	2	3	3
		Primary School	pcu/hr/ classroom	18	30	10	6
A/NE-TK/753	Government Land in D.D 26, Shuen Wan, Tai Po, New Territories	Proposed Temporary Residential Institution (Transitional Housing) for a period of 5 years	~ 6082.4 m^2 276 flats	1(1)	3(1)	2(1)	3(1)
A/NE-TK/702	Various Lots in D.D.26, Wong Yue Tan	Proposed Temporary Residential Institution (Transitional Housing) with Filing and Excavation Land for a period of 5 years	~ 21,551 m^2 1,236 flats	46(1)	36(1)	36(1)	36(1)
LSPS/001	Lo Fai Road and Ting Kok Road	Private Housing	~ 23,000 m^2 460 flats	47	33	20	22

<table>
<tr><th rowspan="3">Approved Planning Application No.</th><th rowspan="3">Location</th><th rowspan="3">Development</th><th rowspan="3">Assumed GFA & Flat no.</th><th colspan="4">Trips</th></tr>
<tr><th colspan="2">AM Peak (pcu/hr)</th><th colspan="2">PM Peak (pcu/hr)</th></tr>
<tr><th>Gen.</th><th>Att.</th><th>Gen.</th><th>Att.</th></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td>Public Housing</td><td>~ 64,522 m^2
1,290 flats</td><td>81</td><td>55</td><td>39</td><td>52</td></tr>
<tr><td>GIC
(RCHE)</td><td>-</td><td>2(2)</td><td>2(2)</td><td>3(2)</td><td>2(2)</td></tr>
<tr><td>-</td><td>Area 33, Tai Po</td><td>Construction Industry Council Training Academy Tai Po Training Ground</td><td>-</td><td>23(3)</td><td>23(3)</td><td>23(3)</td><td>23(3)</td></tr>
<tr><td>-</td><td>Tai Po Town Lot 246 (Ex-Shuen Wan Landfill Site)</td><td>Golf Course</td><td>-</td><td>8(4)</td><td>32(4)</td><td>50(4)</td><td>26(4)</td></tr>
<tr><td>-</td><td>Area 33, Tai Po</td><td>Football-cum-rugby pitch/underground public vehicle park
400 car spaces</td><td>-</td><td>31</td><td>37</td><td>20</td><td>33</td></tr>
<tr><td>-</td><td>On Pong Road</td><td>Community health centre</td><td>4,447m^2</td><td>11</td><td>11</td><td>11</td><td>6</td></tr>
<tr><td>-</td><td>Future Phase of CDA(1) Zone</td><td>Private Housing</td><td>~ 14,011 m^2
220 flats</td><td>17</td><td>14</td><td>14</td><td>13</td></tr>
</table>

Note:
(1)Extracted from TIA report of the relevant planning application.
(2)Based on traffic survey result at Pok Oi Hospital Yeung Chun Pui Care and Attention Home.
(3)Based on previous study on Construction Industry Council Training Academy.
(4)Based on approved TIA

4.4 Planned Junction Layout under Planned Project

4.4.1 Junction Fung Yuen Road / Ting Kok Road (G) will be modified according to the TIA report (January 2021) of approved A/NE-TK/702 at Wong Yue Tan, Tai Po and the TIA report (August 2022) of approved A/NE-TK/753 at Shuen Wan, Tai Po as shown in **Figure 4.2**. It is anticipated that the planned junction layout would be in place for reference and design year 2033 (the commissioned year of the proposed development) for the assessments. A sensitivity assessment for the junction without modification will be included.

4.4.2 It is noted that Fung Yuen CDA (1) of about 1,800 units is undergoing planning application. Based on the latest traffic generation and attraction of 143 pcu/hr and 118 pcu/hr during AM peak hour and traffic generation and attraction of 123 pcu/hr and 114 pcu/hr during PM peak hour, another sensitivity assessment would be carried out.

4.5 Reference Traffic Flows

4.5.1 2033 reference traffic flows are then derived by the following and presented diagrammatically in **Figure 4.3**.

2033 Reference Traffic Flows (Without Proposed Development)	= (	**2024 Observed Traffic Flows**	**x**	**Adopted Growth Factor (i.e. +1.93% for 2 year)**	**x**	**Adopted Growth Factor (i.e. +0.5% for 7 year)**	) +	**Traffic Flows of Planned Adjacent Developments**

4.6 Traffic Generations and Attractions of Proposed Development

4.6.1 To estimate the trip generations of the proposed development, reference has been made to the trip generation rates of the existing Tung Wah Group of Hospitals Shuen Wan Complex for the Elderly which comprises Pao Siu Loong Care and Attention Home, Wu York Yu Care and Attention Home, and Wu Chiang Wai Fong Care and Attention Home in the same district with similar proximity to public transport. The adopted trip generation rates and the estimated net generation and attraction due to the proposed development are summarized in **Table 4.4**.

Table 4.4 Adopted Generation and Attraction Trip Rates of Proposed Development

Reference Site	AM Peak		PM Peak	
	Generation (pcu/hr/bed)	Attraction (pcu/hr/bed)	Generation (pcu/hr/bed)	Attraction (pcu/hr/bed)
Adopted Rate	0.029	0.039	0.051	0.035

4.6.2 Based on **Table 4.4**, the estimated traffic generation and attraction due to the proposed development are summarized in **Table 4.5**.

Table 4.5 Estimated Traffic Generation and Attraction of Proposed Development

Proposed Development	AM Peak		PM Peak	
	Generation (pcu/hr)	Attraction (pcu/hr)	Generation (pcu/hr)	Attraction (pcu/hr)
~28 nos. of suites and ~225 nos. of beds	8	10	13	9

4.6.3 It is anticipated that the proposed development would generate and attract 8 pcu/hr and 10 pcu/hr during AM peak hour respectively, and generate and attract 13 pcu/hr and 9 pcu/hr during PM peak hour respectively.

4.7 Design Traffic Flows

4.7.1 The future traffic generations of the proposed development were then assigned onto the road network and superimposed onto the 2033 reference traffic flows (without proposed development) to derive the 2033 design traffic forecasts (with proposed development).

2033 Design Traffic Flows (With Proposed Development) = **2033 Reference Traffic Flows (Without Proposed Development)** + **Proposed Development Traffic Flows**

4.7.2 Year 2033 design traffic flows (with proposed development) are shown in **Figure 4.4**.

5. TRAFFIC IMPACT ASSESSMENT

5.1 Operational Assessment

5.1.1 To assess the potential traffic impact due to the proposed development, capacity analysis of the identified critical junction and road links for both reference (without proposed development) and design scenarios (with proposed development) in year 2033 were carried out. The results are summarized in **Table 5.1**, and the junction calculation sheets are attached in **Appendix A**.

Table 5.1 Junction Performance of Identified Critical Junctions in Year 2033 (With and Without Proposed Development)

Ref.	Junction	Method of Control		Year 2033 RC/RFC (1)			
				Reference Scenario (Without Proposed Development)		Design Scenario (With Proposed Development)	
				AM Peak	PM Peak	AM Peak	PM Peak
A	Tung Tsz Road/ Universal Gate Road	Priority		0.03	0.05	0.04	0.07
B	Ting Kok Road/ Tung Tsz Road	Priority		0.57	0.27	0.59	0.31
C	Ting Kok Road/ Sam Mun Tsai Road	Signal		>100%	>100%	>100%	>100%
D	Ting Kok Road/ Lo Fai Road	Signal		30%	53%	29%	51%
E	Ting Kok Road/ Dai Kwai Street	Signal		**-1%**	**3%**	**-2%**	**2%**
F	Ting Kok Road/ Dai Fat Street	Signal		**0%**	20%	**-1%**	19%
G	Ting Kok Road/ Fung Yuen Road	Signal	Without Junction Modification(2)	**1%**	**1%**	**1%**	**1%**
			With Junction Modification(3)	**-1%**	**-1%**	**-1%**	**-1%**
			With Junction Modification(3) and with Fung Yuen CDA (1)(4)	**-14%**	**-12%**	**-14%**	**-12%**

Ref.	Junction	Method of Control	Year 2033 RC/RFC [1]			
			Reference Scenario (Without Proposed Development)		Design Scenario (With Proposed Development)	
			AM Peak	PM Peak	AM Peak	PM Peak
H	Ting Kok Road/ Yuen Shin Road/ Dai Fuk Street	Signal	**7%**	**3%**	**7%**	**2%**
I	Yuen Shin Road/ Dai Fat Street	Signal	**6%**	21%	**5%**	20%
J	Yuen Shin Road/ Tai Po Tai Wo Road	Signal	**12%**	24%	**12%**	24%

Notes:
(1) RC = Reserve Capacity for Signalized Junction
RFC = Ratio of Flow to Capacity for Priority Junction
(2) Junction without modification as sensitivity test.
(3) Reference has been made to the planned junction improvement works mentioned in **Section 4.4.1**.
(4) Consideration of Fung Yuen CDA (1) of about 1,800 units which is undergoing planning application as sensitivity test, refer to **Section 4.4.2** for details.

5.1.2 The assessment results in **Table 5.1** revealed that all critical junctions would still operate within their capacities in both reference scenario (without proposed development) and design scenario (with proposed development) in 2033 during the peak hours except the following junctions:

- Junction Ting Kok Road/ Dai Kwai Street (E)
- Junction Ting Kok Road/ Dai Fat Street (F)
- Junction Ting Kok Road/ Fung Yuen Road (G)
- Junction Ting Kok Road/ Yuen Shin Road/ Dai Fuk Street (H)
- Junction Yuen Shin Road/ Dai Fat Street (I)
- Junction Yuen Shin Road/ Tai Po Tai Wo Road (J)

5.1.3 Junction E will have negative RC during AM peak hour on weekday without and with the proposed development, and will be approaching to its capacity with RC <15% but still positive during PM peak hour on weekday without and with the proposed development.

5.1.4 Junction F will have RC of 0% without the proposed development and -1% with the proposed development during AM peak hour on weekday.

5.1.5 Junction G without planned junction modification, will be approaching to its capacity with RC <15% but still positive during AM and PM peak hours on weekday without and with the proposed development. Junction G with planned junction modification, will have negative RC during AM and PM peak hours on weekday without and with the proposed development. With consideration of Fung Yuen CDA (1) which is undergoing planning application mentioned in **Section 4.4** as sensitivity test, Junction G with planned junction modification will be overcapacity with negative RC during AM and PM peak hours on weekday without and with the proposed development.

5.1.6 Junction H will be approaching to its capacity with RC <15% but still positive during AM and PM peak hours on weekday without and with the proposed development.

5.1.7 Junction I and Junction J will be approaching to its capacity with RC <15% but still positive during AM peak hour on weekday without and with the proposed development.

5.1.8 It is anticipated that the proposed development would generate and attract 8 pcu/hr and 10 pcu/hr during AM peak hour respectively, and generate and attract 13 pcu/hr and 9 pcu/hr during PM peak hour respectively.

5.1.9 The peak traffic generated by the proposed development is small and would induce insignificant impact on the surrounding road network.

6. SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 CTA Consultants Limited (CTA) is commissioned as the traffic consultant to prepare the Traffic Impact Assessment Report and provide technical justifications in supporting the proposed development from traffic engineering point of view.

6.1.2 To appraise the existing traffic condition, manual-classified counting surveys were conducted at critical junctions in 2024. Current operational performance of the critical junctions has been assessed. The results reveal all critical junctions are at present operating within their capacities during peak hours.

6.1.3 The assessment results revealed that all critical junctions would still operate within their capacities in both reference scenario (without proposed development) and design scenario (with proposed development) in 2033 during the peak hours except the following junctions:

- Junction Ting Kok Road/ Dai Kwai Street (E)
- Junction Ting Kok Road/ Dai Fat Street (F)
- Junction Ting Kok Road/ Fung Yuen Road (G)
- Junction Ting Kok Road/ Yuen Shin Road/ Dai Fuk Street (H)
- Junction Yuen Shin Road/ Dai Fat Street (I)
- Junction Yuen Shin Road/ Tai Po Tai Wo Road (J)

6.1.4 Junction E will have negative RC during AM peak hour on weekday without and with the proposed development, and will be approaching to its capacity with RC <15% but still positive during PM peak hour on weekday without and with the proposed development.

6.1.5 Junction F will have RC of 0% without the proposed development and -1% with the proposed development during AM peak hour on weekday.

6.1.6 Junction G without planned junction modification, will be approaching to its capacity with RC <15% but still positive during AM and PM peak hours on weekday without and with the proposed development. Junction G with planned junction modification, will have negative RC during AM and PM peak hours on weekday without and with the proposed development. With consideration of Fung Yuen CDA (1) which is undergoing planning application as sensitivity test, Junction G with planned junction modification will be overcapacity with negative RC during AM and PM peak hours on weekday without and with the proposed development.

6.1.7 Junction H will be approaching to its capacity with RC <15% but still positive during AM and PM peak hours on weekday without and with the proposed development.

6.1.8 Junction I and Junction J will be approaching to its capacity with RC <15% but still positive during AM peak hour on weekday without and with the proposed development.

6.1.9 It is anticipated that the proposed development would generate and attract 8 pcu/hr and 10 pcu/hr during AM peak hour respectively, and generate and attract 13 pcu/hr and 9 pcu/hr during PM peak hour respectively.

6.1.10 The peak traffic generated by the proposed development is small and would induce insignificant impact on the surrounding road network.

6.2 Conclusion

6.2.1 In conclusion, this Traffic Impact Assessment Report has demonstrated that the related traffic trips related to the proposed development can be absorbed by the nearby road network and no significant traffic impact will be induced.

6.2.2 Therefore, the proposed development is reckoned feasible from traffic engineering point of view.

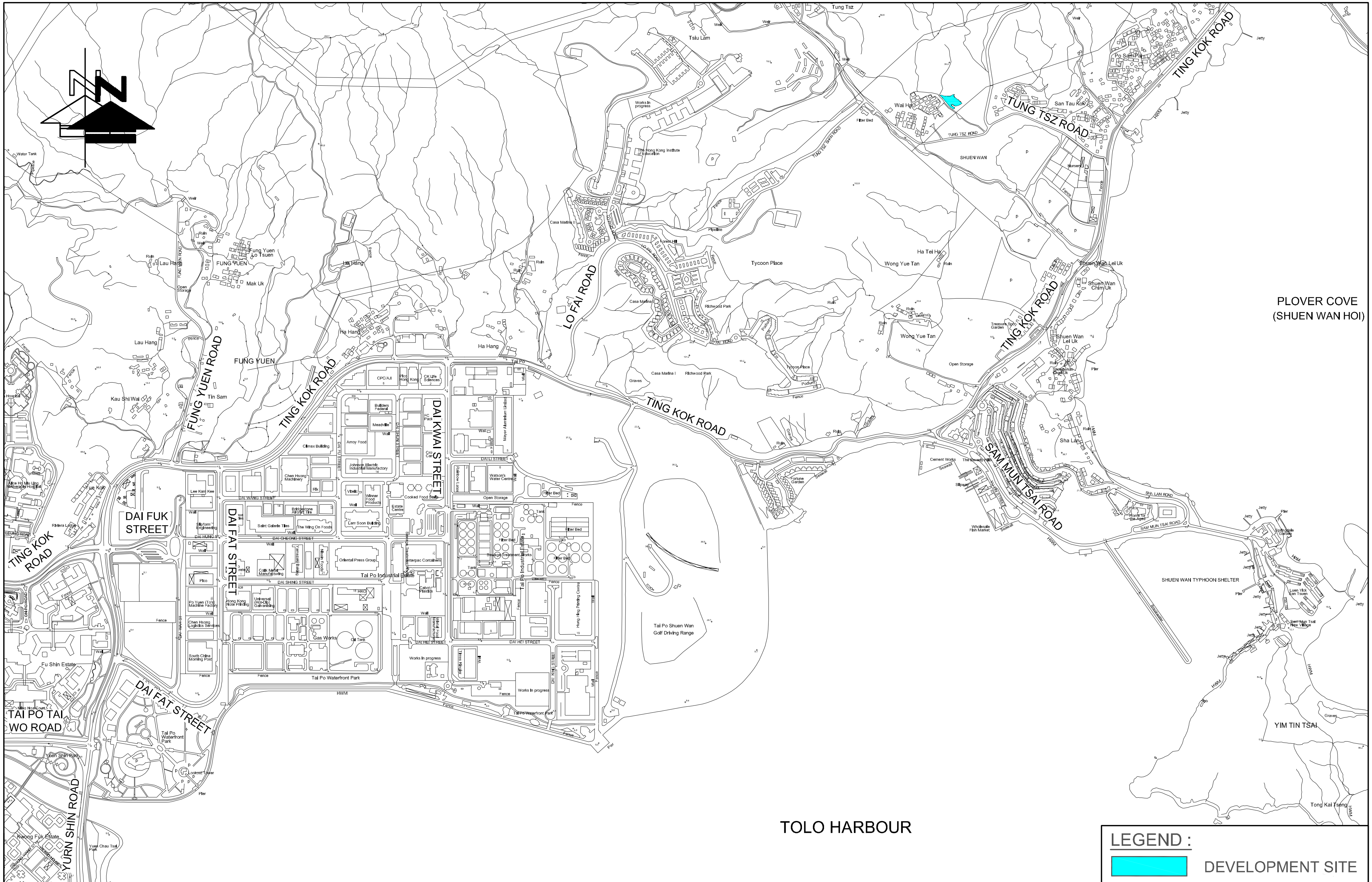

FIGURE NO.: 1.1	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: SITE LOCATION PLAN	
SCALE: 1 : 16000 @A4 DATE: 03 DEC 2024		

FIGURE NO.: 2.1

PROJECT NO.: 24093HK

SCALE: 1 : 300 @A4

DATE: 18 DEC 2024

PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T

DRAWING TITLE:

LAYOUT PLAN OF PROPOSED DEVELOPMENT

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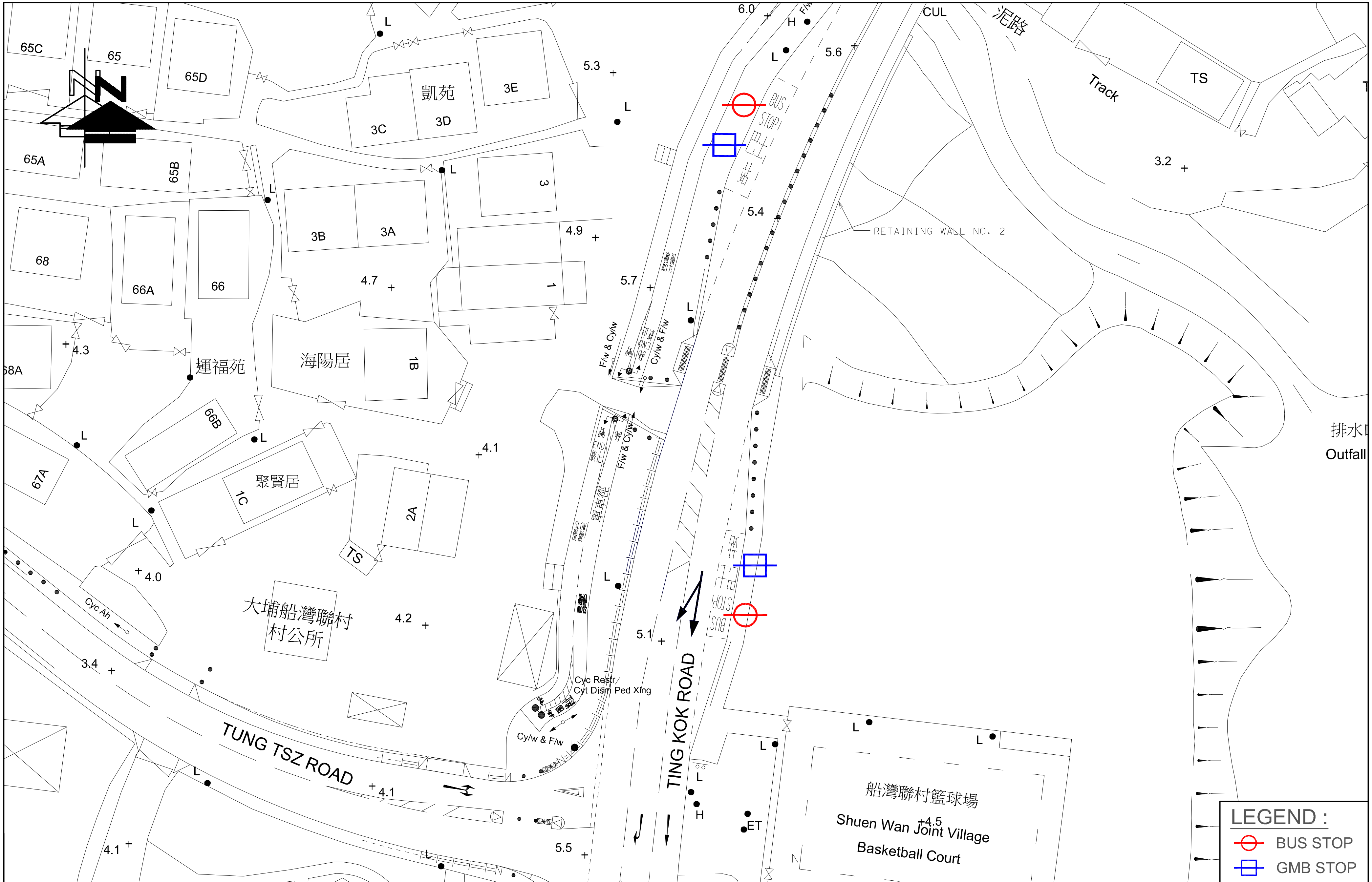

FIGURE NO.: 2.2	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING PUBLIC TRANSPORT FACILITIES	
SCALE: 1 : 600 @A4 — DATE: 13 DEC 2024		

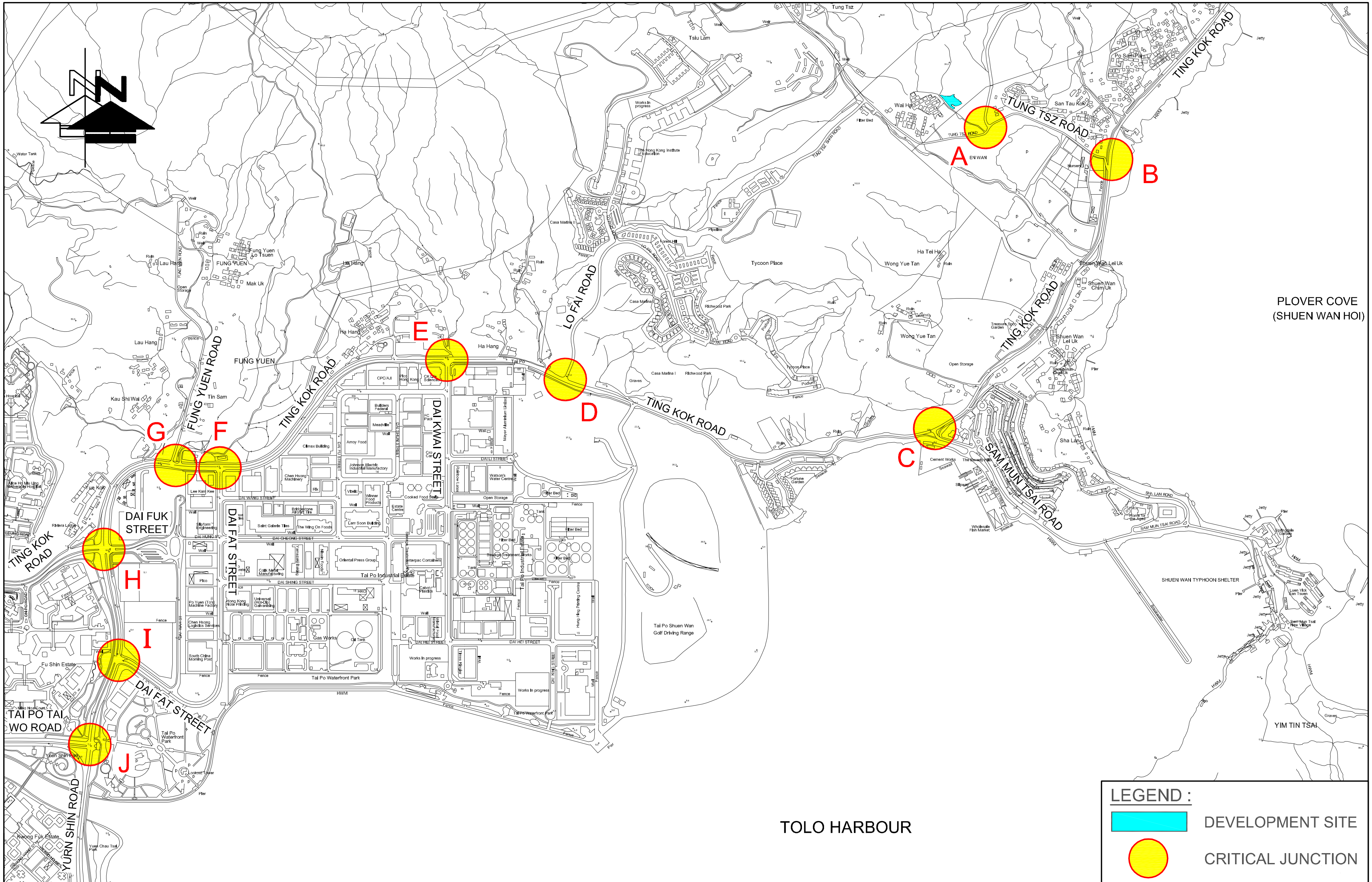

FIGURE NO.: 3.1	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: IDENTIFIED CRITICAL JUNCTIONS
SCALE: 1 : 16000 @A4 DATE: 03 DEC 2024	

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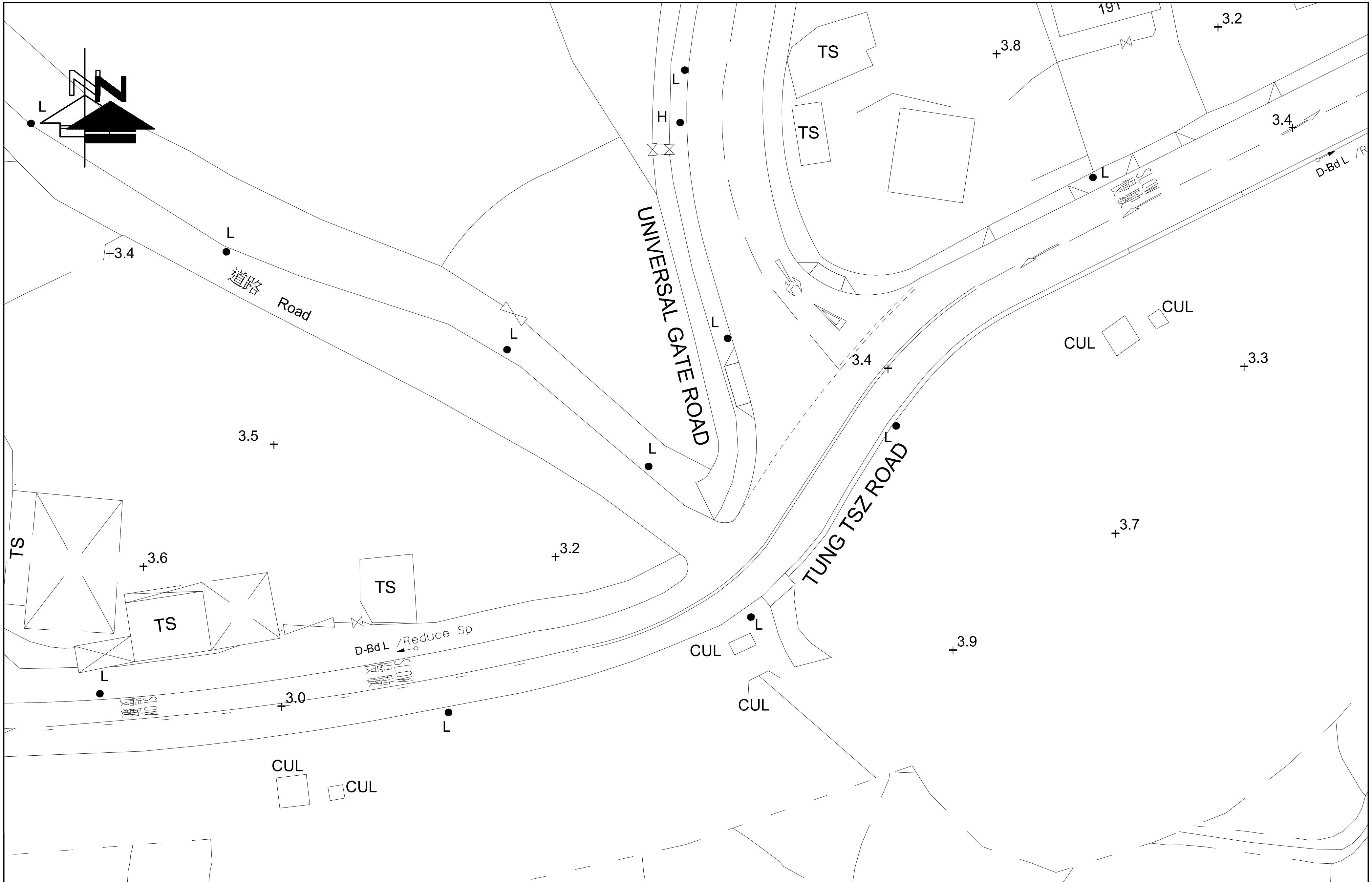

FIGURE NO.: 3.2	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TUNG TSZ ROAD / UNIVERSAL GATE ROAD (A)	
SCALE: 1 : 500 @A4 DATE: 04 DEC 2024		

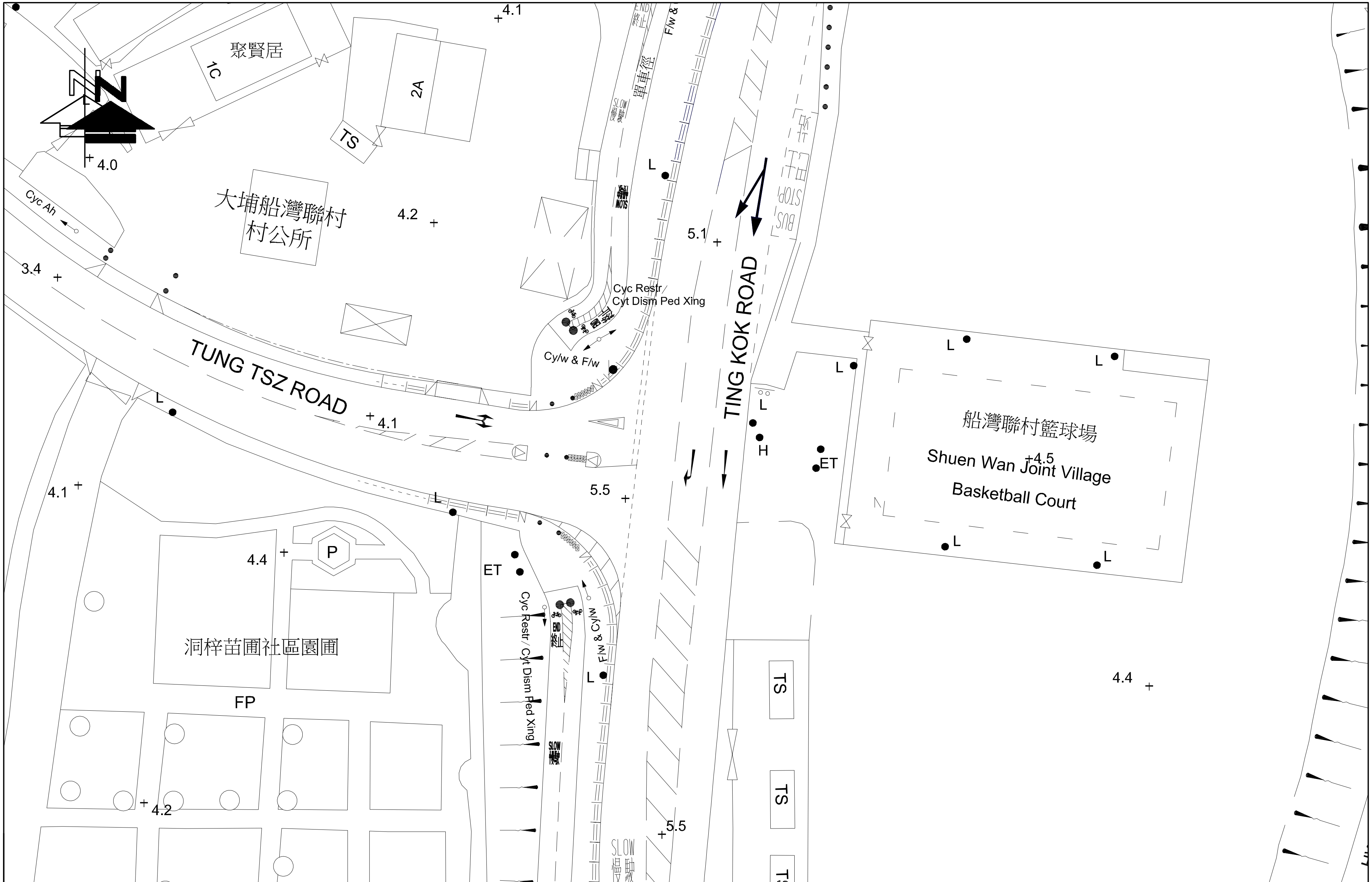

FIGURE NO.: 3.3	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TING KOK ROAD / TUNG TSZ ROAD (B)
SCALE: 1 : 500 @A4 / DATE: 13 DEC 2024	

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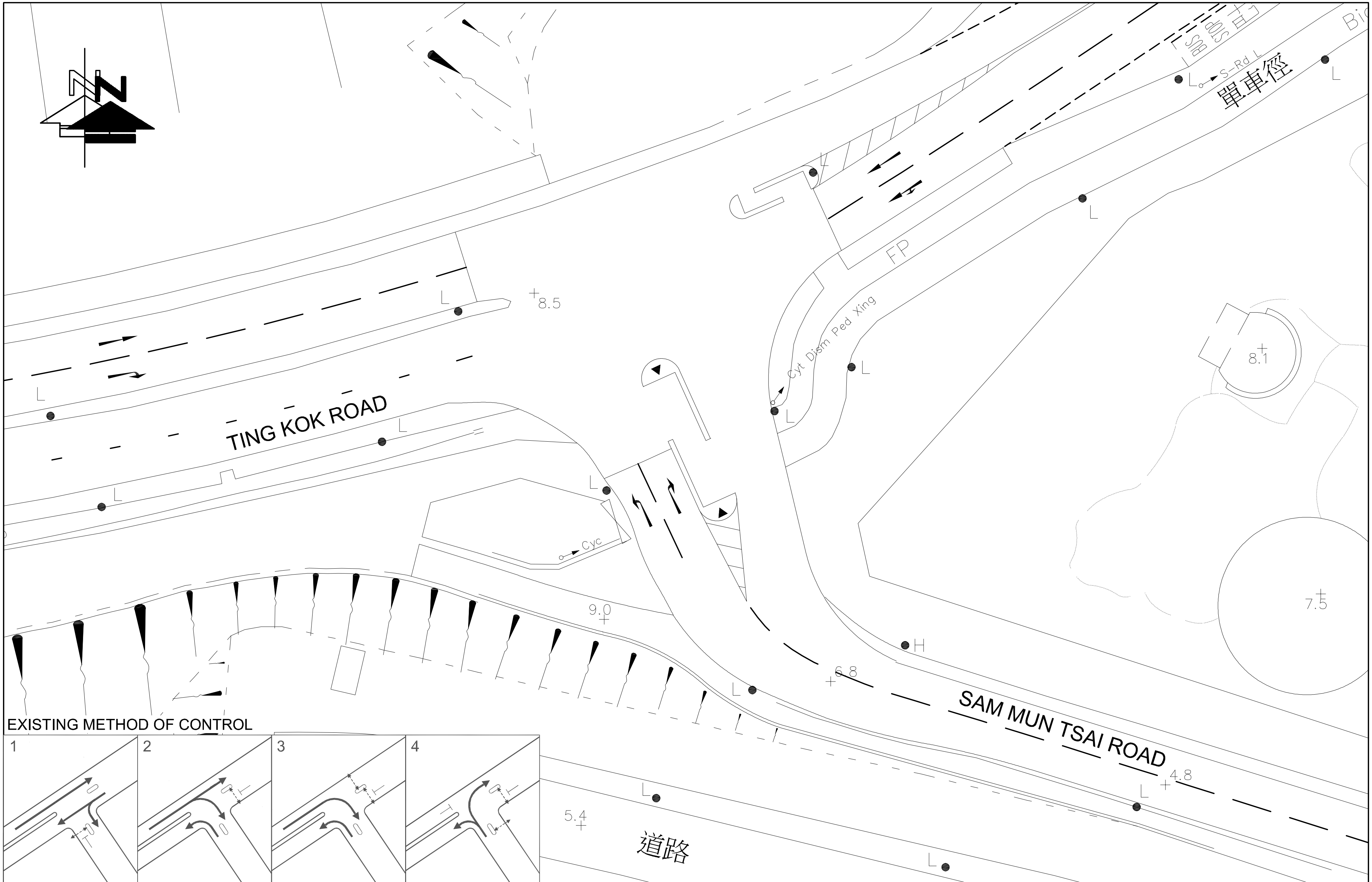

FIGURE NO.: 3.4	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TING KOK ROAD / SAM MUN TSAI ROAD (C)
SCALE: 1 : 500 @A4 / DATE: 03 DEC 2024	

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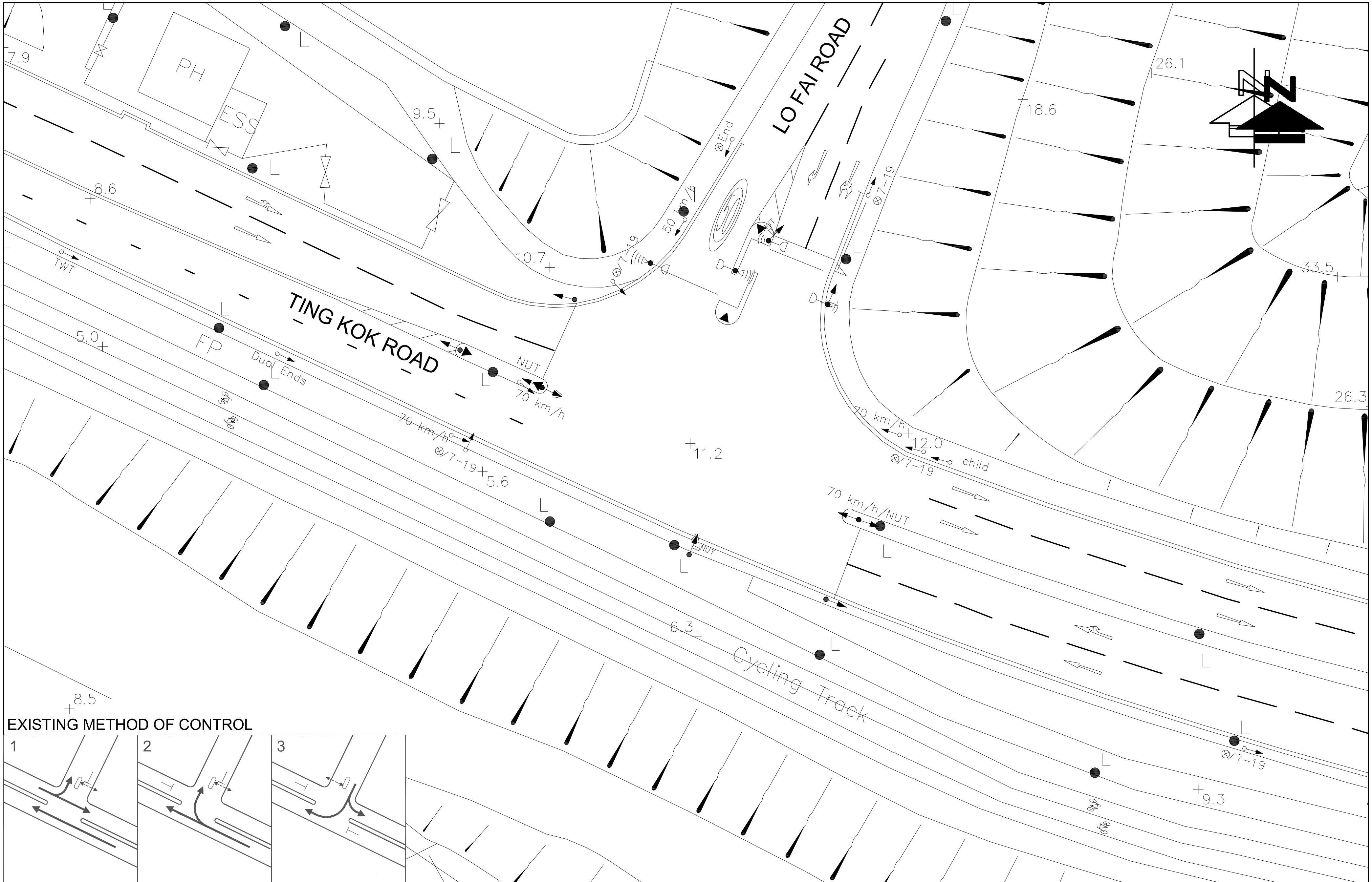

FIGURE NO.: 3.5		PROJECT TITLE:	S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK		DRAWING TITLE:	EXISTING JUNCTION LAYOUT OF TING KOK ROAD / LO FAI ROAD (D)
SCALE: 1 : 500 @A4	DATE: 03 DEC 2024		

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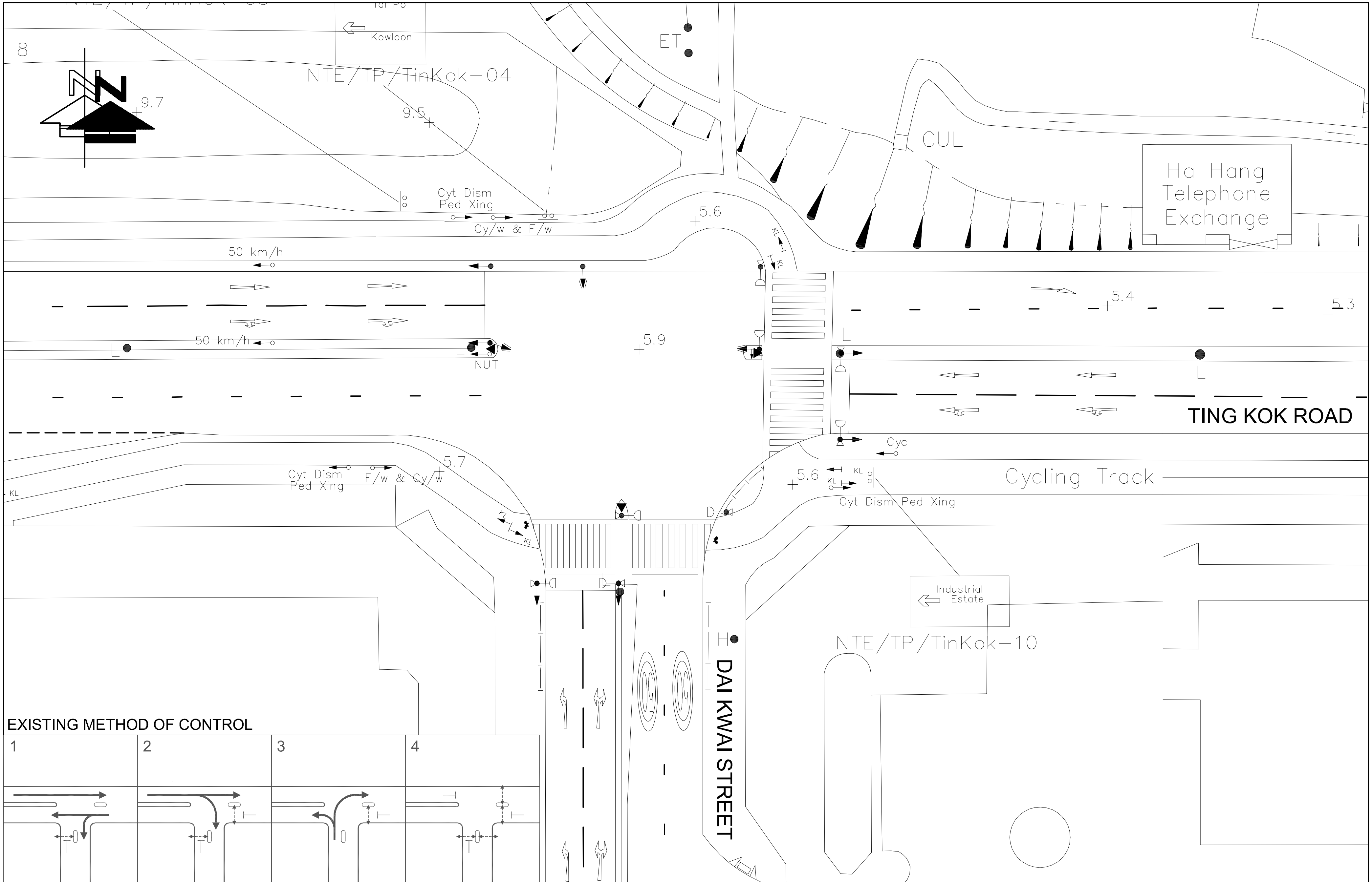

FIGURE NO.: 3.6	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TING KOK ROAD / DAI KWAI STREET (E)
SCALE: 1 : 500 @A4 ; DATE: 03 DEC 2024	

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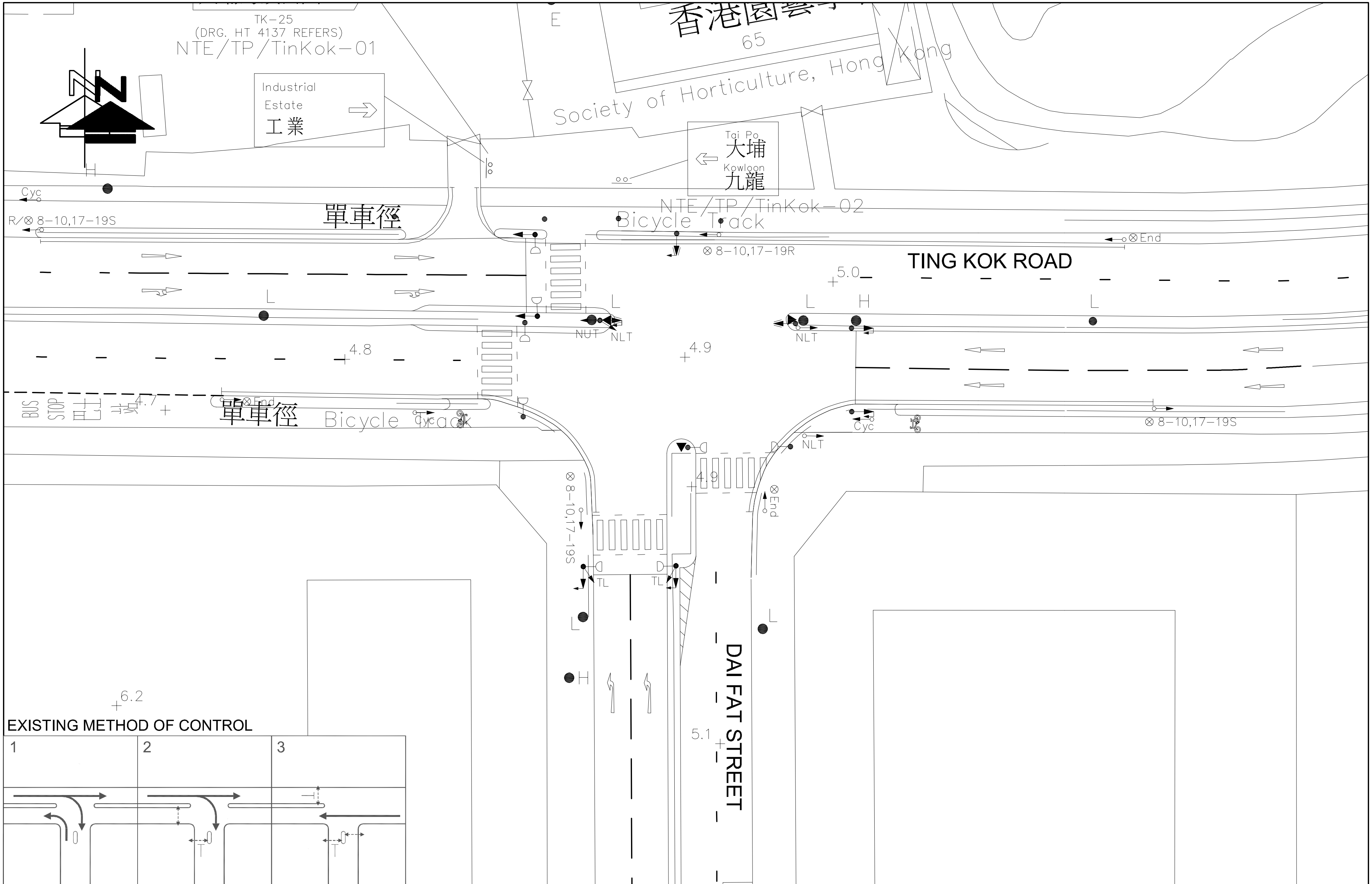

EXISTING METHOD OF CONTROL

1	2	3

FIGURE NO.: 3.7	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TING KOK ROAD / DAI FAT STREET (F)	
SCALE: 1 : 500 @A4 / DATE: 03 DEC 2024		

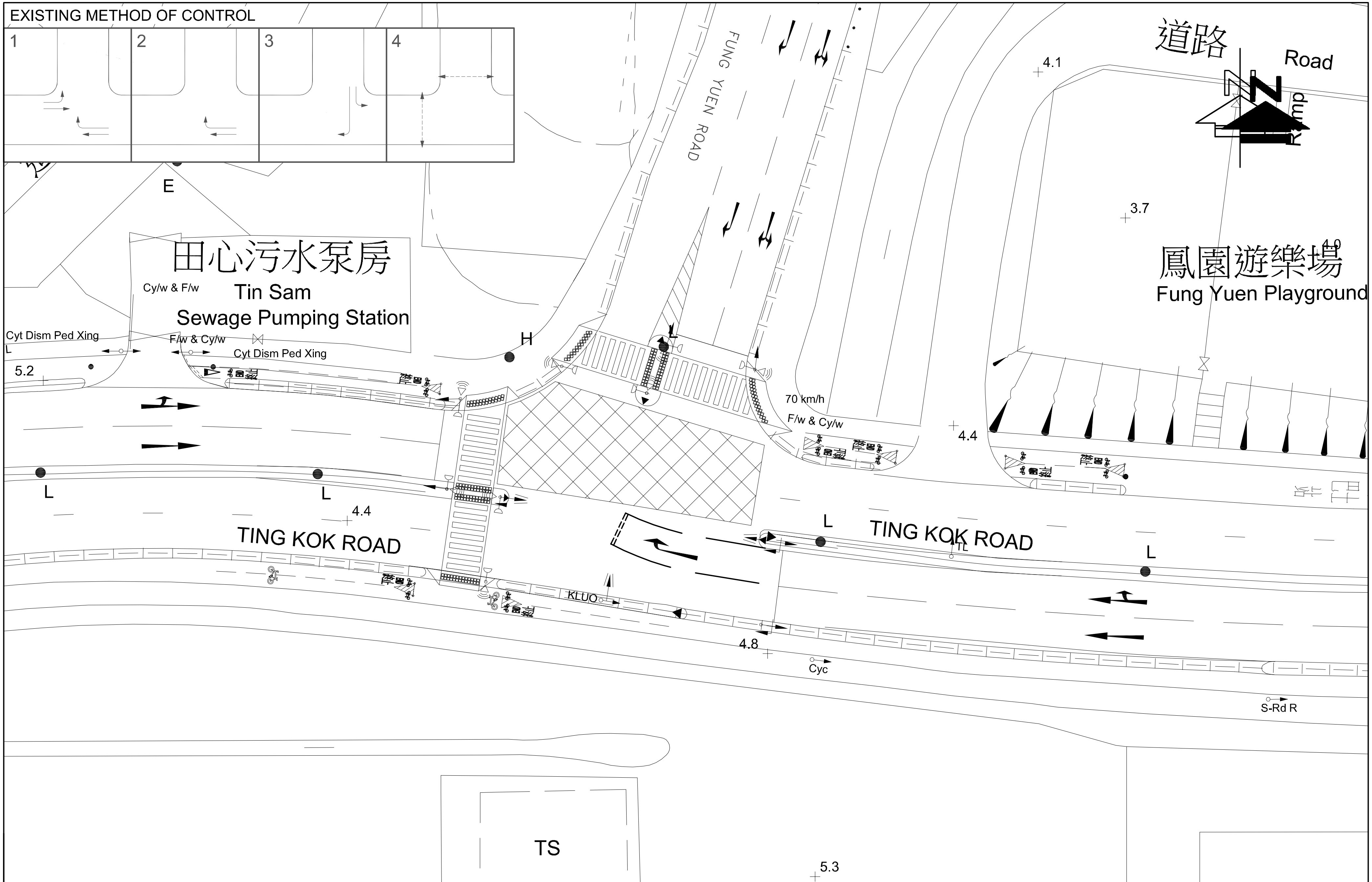

FIGURE NO.: 3.8		PROJECT TITLE:	S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK		DRAWING TITLE:	EXISTING JUNCTION LAYOUT OF TING KOK ROAD / FUNG YUEN ROAD (G)
SCALE: 1 : 500 @A4	DATE: 03 DEC 2024		

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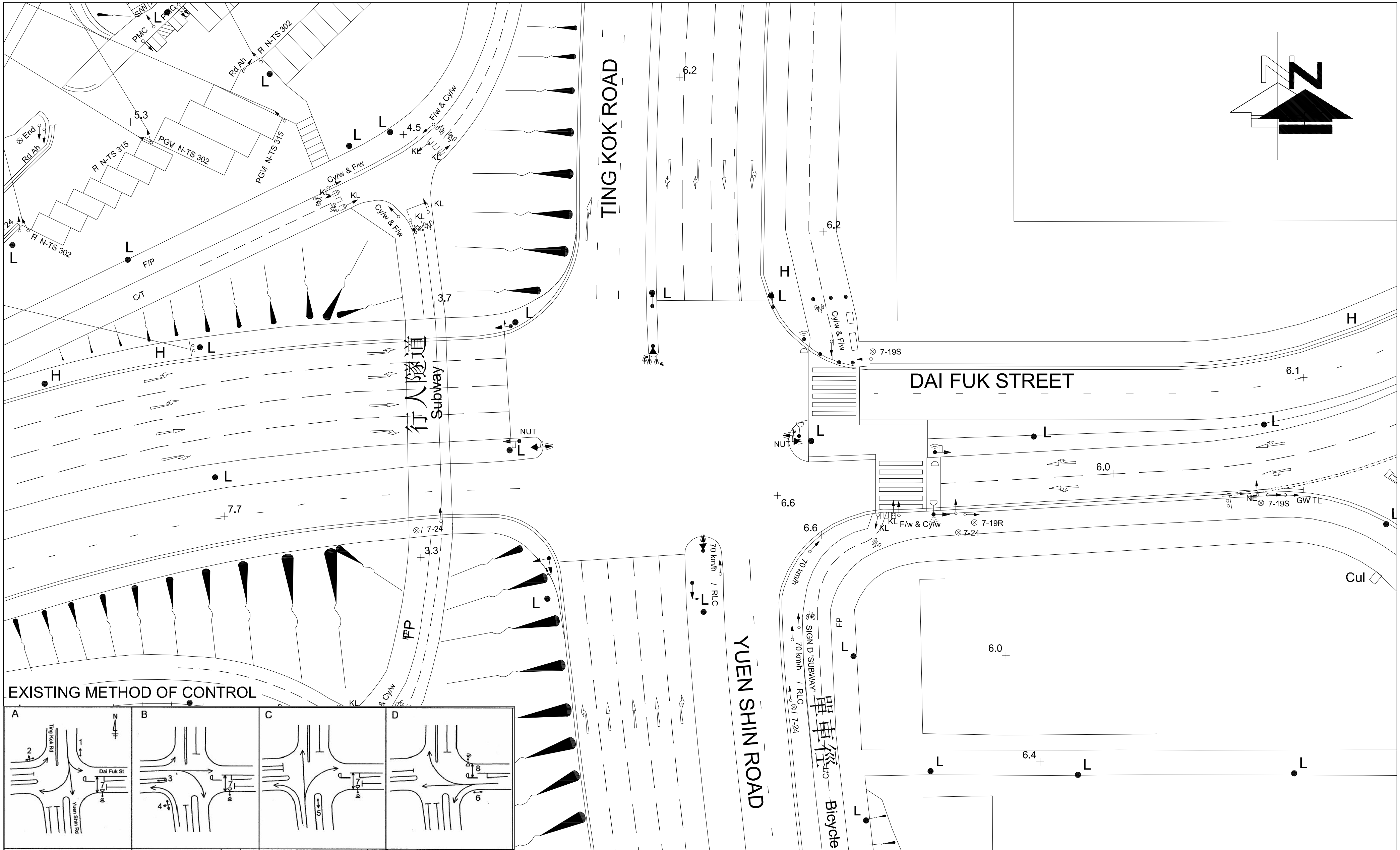

FIGURE NO.:	PROJECT TITLE:
3.9	S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TING KOK ROAD / YUEN SHIN ROAD / DAI FUK STREET (H)
SCALE: 1 : 700 @ A4 / DATE: 16 DEC 2024	

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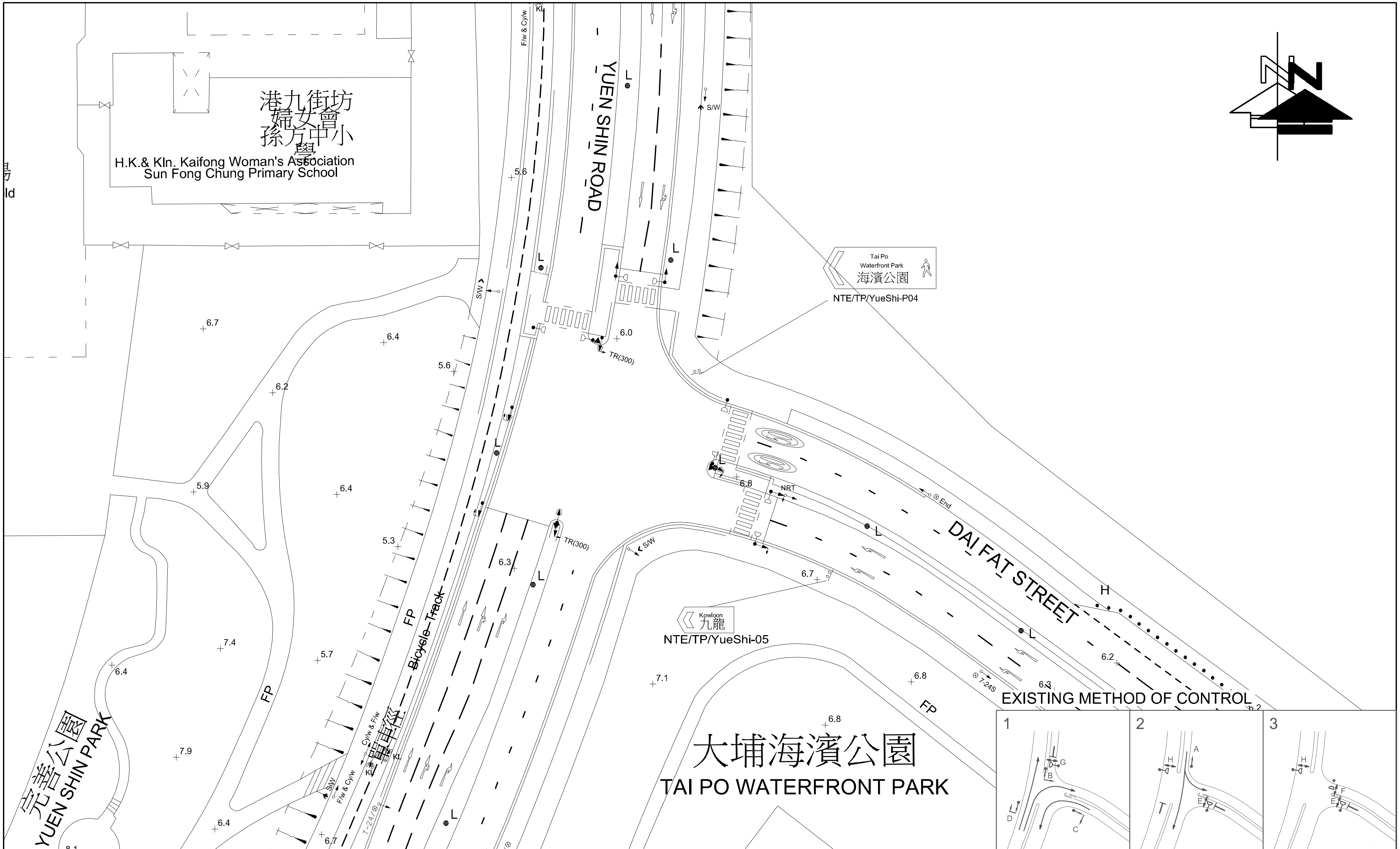

FIGURE NO.:	3.10
PROJECT NO.:	24093HK
SCALE: 1 : 800 @A4	DATE: 16 DEC 2024

PROJECT TITLE:

S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T

DRAWING TITLE:

EXISTING JUNCTION LAYOUT OF YUEN SHIN ROAD / DAI FAT STREET (I)

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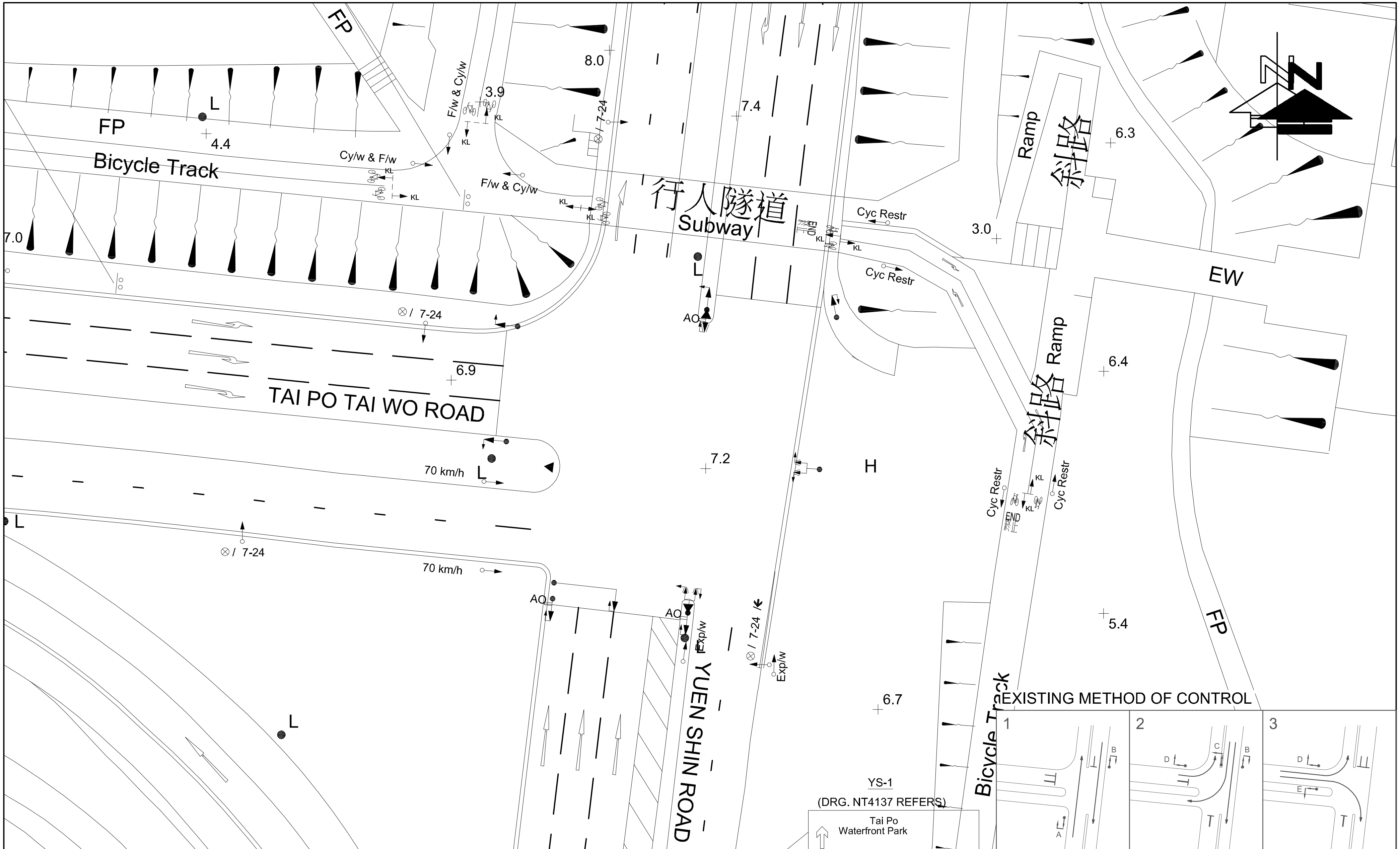

FIGURE NO.: 3.11	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF YUEN SHIN ROAD / TAI PO TAI WO ROAD (J)
SCALE: 1 : 500 @ A4 — DATE: 16 DEC 2024	

CTA Consultants Limited
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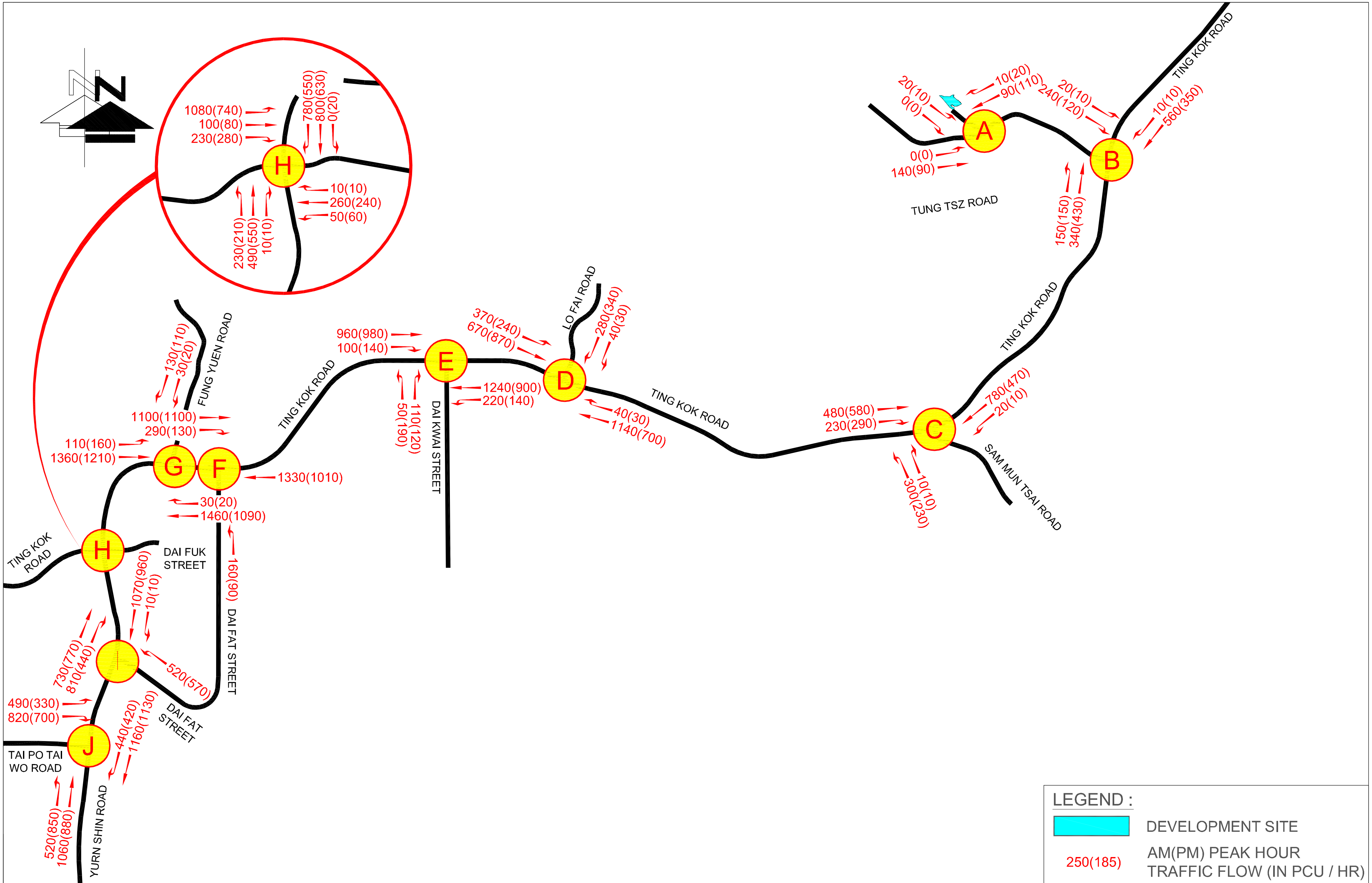

FIGURE NO.: 3.12	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T		CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: 2024 OBSERVED TRAFFIC FLOWS		
SCALE: N.T.S. @A4	DATE: 17 DEC 2024		

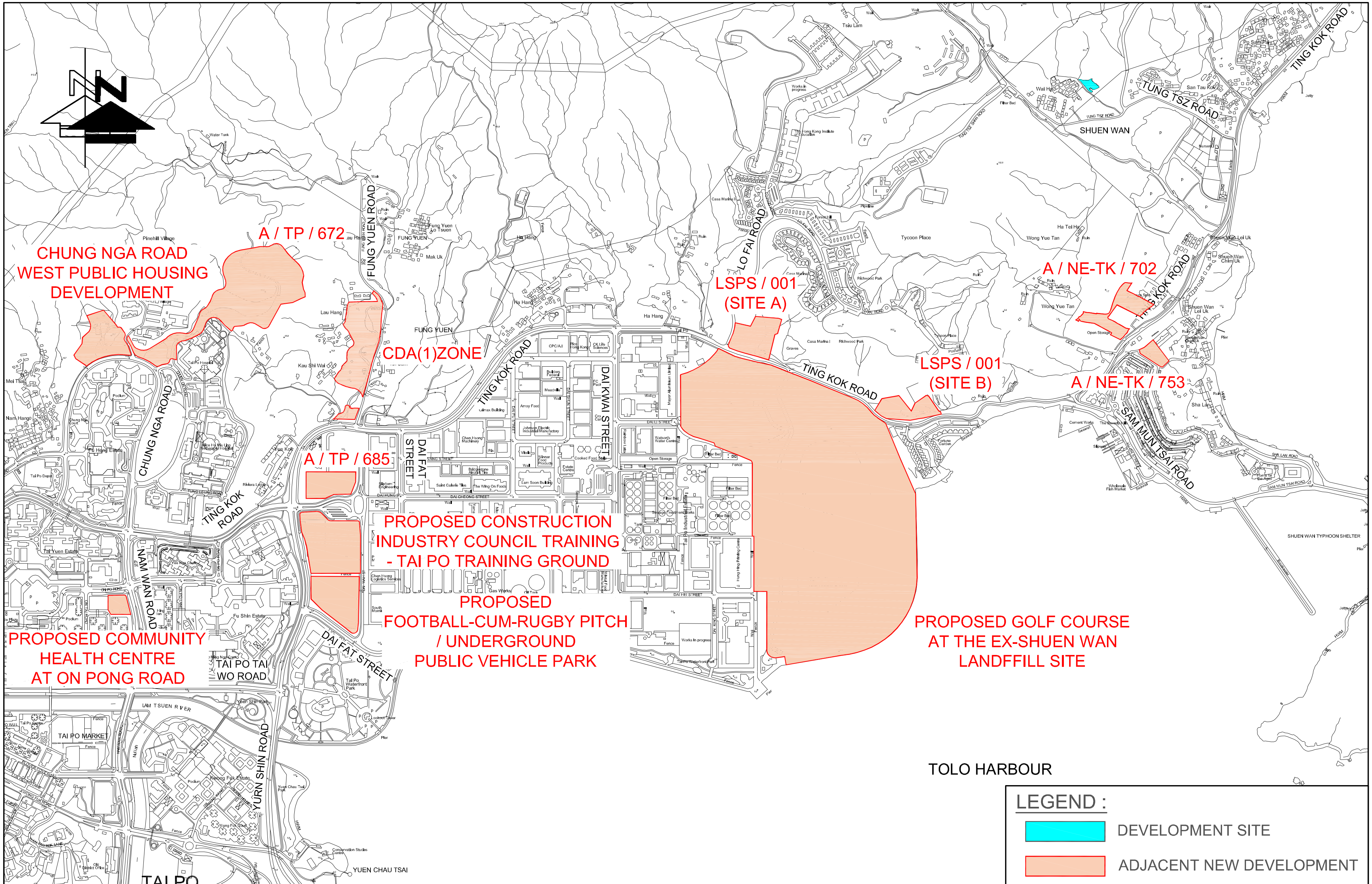

FIGURE NO.: 4.1		PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK		DRAWING TITLE: PLANNED MAJOR DEVELOPMENTS IN THE VICINITY	
SCALE: 1 : 20000 @A4	DATE: 03 DEC 2024		

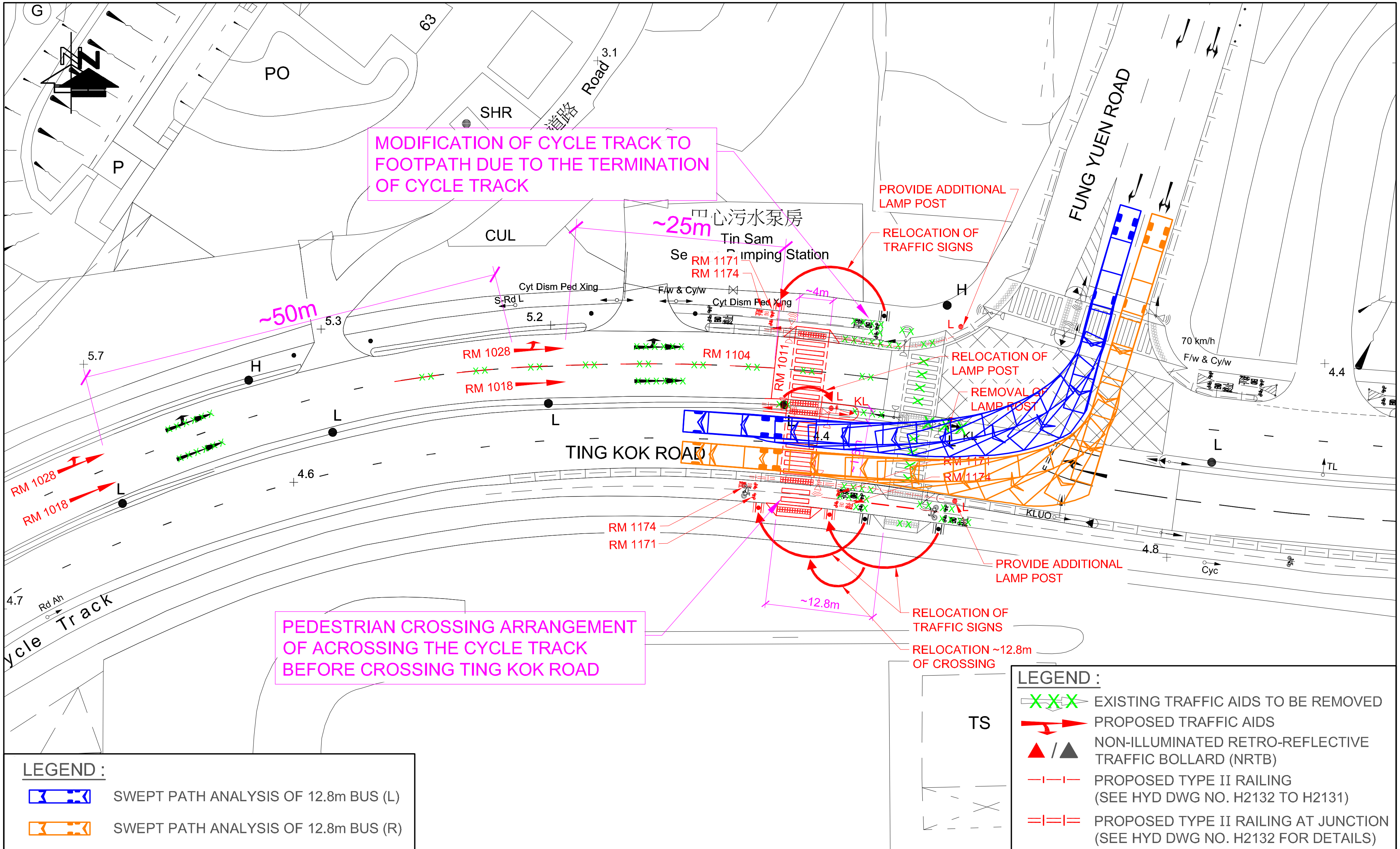

FIGURE NO.: 4.2	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: PLANNED JUNCTION LAYOUT OF TING KOK ROAD / FUNG YUEN ROAD (G) UNDER PLANNING APPLICATION No. A / NE-TK / 702
SCALE: 1 : 600 @A4	DATE: 20 DEC 2024

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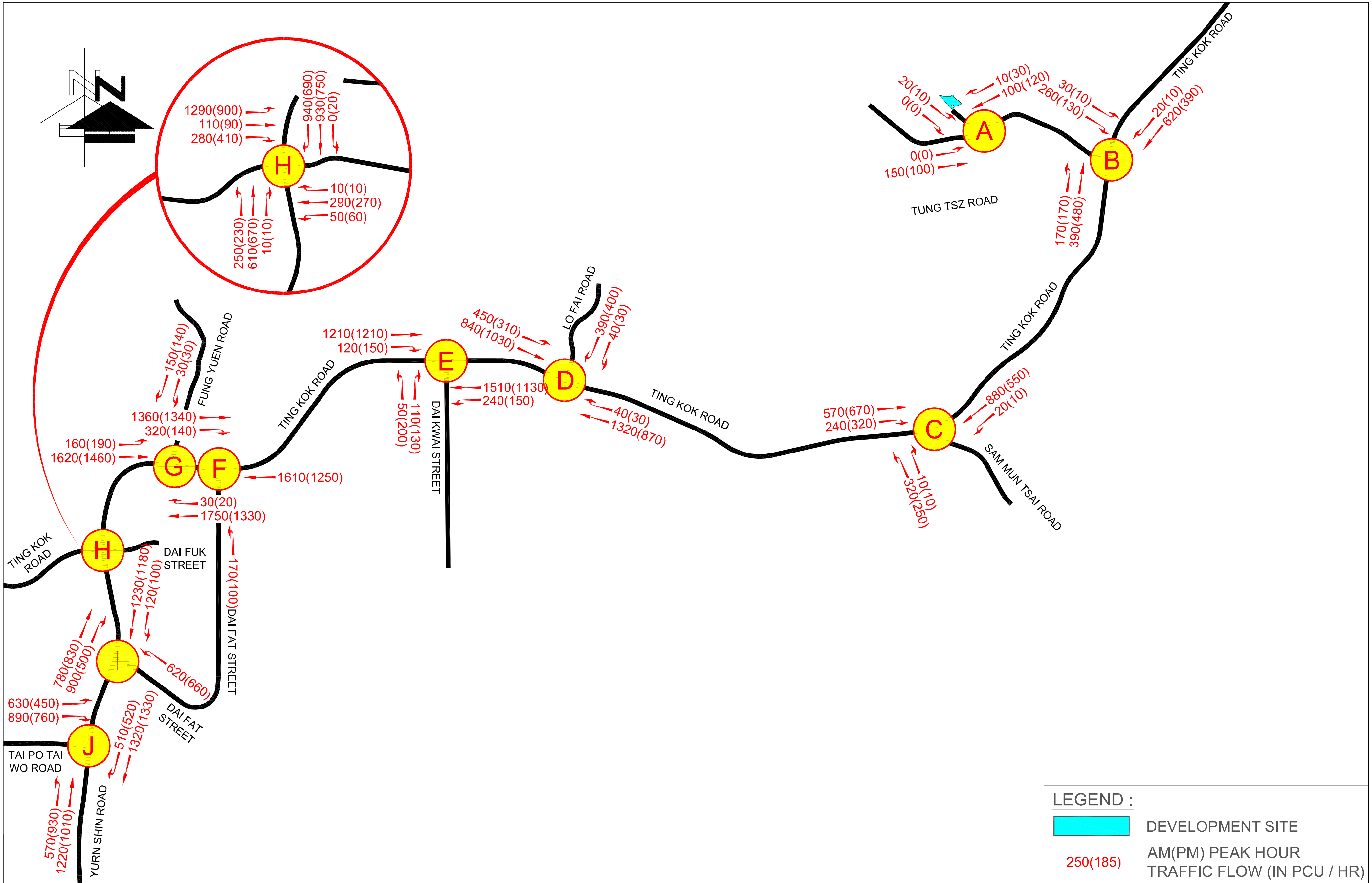

FIGURE NO.: 4.3

PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T

PROJECT NO.: 24093HK

DRAWING TITLE:

2033 REFERENCE TRAFFIC FLOWS

SCALE: N.T.S. @A4

DATE: 30 DEC 2024

CTA Consultants Limited
志達顧問有限公司

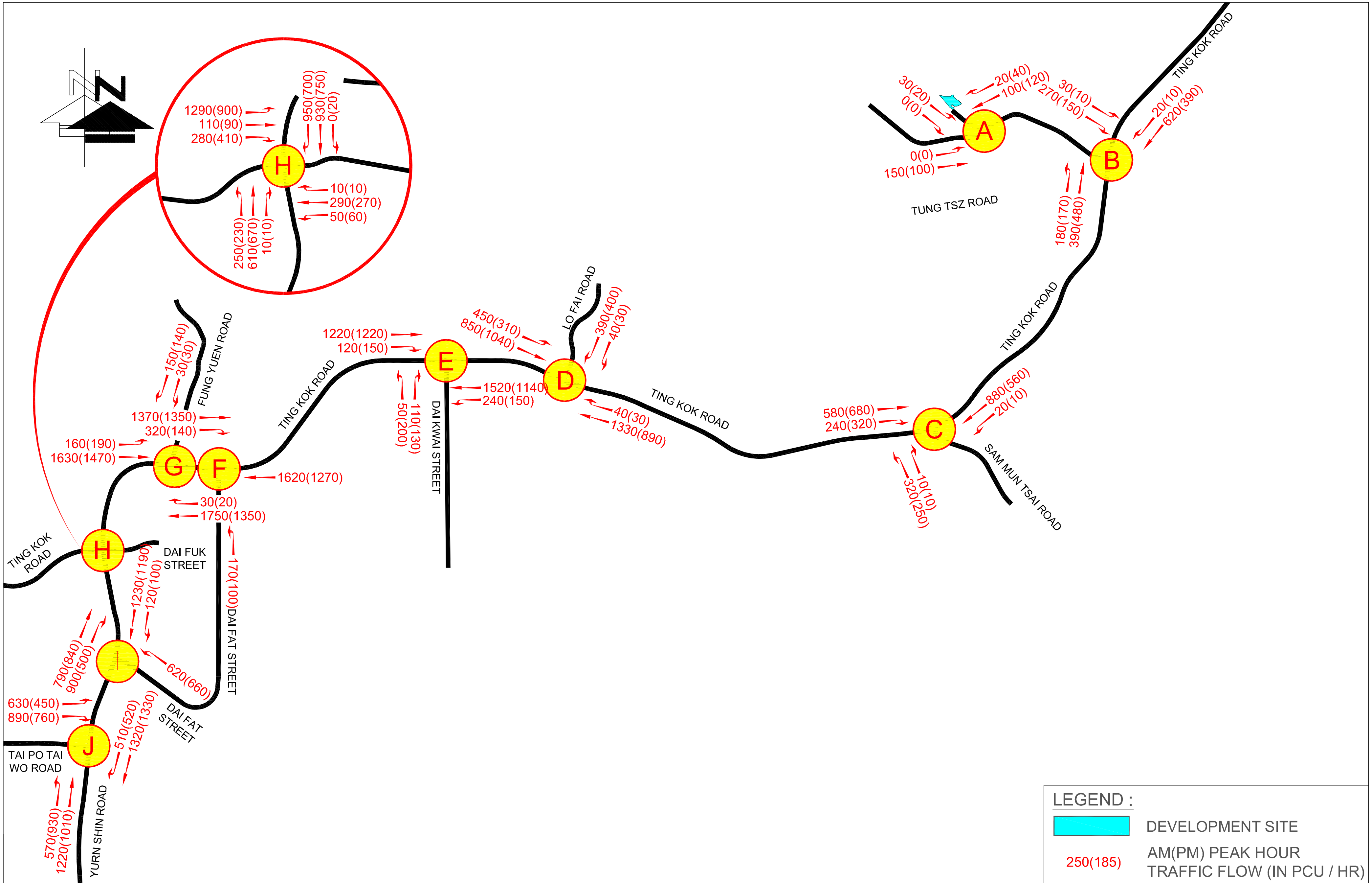

FIGURE NO.: 4.4	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: 2033 DESIGN TRAFFIC FLOWS
SCALE: N.T.S. @A4 / DATE: 30 DEC 2024	

CTA Consultants Limited 志達顧問有限公司

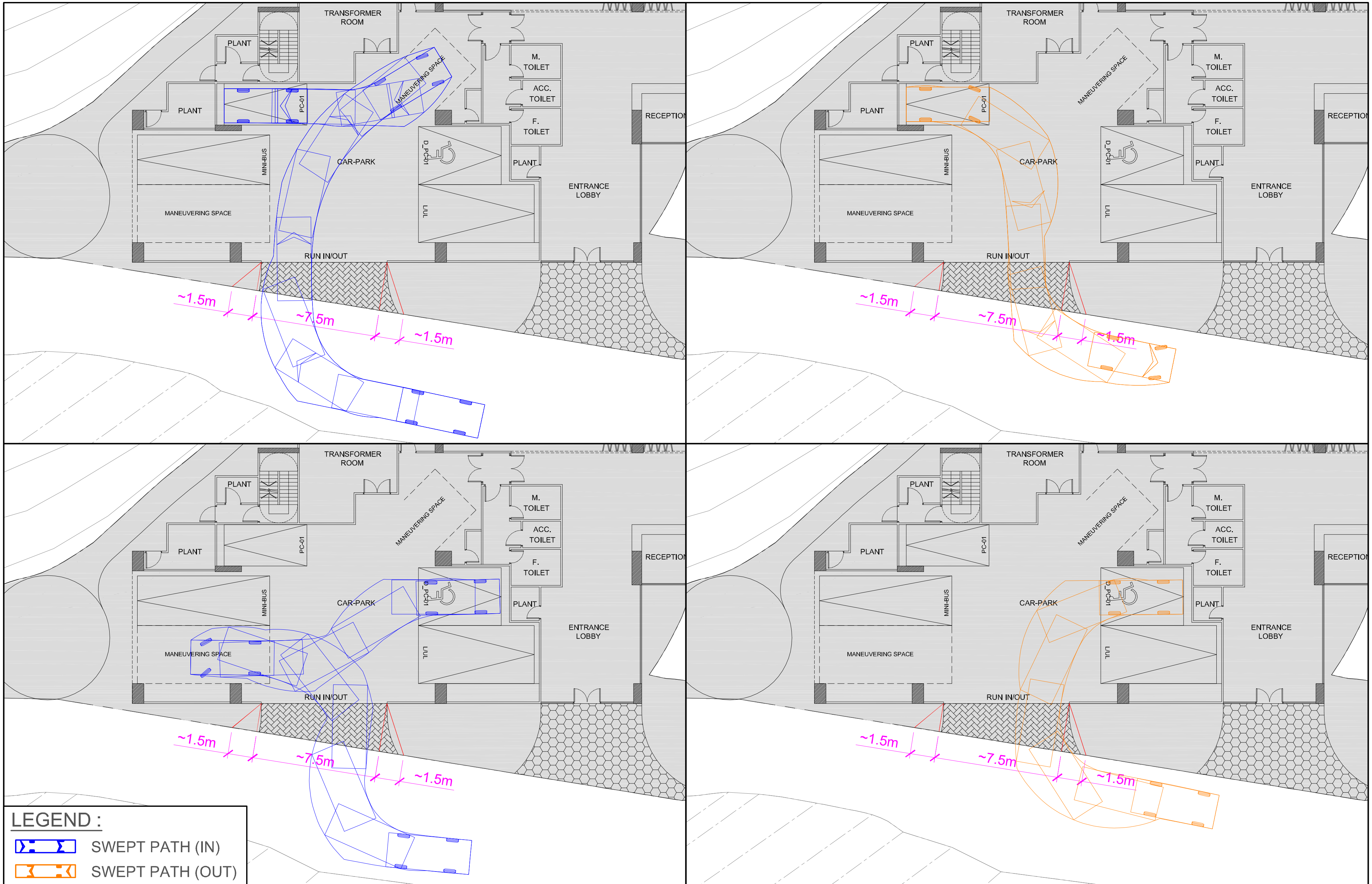

FIGURE NO.: SP-01	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from “AGR” to “G/IC” for a Proposed “Social Welfare Facilities” Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF PRIVATE VEHICLE
SCALE: 1 : 300 @A4 / DATE: 18 DEC 2024	

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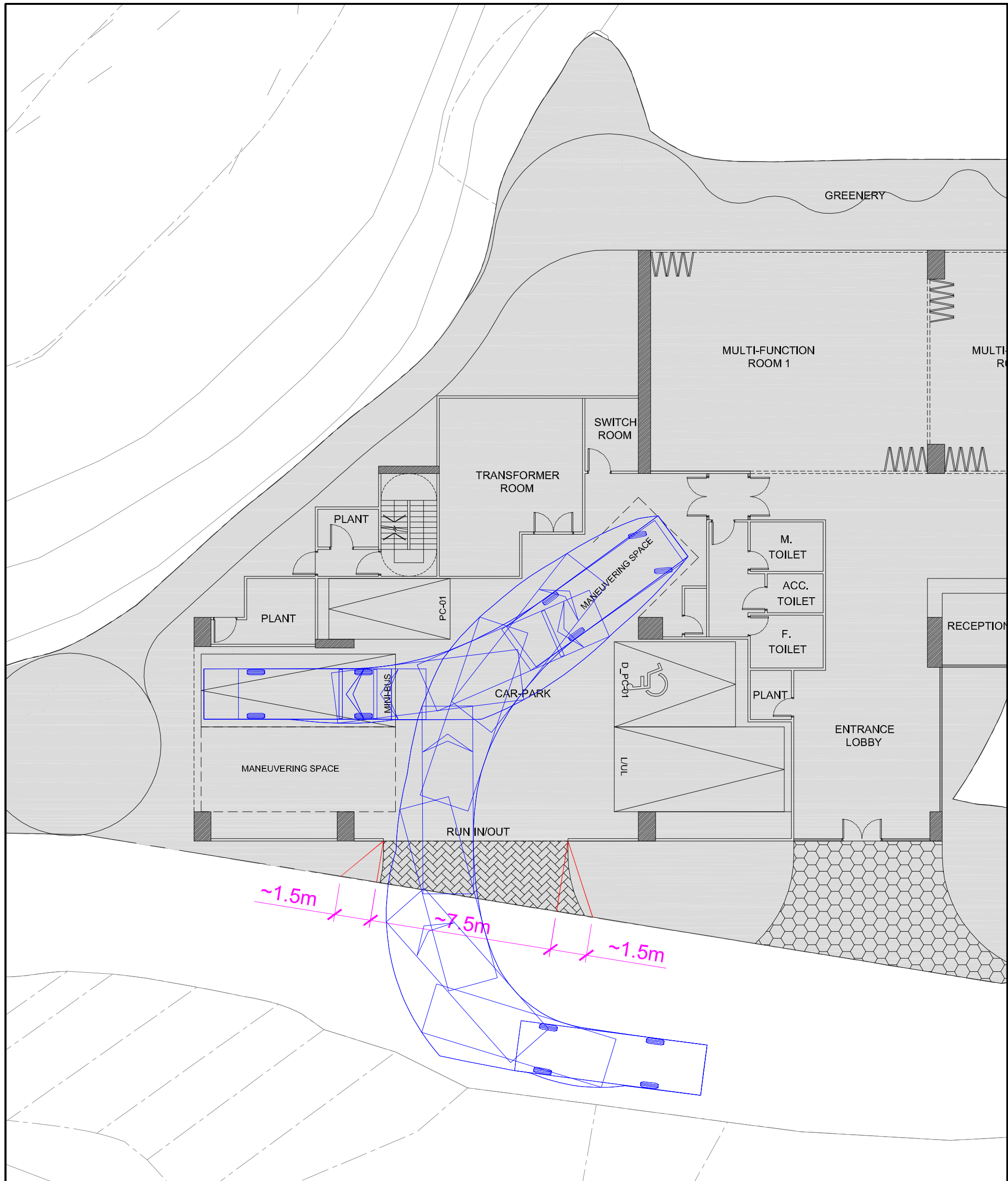
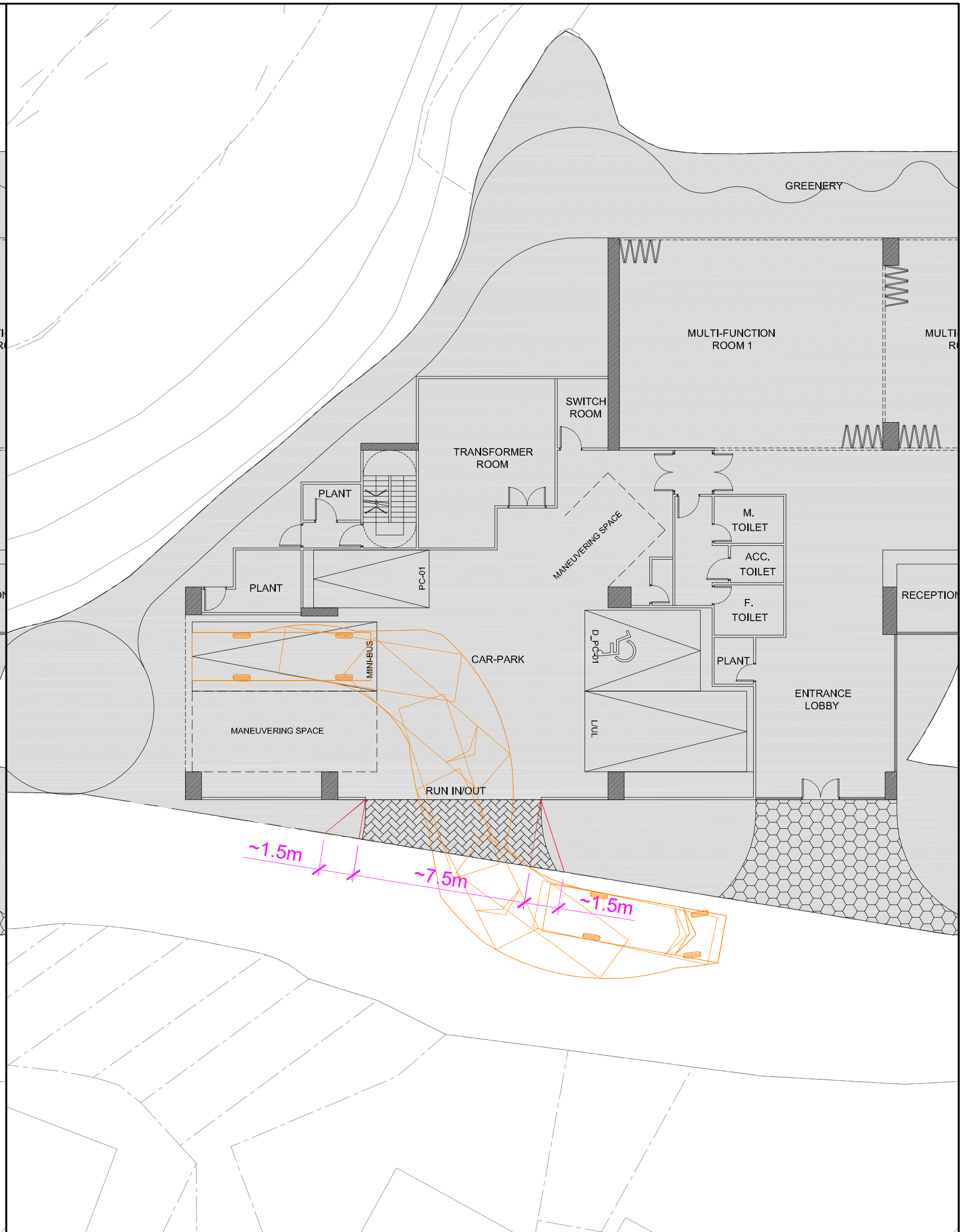


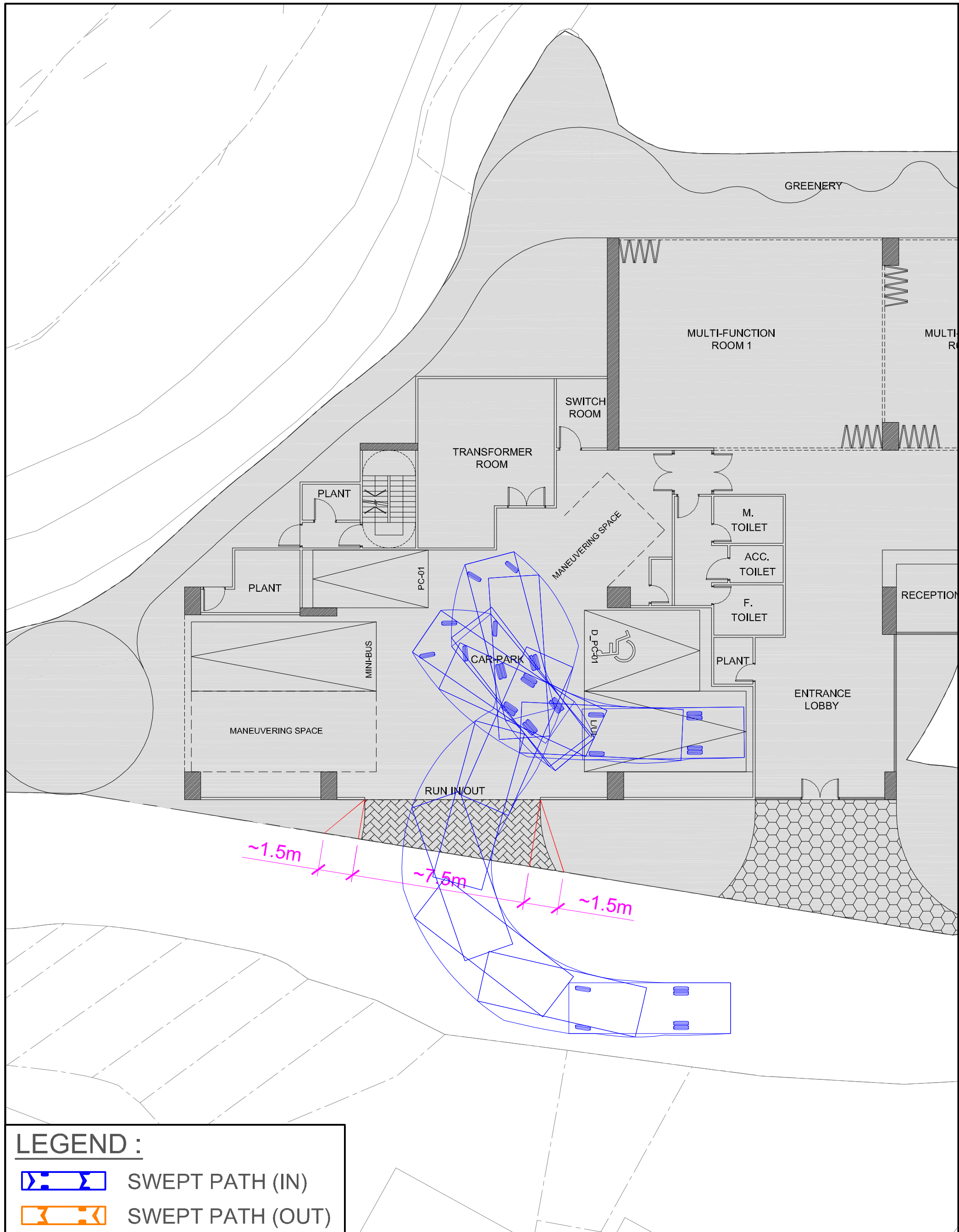


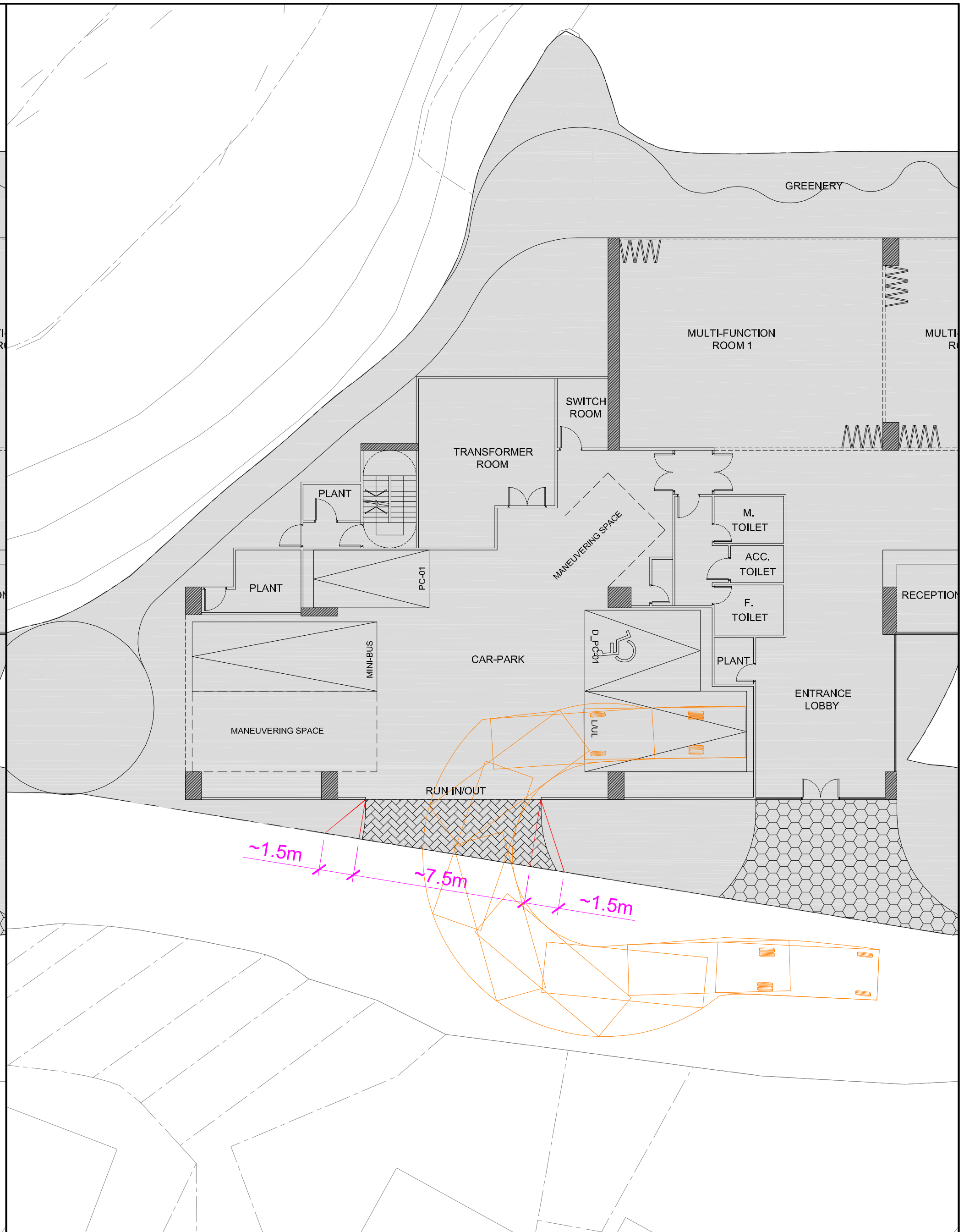
LEGEND :

SWEPT PATH (IN)

SWEPT PATH (OUT)

FIGURE NO.: SP-02	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 24093HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF MINI BUS	
SCALE: 1 : 300 @A4 / DATE: 18 DEC 2024		





LEGEND :

SWEPT PATH (IN)

SWEPT PATH (OUT)

FIGURE NO.: SP-03	PROJECT TITLE: S12A Amendment of Plan Application Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19 Proposed Re-zoning from "AGR" to "G/IC" for a Proposed "Social Welfare Facilities" Residential Care Home for the Elderly (RCHE) At Various Lots in D.D. 23, Tung Tsz, Tai Po, N.T
PROJECT NO.: 24093HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF 7m VEHICLE
SCALE: 1 : 300 @A4 / DATE: 18 DEC 2024	

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APPENDIX A

Junction Calculation Sheets

Junctions 8

PICADY 8 - Priority Intersection Module

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: 24093 JnA.arc8
Path: \\CTA_NAS01\Project\CTA Consultants Limited\CTA - Project\24093HK (knc) - S12A Re-zoning from AGR to GIC for a Prop Social Welfare Facilities (RCHE) at Tung Tsz, Tai Po\Calculation\2024-12-30
Report generation date: 30/12/2024 12:37:18

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Jn A - Design 2033							
Stream B-AC	0.04	5.14	0.04	A	0.03	4.97	0.03	A
Stream C-AB	0.04	6.53	0.04	A	0.08	6.60	0.07	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Jn A - Existing 2024							
Stream B-AC	0.03	5.05	0.03	A	0.01	4.88	0.01	A
Stream C-AB	0.02	6.41	0.02	A	0.04	6.37	0.03	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Jn A - Reference 2033							
Stream B-AC	0.03	5.07	0.03	A	0.01	4.90	0.01	A
Stream C-AB	0.02	6.43	0.02	A	0.06	6.50	0.05	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2024, AM " model duration: 8:00 - 9:30
"D2 - Existing 2024, PM" model duration: 8:00 - 9:30
"D3 - Reference 2033, AM" model duration: 8:00 - 9:30
"D4 - Reference 2033, PM" model duration: 8:00 - 9:30
"D5 - Design 2033, AM" model duration: 8:00 - 9:30
"D6 - Design 2033, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 30/12/2024 12:37:14

File summary

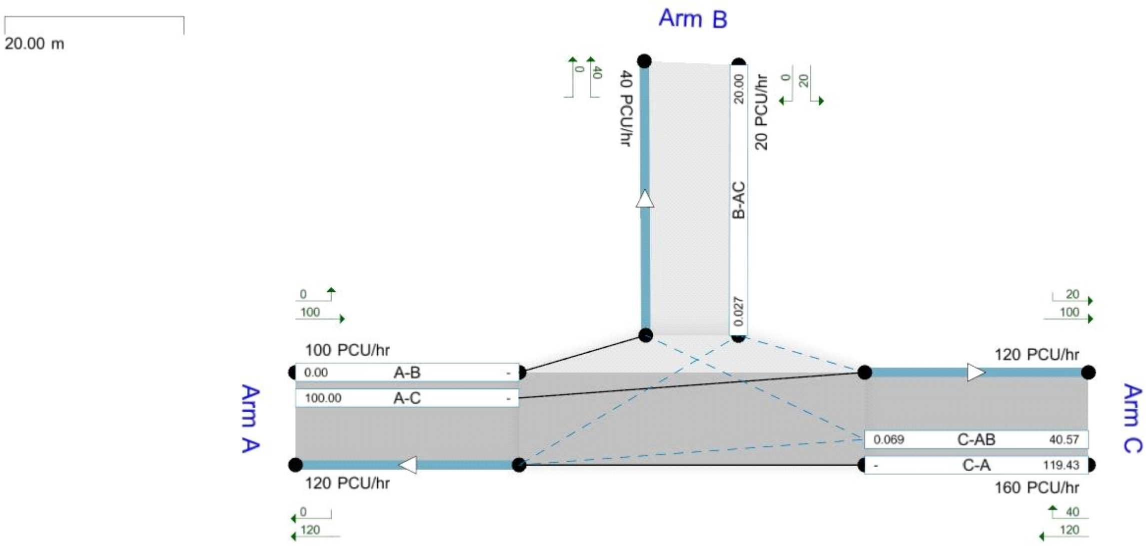
Title	(untitled)
Location	
Site Number	
Date	7/6/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (08:00-08:15)
Showing Analysis Set "A1 - Jn A "; Demand Set "D1 - Existing 2024, AM "

The junction diagram reflects the last run of ARCADY.

Jn A - Existing 2024, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2024, AM	Existing 2024	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.50	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	140.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	100.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	140.000
	B	0.000	0.000	20.000
	C	90.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	5.05	0.03	A
C-AB	0.02	6.41	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.89	0.00	732.66	0.027	0.03	5.050	A
C-AB	10.03	9.96	0.00	572.14	0.018	0.02	6.403	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	732.66	0.027	0.03	5.050	A
C-AB	10.03	10.03	0.00	572.14	0.018	0.02	6.403	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	732.66	0.027	0.03	5.050	A
C-AB	10.03	10.03	0.00	572.14	0.018	0.02	6.403	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	732.66	0.027	0.03	5.052	A
C-AB	10.03	10.03	0.00	572.14	0.018	0.02	6.403	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	732.66	0.027	0.03	5.052	A
C-AB	10.03	10.03	0.00	572.14	0.018	0.02	6.406	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	732.66	0.027	0.03	5.052	A
C-AB	10.03	10.03	0.00	572.14	0.018	0.02	6.406	A
C-A	89.97	89.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	140.00	140.00	0.00	-	-	-	-	-

Jn A - Existing 2024, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2024, PM	Existing 2024	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.88	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	90.00	100.000
B	FLAT	✓	10.00	100.000
C	FLAT	✓	130.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	90.000
	B	0.000	0.000	10.000
	C	110.000	20.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.85	0.15	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.01	4.88	0.01	A
C-AB	0.03	6.37	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	9.95	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	19.99	0.00	584.99	0.034	0.04	6.369	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	20.13	0.00	584.99	0.034	0.04	6.372	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	20.13	0.00	584.99	0.034	0.04	6.374	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	20.13	0.00	584.99	0.034	0.04	6.372	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	20.13	0.00	584.99	0.034	0.04	6.374	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	747.26	0.013	0.01	4.882	A
C-AB	20.13	20.13	0.00	584.99	0.034	0.04	6.374	A
C-A	109.87	109.87	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	90.00	90.00	0.00	-	-	-	-	-

Jn A - Reference 2033, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2033, AM	Reference 2033	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.52	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	150.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	110.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	150.000
	B	0.000	0.000	20.000
	C	100.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	5.07	0.03	A
C-AB	0.02	6.43	0.02	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.89	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	9.96	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	10.03	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	10.03	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	10.03	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	10.03	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	729.74	0.027	0.03	5.071	A
C-AB	10.03	10.03	0.00	569.99	0.018	0.02	6.428	A
C-A	99.97	99.97	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Jn A - Reference 2033, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2033, PM	Reference 2033	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	6.10	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	100.00	100.000
B	FLAT	✓	10.00	100.000
C	FLAT	✓	150.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	100.000
	B	0.000	0.000	10.000
	C	120.000	30.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.80	0.20	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.01	4.90	0.01	A
C-AB	0.05	6.50	0.06	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	9.95	0.00	744.34	0.013	0.01	4.901	A
C-AB	30.32	30.10	0.00	584.36	0.052	0.05	6.495	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	744.34	0.013	0.01	4.901	A
C-AB	30.32	30.32	0.00	584.36	0.052	0.05	6.496	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	744.34	0.013	0.01	4.903	A
C-AB	30.32	30.32	0.00	584.36	0.052	0.05	6.496	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	744.34	0.013	0.01	4.903	A
C-AB	30.32	30.32	0.00	584.36	0.052	0.06	6.499	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	744.34	0.013	0.01	4.903	A
C-AB	30.32	30.32	0.00	584.36	0.052	0.06	6.499	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	10.00	10.00	0.00	744.34	0.013	0.01	4.903	A
C-AB	30.32	30.32	0.00	584.36	0.052	0.06	6.499	A
C-A	119.68	119.68	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Jn A - Design 2033, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2033, AM	Design 2033	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	5.70	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	150.00	100.000
B	FLAT	✓	30.00	100.000
C	FLAT	✓	120.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	0.000	150.000
	B	0.000	0.000	30.000
	C	100.000	20.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.83	0.17	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	5.14	0.04	A
C-AB	0.04	6.53	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	29.83	0.00	729.74	0.041	0.04	5.142	A
C-AB	20.12	19.98	0.00	571.19	0.035	0.04	6.529	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	729.74	0.041	0.04	5.144	A
C-AB	20.12	20.12	0.00	571.19	0.035	0.04	6.531	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	729.74	0.041	0.04	5.144	A
C-AB	20.12	20.12	0.00	571.19	0.035	0.04	6.534	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	729.74	0.041	0.04	5.144	A
C-AB	20.12	20.12	0.00	571.19	0.035	0.04	6.534	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	729.74	0.041	0.04	5.144	A
C-AB	20.12	20.12	0.00	571.19	0.035	0.04	6.531	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	30.00	30.00	0.00	729.74	0.041	0.04	5.144	A
C-AB	20.12	20.12	0.00	571.19	0.035	0.04	6.534	A
C-A	99.88	99.88	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Jn A - Design 2033, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn A	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2033, PM	Design 2033	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	6.07	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Tung Tsz Road (EB)		Major
B	B	Access Road		Minor
C	C	Tung Tsz Road (WB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.60		0.00		2.20	50.00	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	4.80										50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	611.947	0.109	0.274	0.173	0.392
1	B-C	773.526	0.115	0.292	-	-
1	C-B	602.919	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	100.00	100.000
B	FLAT	✓	20.00	100.000
C	FLAT	✓	160.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	0.000	100.000
	B	0.000	0.000	20.000
	C	120.000	40.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.00	1.00
	B	0.00	0.00	1.00
	C	0.75	0.25	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	4.97	0.03	A
C-AB	0.07	6.60	0.08	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	19.89	0.00	744.34	0.027	0.03	4.969	A
C-AB	40.57	40.27	0.00	585.75	0.069	0.07	6.597	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	744.34	0.027	0.03	4.969	A
C-AB	40.57	40.57	0.00	585.75	0.069	0.07	6.605	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	744.34	0.027	0.03	4.969	A
C-AB	40.57	40.57	0.00	585.75	0.069	0.07	6.605	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	744.34	0.027	0.03	4.971	A
C-AB	40.57	40.57	0.00	585.75	0.069	0.07	6.602	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	744.34	0.027	0.03	4.971	A
C-AB	40.57	40.57	0.00	585.75	0.069	0.07	6.605	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.00	20.00	0.00	744.34	0.027	0.03	4.971	A
C-AB	40.57	40.57	0.00	585.75	0.069	0.08	6.602	A
C-A	119.43	119.43	0.00	-	-	-	-	-
A-B	0.00	0.00	0.00	-	-	-	-	-
A-C	100.00	100.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: 24093 JnB.arc8
Path: \\CTA_NAS01\Project\CTA Consultants Limited\CTA - Project\24093HK (knc) - S12A Re-zoning from AGR to GIC for a Prop Social Welfare Facilities (RCHE) at Tung Tsz, Tai Po\Calculation\2024-12-30
Report generation date: 30/12/2024 14:37:27

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Jn B - Design 2033							
Stream B-AC	1.43	17.23	0.59	C	0.44	9.98	0.31	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.03	5.98	0.03	A	0.02	6.07	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Jn B - Existing 2024							
Stream B-AC	0.94	13.10	0.49	B	0.31	8.68	0.24	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	5.71	0.02	A	0.02	5.91	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	Jn B - Reference 2033							
Stream B-AC	1.31	16.32	0.57	C	0.37	9.43	0.27	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.03	5.96	0.03	A	0.02	6.07	0.02	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Existing 2024, AM " model duration: 8:00 - 9:30
"D2 - Existing 2024, PM" model duration: 8:00 - 9:30
"D3 - Reference 2033, AM" model duration: 8:00 - 9:30
"D4 - Reference 2033, PM" model duration: 8:00 - 9:30
"D5 - Design 2033, AM" model duration: 8:00 - 9:30
"D6 - Design 2033, PM" model duration: 8:00 - 9:30

Run using Junctions 8.0.5.523 at 30/12/2024 14:37:23

File summary

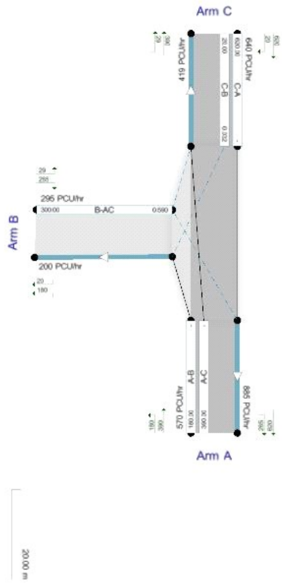
Title	(untitled)
Location	
Site Number	
Date	7/6/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (08:00-08:15)
Showing Analysis Set "A1 - Jn B "; Demand Set "D1 - Existing 2024, AM "

The junction diagram reflects the last run of ARCADY.

Jn B - Existing 2024, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2024, AM	Existing 2024	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	12.83	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	490.00	100.000
B	FLAT	✓	260.00	100.000
C	FLAT	✓	570.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	150.000	340.000
	B	240.000	0.000	20.000
	C	560.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.92	0.00	0.08
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.49	13.10	0.94	B
C-A	-	-	-	-
C-B	0.02	5.71	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	256.32	0.00	534.82	0.486	0.92	12.765	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	9.94	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	259.95	0.00	534.80	0.486	0.93	13.091	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	259.98	0.00	534.80	0.486	0.94	13.097	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	259.99	0.00	534.80	0.486	0.94	13.097	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	259.99	0.00	534.80	0.486	0.94	13.099	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	260.00	260.00	0.00	534.80	0.486	0.94	13.099	B
C-A	560.00	560.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	640.40	0.016	0.02	5.710	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Jn B - Existing 2024, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Existing 2024, PM	Existing 2024	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	8.48	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	580.00	100.000
B	FLAT	✓	130.00	100.000
C	FLAT	✓	360.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	150.000	430.000
	B	120.000	0.000	10.000
	C	350.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.26	0.74
	B	0.92	0.00	0.08
	C	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.24	8.68	0.31	A
C-A	-	-	-	-
C-B	0.02	5.91	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	128.76	0.00	544.66	0.239	0.31	8.629	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	619.47	0.016	0.02	5.906	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	129.99	0.00	544.64	0.239	0.31	8.681	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	619.47	0.016	0.02	5.906	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	130.00	0.00	544.64	0.239	0.31	8.681	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	619.47	0.016	0.02	5.906	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	130.00	0.00	544.64	0.239	0.31	8.681	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	619.47	0.016	0.02	5.908	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	130.00	0.00	544.64	0.239	0.31	8.681	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	619.47	0.016	0.02	5.908	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	130.00	130.00	0.00	544.64	0.239	0.31	8.681	A
C-A	350.00	350.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	619.47	0.016	0.02	5.908	A
A-B	150.00	150.00	0.00	-	-	-	-	-
A-C	430.00	430.00	0.00	-	-	-	-	-

Jn B - Reference 2033, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2033, AM	Reference 2033	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	15.65	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	560.00	100.000
B	FLAT	✓	290.00	100.000
C	FLAT	✓	640.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	170.000	390.000
	B	260.000	0.000	30.000
	C	620.000	20.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.90	0.00	0.10
	C	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.57	16.32	1.31	C
C-A	-	-	-	-
C-B	0.03	5.96	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	284.95	0.00	510.54	0.568	1.26	15.634	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	19.87	0.00	624.12	0.032	0.03	5.956	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.90	0.00	510.50	0.568	1.29	16.299	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	624.12	0.032	0.03	5.958	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.96	0.00	510.50	0.568	1.30	16.312	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	624.12	0.032	0.03	5.958	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.98	0.00	510.50	0.568	1.30	16.316	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	624.12	0.032	0.03	5.958	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.99	0.00	510.50	0.568	1.30	16.320	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	624.12	0.032	0.03	5.958	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.99	0.00	510.50	0.568	1.31	16.321	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	624.12	0.032	0.03	5.958	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Jn B - Reference 2033, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Reference 2033, PM	Reference 2033	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	9.20	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	650.00	100.000
B	FLAT	✓	140.00	100.000
C	FLAT	✓	400.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	170.000	480.000
	B	130.000	0.000	10.000
	C	390.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.93	0.00	0.07
	C	0.98	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.27	9.43	0.37	A
C-A	-	-	-	-
C-B	0.02	6.07	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	138.55	0.00	521.90	0.268	0.36	9.358	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	139.99	0.00	521.87	0.268	0.36	9.426	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	140.00	0.00	521.87	0.268	0.36	9.426	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	140.00	0.00	521.87	0.268	0.37	9.426	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	140.00	0.00	521.87	0.268	0.37	9.426	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	140.00	140.00	0.00	521.87	0.268	0.37	9.426	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Jn B - Design 2033, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2033, AM	Design 2033	AM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	16.53	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	570.00	100.000
B	FLAT	✓	300.00	100.000
C	FLAT	✓	640.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	180.000	390.000
	B	270.000	0.000	30.000
	C	620.000	20.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.32	0.68
	B	0.90	0.00	0.10
	C	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.59	17.23	1.43	C
C-A	-	-	-	-
C-B	0.03	5.98	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	294.50	0.00	508.87	0.590	1.37	16.407	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	19.87	0.00	621.80	0.032	0.03	5.979	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	299.88	0.00	508.82	0.590	1.40	17.202	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	621.80	0.032	0.03	5.981	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	299.96	0.00	508.82	0.590	1.41	17.220	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	621.80	0.032	0.03	5.981	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	299.98	0.00	508.82	0.590	1.42	17.227	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	621.80	0.032	0.03	5.981	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	299.99	0.00	508.82	0.590	1.42	17.230	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	621.80	0.032	0.03	5.981	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	300.00	299.99	0.00	508.82	0.590	1.43	17.232	C
C-A	620.00	620.00	0.00	-	-	-	-	-
C-B	20.00	20.00	0.00	621.80	0.032	0.03	5.981	A
A-B	180.00	180.00	0.00	-	-	-	-	-
A-C	390.00	390.00	0.00	-	-	-	-	-

Jn B - Design 2033, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Jn B	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
Design 2033, PM	Design 2033	PM		FLAT	08:00	09:30	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	Ting Kok Road	T-Junction	Two-way	A,B,C	9.75	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ting Kok Road (NB)		Major
B	B	Tung Tsz Road		Minor
C	C	Ting Kok Road (SB)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	10.70		0.00	✓	3.50	150.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										150	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	725.644	0.105	0.266	0.167	0.380
1	B-C	862.208	0.105	0.266	-	-
1	C-B	754.327	0.233	0.233	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	650.00	100.000
B	FLAT	✓	160.00	100.000
C	FLAT	✓	400.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	170.000	480.000
	B	150.000	0.000	10.000
	C	390.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.26	0.74
	B	0.94	0.00	0.06
	C	0.98	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.31	9.98	0.44	A
C-A	-	-	-	-
C-B	0.02	6.07	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	158.25	0.00	520.54	0.307	0.44	9.891	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	159.99	0.00	520.51	0.307	0.44	9.985	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	160.00	0.00	520.51	0.307	0.44	9.985	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.068	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	160.00	0.00	520.51	0.307	0.44	9.985	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	160.00	0.00	520.51	0.307	0.44	9.985	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

Main results: (09:15-09:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	160.00	160.00	0.00	520.51	0.307	0.44	9.985	A
C-A	390.00	390.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	603.20	0.017	0.02	6.070	A
A-B	170.00	170.00	0.00	-	-	-	-	-
A-C	480.00	480.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

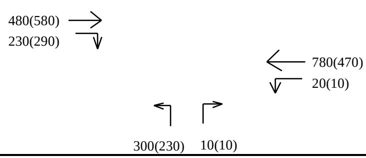
Junction: **Ting Kok Road / Sam Mun Tsai Road (C)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E	→	A	1,2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	480	0.244		580	0.295	
Ting Kok Road	E	↓	B	2,3	3.2	0	23	0	100%	100%	2072.3	2072.3	1945	1945	1945	1945	230	0.118		290	0.149	
Ting Kok Road	W	←	C	1	3.7	0	0	0	0%	0%	2123.7	0	2125	2125	0	0	415	0.195	0.195	249	0.117	0.117
Ting Kok Road	W	←↓	C	1	3.7	15	0	1	5%	4%	1983.7	4107.4	1975	1975	4100	4100	385	0.195		231	0.117	
Sam Mun Tsai Road	N	↰	D	2,3,4	4.5	38	0	1	100%	100%	2065	2065	1985	1985	1985	1985	300	0.151	0.151	230	0.116	0.116
Sam Mun Tsai Road	N	↱	E	4	3.5	0	17	1	100%	100%	1965	1965	1800	1800	1800	1800	10	0.006		10	0.006	

Notes:

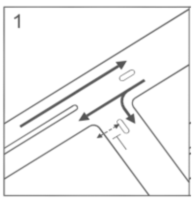
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.346
L (sec)	8
C (sec)	88
y pract.	0.818
R.C. (%)	136%

P.M. Check Phase	
εy	0.233
L (sec)	8
C (sec)	88
y pract.	0.818
R.C. (%)	251%

Stage / Phase Diagrams



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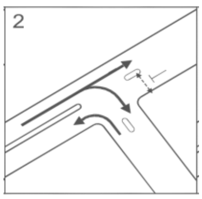

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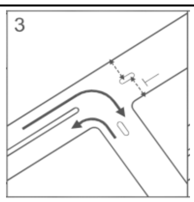

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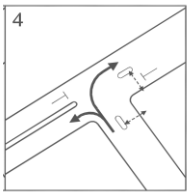


I/G =5s

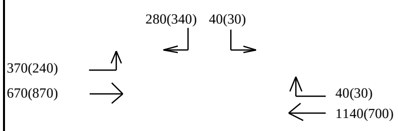
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Lo Fai Road (D)**
Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1	4.0	15	0	1	75%	45%	2018	4113	1875	1930	3970	4025	491	0.262	0.262	532	0.276	0.276
Ting Kok Road	E		A	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	549	0.262		578	0.276	
Ting Kok Road	W		B	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4045	4005	515	0.262		542	0.276	
Ting Kok Road	W		C	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4045	4005	323	0.164		92	0.047	
Ting Kok Road	W		C	2	3.5	0	15	0	12%	31%	2105	0	2080	2040	0	0	342	0.164	0.164	96	0.047	0.047
Lo Fai Road	S		D	3	3.5	15	25	0	5% / 75	6% / 84	2105	4210	1965	1975	3925	3935	160	0.082	0.082	186	0.094	0.094
Lo Fai Road	S		D	3	3.5	0	20	0	100%	100%	2105	0	1960	1960	0	0	160	0.081		184	0.094	

Notes:

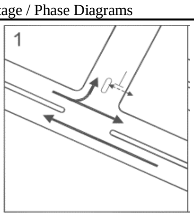
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase	
εy	0.508
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	56%

P.M. Check Phase	
εy	0.417
L (sec)	14
C (sec)	96
y pract.	0.769
R.C. (%)	84%

Stage / Phase Diagrams



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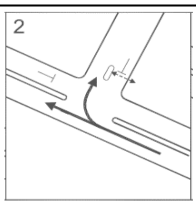

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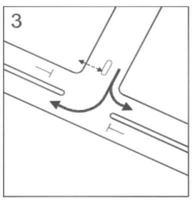


I/G =6s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

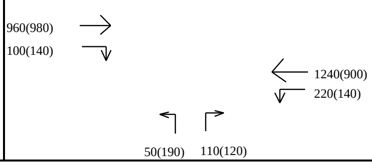
Junction: **Ting Kok Road / Dai Kwai Street (E)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	0	0	709	0.361	0.361	503	0.256	0.256
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3985	4000	173	0.088		303	0.154	
Ting Kok Road	E		B	2	3.5	0	20	0	56%	45%	2105	0	2020	2035	0	0	178	0.088	0.088	314	0.154	0.154
Ting Kok Road	W		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	755	0.360		537	0.256	
Ting Kok Road	W		C	1	4.0	15	0	1	31%	28%	2018	4113	1955	1965	4050	4060	705	0.361		503	0.256	
Dai Kwai Street	N		D	3	3.2	20	20	1	0% / 100%	23% / 77%	1935	0	1800	1800	0	0	110	0.061	0.061	157	0.087	0.087
Dai Kwai Street	N		D	3	3.2	15	0	1	100%	100%	1935	3870	1760	1760	3560	3560	50	0.028		153	0.087	

Notes:

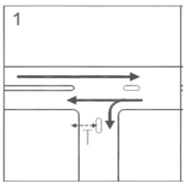
Traffic Flow (pcu / hr) AM(PM)



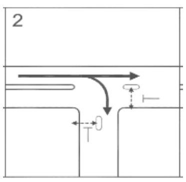
A.M. Check Phase	
εy	0.510
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	19%

P.M. Check Phase	
εy	0.498
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	22%

Stage / Phase Diagrams



I/G = 6s



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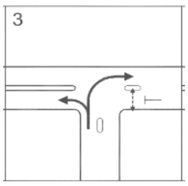
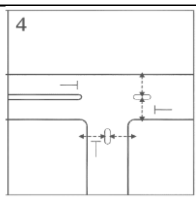


I/G = 12s



I/G = 18s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

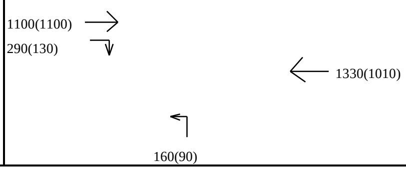
Junction: **Ting Kok Road / Dai Fat Street (F)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3985	4025	685	0.349	0.349	600	0.305	0.306
Ting Kok Road	E		A	1,2	3.5	0	15	0	41%	21%	2105	0	2020	2060	0	0	705	0.349		630	0.306	
Ting Kok Road	W		B	3	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	682	0.324	0.324	518	0.246	0.246
Ting Kok Road	W		B	3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	648	0.324		492	0.246	
Dai Fat Street	N		C	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	79	0.041		44	0.023	
Dai Fat Street	N		C	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	81	0.041		46	0.023	

Notes:

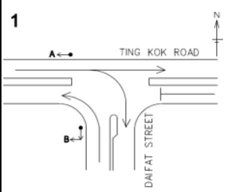
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.673	εy	0.552
L (sec)	10	L (sec)	10
C (sec)	100	C (sec)	100
y pract.	0.810	y pract.	0.810
R.C. (%)	20%	R.C. (%)	47%

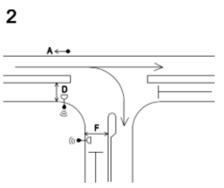
Stage / Phase Diagrams

1



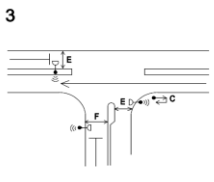
I/G = 0

2



I/G = 6s

3



I/G = 6s

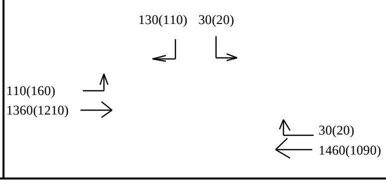
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Fung Yuen Road (G)**
Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	16%	25%	1965	4080	1940	1925	4055	4040	703	0.362	0.365	652	0.339	0.339
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	767	0.363		718	0.339	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	4%	3%	2115	0	2110	2110	0	0	769	0.365		573	0.272	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	721	0.365		537	0.272	
Fung Yuen Road	S		4	C	3.6	11	14	1	39% / 61%	32% / 68%	1975	4090	1765	1770	3710	3715	76	0.043	0.043	62	0.035	0.035
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	84	0.043		68	0.035	
Pedestrian Crossing			5p	D			Min. Crossing Time = 8Gm + 8FGm =16s															
			6p	D			Min. Crossing Time = 11Gm + 10FGm =21s															

Notes:

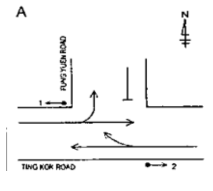
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.408	εy	0.374
L (sec)	47	L (sec)	47
C (sec)	104	C (sec)	96
y pract.	0.493	y pract.	0.459
R.C. (%)	21%	R.C. (%)	23%

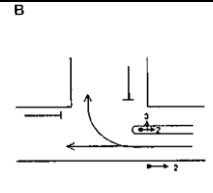
Stage / Phase Diagrams

A



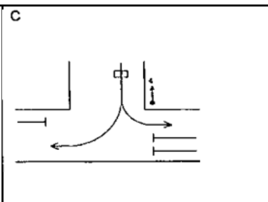
I/G = 4s

B



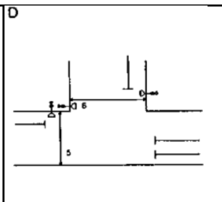
I/G = 6s+5s

C



I/G = 6s

D



I/G = 12s+16s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Yuen Shin Road / Dai Fuk Street (H)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	534	0.279		366	0.191	
Ting Kok Road	E		A	1,2	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	546	0.279		374	0.191	
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	100	0.051		80	0.041	
Ting Kok Road	E		B	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	230	0.119	0.119	280	0.145	0.145
Yuen Shin Road	N		C	2,3	3.5	15	0	1	100%	100%	1965	1965	1785	1785	1785	1785	230	0.129		210	0.118	
Yuen Shin Road	N		D	3	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	155	0.080	0.080	173	0.090	0.090
Yuen Shin Road	N		D	3	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	168	0.080		189	0.090	
Yuen Shin Road	N		D	3	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	168	0.080		188	0.090	
Yuen Shin Road	N		D	3	3.5	0	20	0	100%	100%	2105	2105	1960	1960	1960	1960	10	0.005		10	0.005	
Dai Fuk Street	W		E	4	3.0	17	0	1	33%	41%	1915	4000	1860	1850	3935	3925	151	0.081		146	0.079	
Dai Fuk Street	W		E	4	3.3	0	17	0	6%	6%	2085	0	2075	2075	0	0	169	0.081		164	0.079	
Ting Kok Road	S		F	1	3.5	0	22	1	100%	100%	1965	3930	1835	1835	3655	3655	392	0.213	0.213	276	0.150	0.159
Ting Kok Road	S		F	1	3.5	0	19	1	100%	100%	1965	0	1820	1820	0	0	388	0.213		274	0.150	
Ting Kok Road	S		F	1	4.0	15	0	1	0%	6%	2018	4113	2020	2005	4115	4100	393	0.194		318	0.159	
Ting Kok Road	S		F	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	407	0.195		332	0.159	

Notes:

Traffic Flow (pcu / hr) AM(PM)

780(550) 800(630) 0(20)

1080(740)
100(80)
230(280)

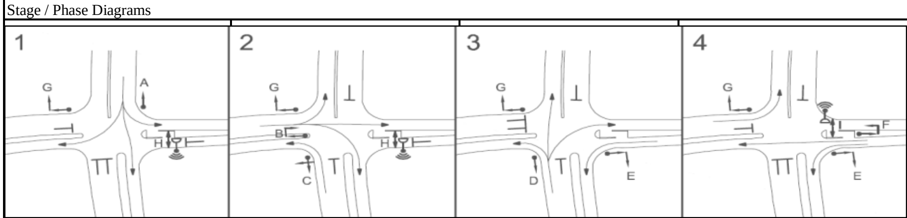
10(10)
260(240)
50(60)

230(210) 490(550) 10(10)

A.M. Check Phase	
εy	0.413
L (sec)	40
C (sec)	100
y pract.	0.540
R.C. (%)	31%

P.M. Check Phase	
εy	0.394
L (sec)	40
C (sec)	96
y pract.	0.525
R.C. (%)	33%

Stage / Phase Diagrams



I/G = 7s | I/G = 8s | I/G = 11s | I/G = 17s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

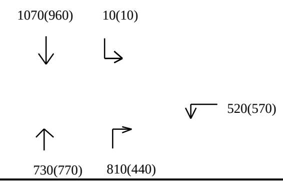
Junction: **Yuen Shin Road / Dai Fat Road (I)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Yuen Shin Road	N		A	1	4.0	0	0	0	0%	0%	2155	6465	2155	2155	6355	6390	522	0.242	0.242	408	0.189	0.189
Yuen Shin Road	N		A	1	4.0	0	50	0	59%	11%	2155	0	2115	2150	0	0	513	0.242		407	0.189	
Yuen Shin Road	N		A	1	4.0	0	45	0	100%	100%	2155	0	2085	2085	0	0	505	0.242		395	0.189	
Dai Fat Street	W		B	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	257	0.134		282	0.147	
Dai Fat Street	W		B	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	263	0.134		288	0.147	
Yuen Shin Road	S		C	2	4.0	15	0	1	2%	2%	2018	4113	2015	2015	4110	4110	529	0.263	0.263	475	0.236	0.236
Yuen Shin Road	S		C	2	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	551	0.263		495	0.236	

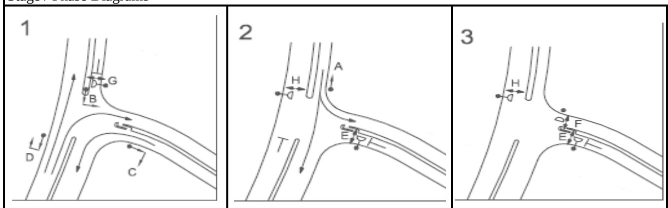
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.505	εy	0.426
L (sec)	30	L (sec)	30
C (sec)	100	C (sec)	100
y pract.	0.630	y pract.	0.630
R.C. (%)	25%	R.C. (%)	48%

Stage / Phase Diagrams



I/G = 7s

I/G = 10s

I/G = 15s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Tai Po Tai Wo Road / Yuen Shin Road (J)**

Description: **2024 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tai Po Tai Wo Road	E		A	2,3	5.8	15	0	1	100%	100%	2199	2199	2000	2000	2000	2000	490	0.245	0.214	330	0.165	0.183
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	4210	1915	1915	3830	3830	410	0.214		350	0.183	
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	0	1915	1915	0	0	410	0.214		350	0.183	
Yuen Shin Road	N		C	1	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	334	0.173	0.173	277	0.144	0.144
Yuen Shin Road	N		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	363	0.173		302	0.144	
Yuen Shin Road	N		C	1	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	362	0.173		301	0.144	
Yuen Shin Road	S		D	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	440	0.229	0.229	420	0.218	0.218
Yuen Shin Road	S		E	1,2	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	595	0.283		580	0.276	
Yuen Shin Road	S		E	1,3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	565	0.283		550	0.276	

Notes:

Traffic Flow (pcu / hr) AM(PM)

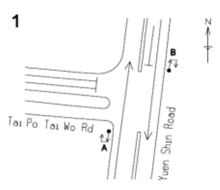
440(420) 1160(1130)

490(330)
820(700)

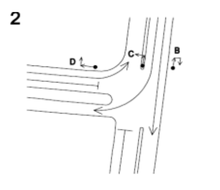
520(850) 1060(880)

A.M. Check Phase		P.M. Check Phase	
εy	0.616	εy	0.545
L (sec)	13	L (sec)	13
C (sec)	100	C (sec)	100
y pract.	0.783	y pract.	0.783
R.C. (%)	27%	R.C. (%)	44%

Stage / Phase Diagrams



I/G = 5s



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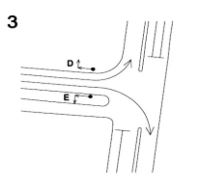


I/G = 6s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Sam Mun Tsai Road (C)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E	→	A	1,2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	570	0.290		670	0.341	
Ting Kok Road	E	↴	B	2,3	3.2	0	23	0	100%	100%	2072.3	2072.3	1945	1945	1945	1945	240	0.123		320	0.165	
Ting Kok Road	W	←	C	1	3.7	0	0	0	0%	0%	2123.7	0	2125	2125	0	0	466	0.219	0.220	290	0.136	0.137
Ting Kok Road	W	←↓	C	1	3.7	15	0	1	5%	4%	1983.7	4107.4	1975	1975	4100	4100	434	0.220		270	0.137	
Sam Mun Tsai Road	N	↰	D	2,3,4	4.5	38	0	1	100%	100%	2065	2065	1985	1985	1985	1985	320	0.161	0.161	250	0.126	0.126
Sam Mun Tsai Road	N	↱	E	4	3.5	0	17	1	100%	100%	1965	1965	1800	1800	1800	1800	10	0.006		10	0.006	

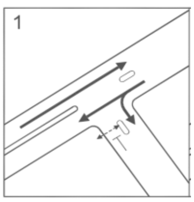
Notes:

Traffic Flow (pcu / hr) AM(PM)

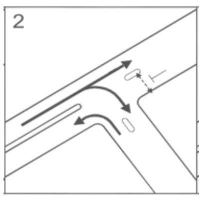
570(670) →
240(320) ↴
← 880(550)
↓ 20(10)
↰ 320(250)
↱ 10(10)

A.M. Check Phase		P.M. Check Phase	
εy	0.381	εy	0.263
L (sec)	8	L (sec)	8
C (sec)	88	C (sec)	88
y pract.	0.818	y pract.	0.818
R.C. (%)	115%	R.C. (%)	212%

Stage / Phase Diagrams



I/G =5s



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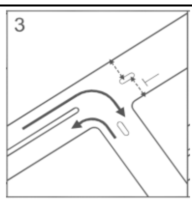

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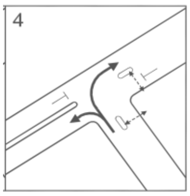


I/G =5s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Lo Fai Road (D)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1	4.0	15	0	1	74%	48%	2018	4113	1880	1925	3975	4020	610	0.324	0.325	642	0.333	0.333
Ting Kok Road	E		A	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	680	0.325		698	0.333	
Ting Kok Road	W		B	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4050	4020	638	0.324		655	0.333	
Ting Kok Road	W		C	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4050	4020	351	0.178		120	0.061	
Ting Kok Road	W		C	2	3.5	0	15	0	11%	24%	2105	0	2085	2055	0	0	372	0.178	0.178	125	0.061	0.061
Lo Fai Road	S		D	3	3.5	15	25	0	9% / 81	4% / 86	2105	4210	1970	1975	3930	3935	216	0.109	0.109	216	0.109	0.109
Lo Fai Road	S		D	3	3.5	0	20	0	100%	100%	2105	0	1960	1960	0	0	214	0.109		214	0.109	

Notes:

Traffic Flow (pcu / hr) AM(PM)

390(400) 40(30)

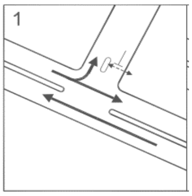
450(310)
840(1030)

40(30)
1320(870)

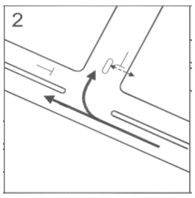
A.M. Check Phase	
εy	0.613
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	30%

P.M. Check Phase	
εy	0.504
L (sec)	14
C (sec)	96
y pract.	0.769
R.C. (%)	53%

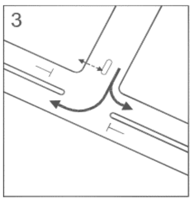
Stage / Phase Diagrams



I/G =5s



I/G =6s



I/G =6s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

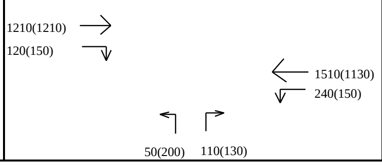
Junction: **Ting Kok Road / Dai Kwai Street (E)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	0	0	849	0.432	0.432	619	0.315	0.315
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3995	4010	237	0.121		363	0.185	
Ting Kok Road	E		B	2	3.5	0	20	0	49%	40%	2105	0	2030	2045	0	0	245	0.121	0.121	378	0.185	0.185
Ting Kok Road	W		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	904	0.431		660	0.315	
Ting Kok Road	W		C	1	4.0	15	0	1	28%	24%	2018	4113	1960	1970	4055	4065	846	0.432		620	0.315	
Dai Kwai Street	N		D	3	3.2	20	20	1	0% / 100%	22% / 78%	1935	0	1800	1800	0	0	110	0.061	0.061	167	0.093	0.093
Dai Kwai Street	N		D	3	3.2	15	0	1	100%	100%	1935	3870	1760	1760	3560	3560	50	0.028		163	0.093	

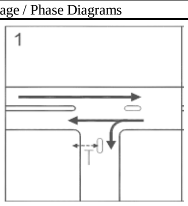
Notes:

Traffic Flow (pcu / hr) AM(PM)

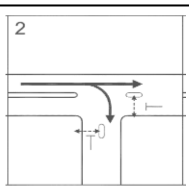


A.M. Check Phase		P.M. Check Phase	
εy	0.613	εy	0.592
L (sec)	39	L (sec)	39
C (sec)	120	C (sec)	120
y pract.	0.608	y pract.	0.608
R.C. (%)	-1%	R.C. (%)	3%

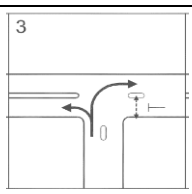
Stage / Phase Diagrams



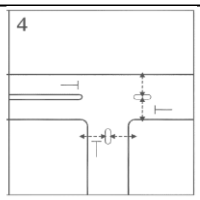
I/G = 6s



I/G = 6s



I/G = 12s



I/G = 18s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Dai Fat Street (F)**
Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3995	4030	827	0.421	0.421	721	0.367	0.367
Ting Kok Road	E		A	1,2	3.5	0	15	0	37%	18%	2105	0	2030	2065	0	0	853	0.420		759	0.367	
Ting Kok Road	W		B	3	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	826	0.393	0.393	641	0.305	0.305
Ting Kok Road	W		B	3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	784	0.393		609	0.305	
Dai Fat Street	N		C	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	84	0.044		49	0.026	
Dai Fat Street	N		C	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	86	0.044		51	0.026	

Notes:

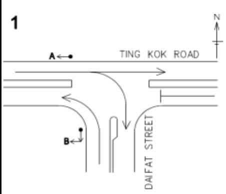
Traffic Flow (pcu / hr) AM(PM)

1360(1340)
320(140)
1610(1250)
170(100)

A.M. Check Phase		P.M. Check Phase	
εy	0.813	εy	0.672
L (sec)	10	L (sec)	10
C (sec)	100	C (sec)	100
y pract.	0.810	y pract.	0.810
R.C. (%)	0%	R.C. (%)	20%

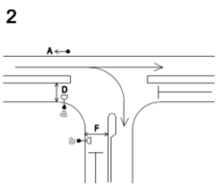
Stage / Phase Diagrams

1



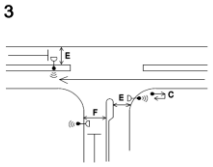
I/G = 0

2



I/G = 6s

3



I/G = 6s

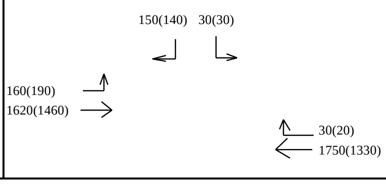
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Fung Yuen Road (G)**
Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	19%	24%	1965	4080	1935	1925	4050	4040	850	0.439	0.440	786	0.408	0.409
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	930	0.440		864	0.409	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	3%	3%	2115	0	2110	2110	0	0	919	0.436		697	0.330	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	861	0.436		653	0.330	
Fung Yuen Road	S		4	C	3.6	11	14	1	35% / 65%	37% / 63%	1975	4090	1770	1765	3715	3710	86	0.048	0.048	81	0.046	0.046
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	94	0.048		89	0.046	
Pedestrian Crossing			5p	D					Min. Crossing Time = 8Gm + 8FGm =16s													
			6p	D					Min. Crossing Time = 11Gm + 10FGm =21s													

Notes:

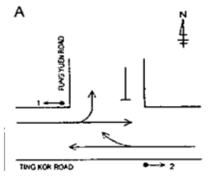
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.488	εy	0.454
L (sec)	47	L (sec)	47
C (sec)	104	C (sec)	96
y pract.	0.493	y pract.	0.459
R.C. (%)	1%	R.C. (%)	1%

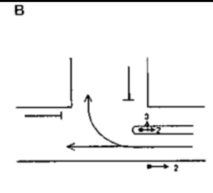
Stage / Phase Diagrams

A



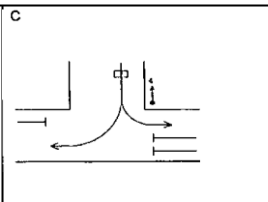
I/G = 4s

B



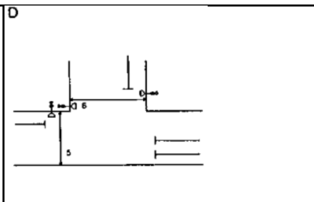
I/G = 6s+5s

C



I/G = 6s

D



I/G = 12s+16s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Fung Yuen Road (Jn G)**

Description: **2029 Reference Traffic Flows (Shifting of Crossing at Ting Kok Road)**

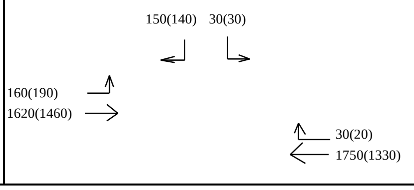
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	19%	24%	1965	4080	1935	1925	4050	4040	850	0.439	0.439	786	0.408	0.409
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	930	0.440		864	0.409	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	3%	3%	2115	0	2110	2110	0	0	919	0.436		697	0.330	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	861	0.436		653	0.330	
Fung Yuen Road	S		4	C	3.6	11	14	1	5% / 65	7% / 63	1975	4090	1770	1765	3715	3710	86	0.048	0.048	81	0.046	0.046
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	94	0.048		89	0.046	
Pedestrian Crossing			5p	D																		
			6p	D																		

Min. Crossing Time = 8Gm + 8FGm =16s

Min. Crossing Time = 11Gm + 10FGm =21s

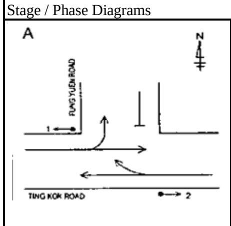
Notes:

Traffic Flow (pcu / hr) AM(PM)

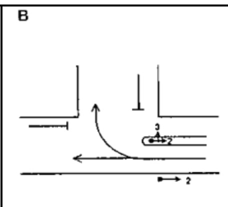


A.M. Check Phase		P.M. Check Phase	
εy	0.488	εy	0.454
L (sec)	48	L (sec)	48
C (sec)	104	C (sec)	96
y pract.	0.485	y pract.	0.450
R.C. (%)	-1%	R.C. (%)	-1%

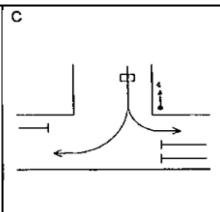
Stage / Phase Diagrams



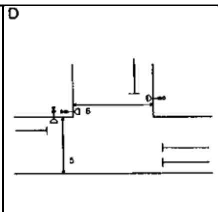
I/G = 4s



I/G = 6s+5s



I/G = 6s



I/G = 13s+16s

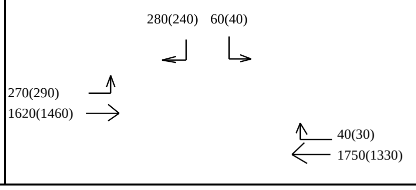
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Fung Yuen Road (Jn G)**
Description: **2029 Reference Traffic Flows (Shifting of Crossing at Ting Kok Road)(With Fung Yuen CDA (1))**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	30%	35%	1965	4080	1915	1905	4030	4020	898	0.469	0.469	830	0.435	0.435
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	992	0.469		920	0.435	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	4%	4%	2115	0	2110	2110	0	0	924	0.438		702	0.333	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	866	0.438		658	0.333	
Fung Yuen Road	S		4	C	3.6	11	14	1	7% / 63	0% / 70	1975	4090	1765	1770	3710	3715	162	0.092	0.092	133	0.075	0.075
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	178	0.092		147	0.075	
Pedestrian Crossing			5p	D	Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	D	Min. Crossing Time = 11Gm + 10FGm =21s																	

Notes:

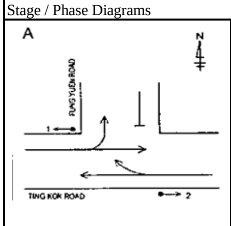
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.561	εy	0.511
L (sec)	48	L (sec)	48
C (sec)	104	C (sec)	96
y pract.	0.485	y pract.	0.450
R.C. (%)	-14%	R.C. (%)	-12%

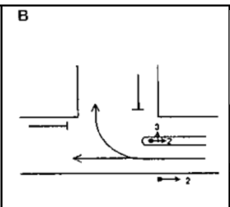
Stage / Phase Diagrams

A



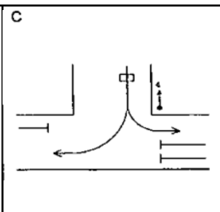
I/G = 4s

B



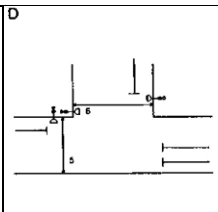
I/G = 6s+5s

C



I/G = 6s

D



I/G = 13s+16s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

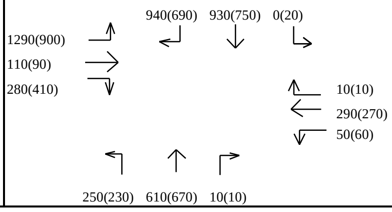
Junction: **Ting Kok Road / Yuen Shin Road / Dai Fuk Street (H)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	638	0.333		445	0.232	
Ting Kok Road	E		A	1,2	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	652	0.333		455	0.232	
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	110	0.056		90	0.046	
Ting Kok Road	E		B	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	280	0.145	0.145	410	0.213	0.213
Yuen Shin Road	N		C	2,3	3.5	15	0	1	100%	100%	1965	1965	1785	1785	1785	1785	250	0.140		230	0.129	
Yuen Shin Road	N		D	3	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	192	0.100	0.100	211	0.110	0.110
Yuen Shin Road	N		D	3	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	209	0.100		230	0.110	
Yuen Shin Road	N		D	3	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	209	0.100		229	0.110	
Yuen Shin Road	N		D	3	3.5	0	20	0	100%	100%	2105	2105	1960	1960	1960	1960	10	0.005		10	0.005	
Dai Fuk Street	W		E	4	3.0	17	0	1	30%	37%	1915	4000	1865	1855	3940	3930	166	0.089		160	0.086	
Dai Fuk Street	W		E	4	3.3	0	17	0	5%	6%	2085	0	2075	2075	0	0	184	0.089		180	0.087	
Ting Kok Road	S		F	1	3.5	0	22	1	100%	100%	1965	3930	1835	1835	3655	3655	472	0.257	0.257	346	0.189	0.189
Ting Kok Road	S		F	1	3.5	0	19	1	100%	100%	1965	0	1820	1820	0	0	468	0.257		344	0.189	
Ting Kok Road	S		F	1	4.0	15	0	1	0%	5%	2018	4113	2020	2005	4115	4100	456	0.226		377	0.188	
Ting Kok Road	S		F	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	474	0.226		393	0.188	

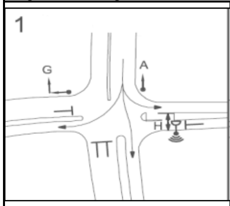
Notes:

Traffic Flow (pcu / hr) AM(PM)

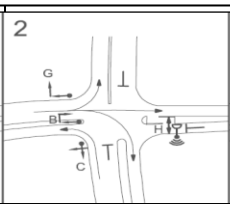


A.M. Check Phase		P.M. Check Phase	
εy	0.502	εy	0.511
L (sec)	40	L (sec)	40
C (sec)	100	C (sec)	96
y pract.	0.540	y pract.	0.525
R.C. (%)	7%	R.C. (%)	3%

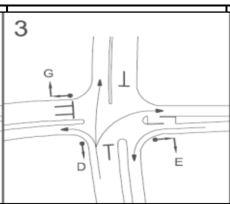
Stage / Phase Diagrams



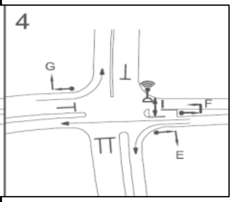
I/G = 7s



I/G = 8s



I/G = 11s



I/G = 17s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

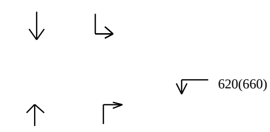
Junction: **Yuen Shin Road / Dai Fat Road (I)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Yuen Shin Road	N		A	1	4.0	0	0	0	0%	0%	2155	6465	2155	2155	6355	6385	570	0.264	0.264	449	0.208	0.208
Yuen Shin Road	N		A	1	4.0	0	50	0	62%	15%	2155	0	2115	2145	0	0	559	0.264		447	0.208	
Yuen Shin Road	N		A	1	4.0	0	45	0	100%	100%	2155	0	2085	2085	0	0	551	0.264		434	0.208	
Dai Fat Street	W		B	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	306	0.160		326	0.170	
Dai Fat Street	W		B	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	314	0.160		334	0.170	
Yuen Shin Road	S		C	2	4.0	15	0	1	18%	16%	2018	4113	1980	1985	4075	4080	656	0.331	0.331	623	0.314	0.314
Yuen Shin Road	S		C	2	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	694	0.331		657	0.314	

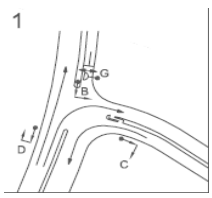
Notes:

Traffic Flow (pcu / hr) AM(PM)

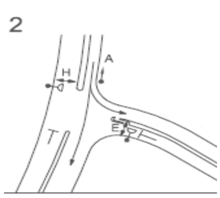


A.M. Check Phase		P.M. Check Phase	
εy	0.596	εy	0.522
L (sec)	30	L (sec)	30
C (sec)	100	C (sec)	100
y pract.	0.630	y pract.	0.630
R.C. (%)	6%	R.C. (%)	21%

Stage / Phase Diagrams



I/G = 7s



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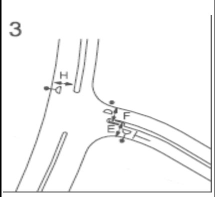


I/G = 15s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

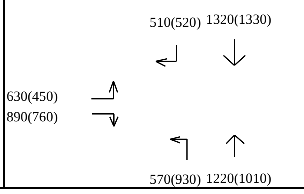
Junction: **Tai Po Tai Wo Road / Yuen Shin Road (J)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tai Po Tai Wo Road	E		A	2,3	5.8	15	0	1	100%	100%	2199	2199	2000	2000	2000	2000	630	0.315	0.232	450	0.225	0.198
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	4210	1915	1915	3830	3830	445	0.232		380	0.198	
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	0	1915	1915	0	0	445	0.232		380	0.198	
Yuen Shin Road	N		C	1	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	385	0.200	0.200	318	0.165	0.165
Yuen Shin Road	N		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	418	0.200		346	0.165	
Yuen Shin Road	N		C	1	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	417	0.200		345	0.165	
Yuen Shin Road	S		D	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	510	0.265	0.265	520	0.270	0.270
Yuen Shin Road	S		E	1,2	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	677	0.322		682	0.324	
Yuen Shin Road	S		E	1,3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	643	0.322		648	0.324	

Notes:

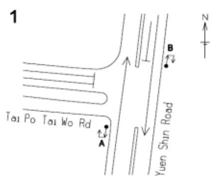
Traffic Flow (pcu / hr) AM(PM)



	A.M. Check Phase	P.M. Check Phase
εy	0.697	0.634
L (sec)	13	13
C (sec)	100	100
y pract.	0.783	0.783
R.C. (%)	12%	24%

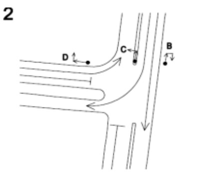
Stage / Phase Diagrams

1



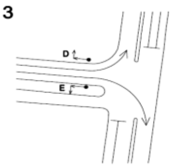
I/G = 5s

2



I/G = 5s

3



I/G = 6s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

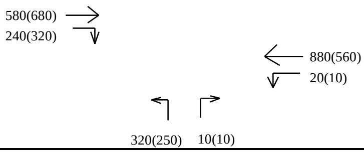
Junction: **Ting Kok Road / Sam Mun Tsai Road (C)**

Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	580	0.295		680	0.346	
Ting Kok Road	E		B	2,3	3.2	0	23	0	100%	100%	2072.3	2072.3	1945	1945	1945	1945	240	0.123		320	0.165	
Ting Kok Road	W		C	1	3.7	0	0	0	0%	0%	2123.7	0	2125	2125	0	0	466	0.219	0.220	295	0.139	0.139
Ting Kok Road	W		C	1	3.7	15	0	1	5%	4%	1983.7	4107.4	1975	1975	4100	4100	434	0.220		275	0.139	
Sam Mun Tsai Road	N		D	2,3,4	4.5	38	0	1	100%	100%	2065	2065	1985	1985	1985	1985	320	0.161	0.161	250	0.126	0.126
Sam Mun Tsai Road	N		E	4	3.5	0	17	1	100%	100%	1965	1965	1800	1800	1800	1800	10	0.006		10	0.006	

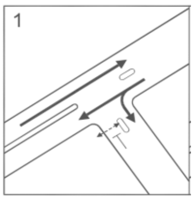
Notes:

Traffic Flow (pcu / hr) AM(PM)

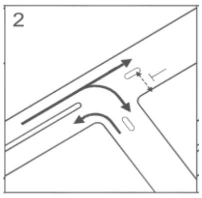


A.M. Check Phase		P.M. Check Phase	
εy	0.381	εy	0.265
L (sec)	8	L (sec)	8
C (sec)	88	C (sec)	88
y pract.	0.818	y pract.	0.818
R.C. (%)	115%	R.C. (%)	209%

Stage / Phase Diagrams



I/G =5s



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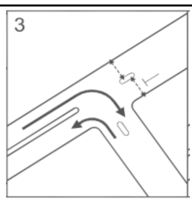

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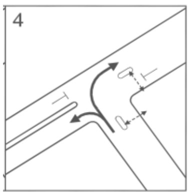


I/G =5s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

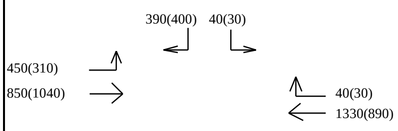
Junction: **Ting Kok Road / Lo Fai Road (D)**

Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E	↰→	A	1	4.0	15	0	1	73%	48%	2018	4113	1880	1925	3975	4020	615	0.327	0.327	647	0.336	0.336
Ting Kok Road	E	→	A	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	685	0.327		703	0.336	
Ting Kok Road	W	←	B	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4050	4025	643	0.327		660	0.336	
Ting Kok Road	W	←	C	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	4050	4025	353	0.180		127	0.065	
Ting Kok Road	W	←↑	C	2	3.5	0	15	0	11%	23%	2105	0	2085	2060	0	0	374	0.179	0.180	133	0.065	0.065
Lo Fai Road	S	←→	D	3	3.5	15	25	0	9% / 81	4% / 86	2105	4210	1970	1975	3930	3935	216	0.109	0.109	216	0.109	0.109
Lo Fai Road	S	↵	D	3	3.5	0	20	0	100%	100%	2105	0	1960	1960	0	0	214	0.109		214	0.109	

Notes:

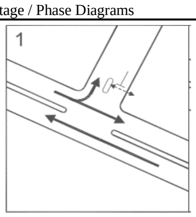
Traffic Flow (pcu / hr) AM(PM)



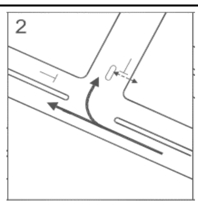
A.M. Check Phase	
εy	0.616
L (sec)	14
C (sec)	120
y pract.	0.795
R.C. (%)	29%

P.M. Check Phase	
εy	0.510
L (sec)	14
C (sec)	96
y pract.	0.769
R.C. (%)	51%

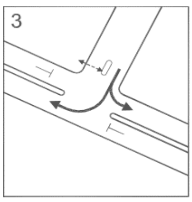
Stage / Phase Diagrams



I/G =5s



I/G =6s



I/G =6s

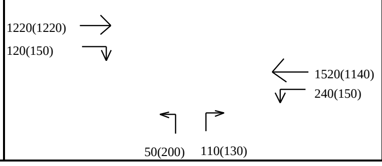
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Dai Kwai Street (E)**
Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1	3.5	0	0	1	0%	0%	1965	4070	1965	1965	0	0	852	0.433	0.434	624	0.317	0.317
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3995	4010	240	0.122		366	0.186	
Ting Kok Road	E		B	2	3.5	0	20	0	48%	39%	2105	0	2030	2045	0	0	248	0.122	0.122	381	0.186	0.186
Ting Kok Road	W		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	909	0.434		665	0.317	
Ting Kok Road	W		C	1	4.0	15	0	1	28%	24%	2018	4113	1965	1970	4060	4065	851	0.433		625	0.317	
Dai Kwai Street	N		D	3	3.2	20	20	1	0% / 100%	22% / 78%	1935	0	1800	1800	0	0	110	0.061	0.061	167	0.093	0.093
Dai Kwai Street	N		D	3	3.2	15	0	1	100%	100%	1935	3870	1760	1760	3560	3560	50	0.028		163	0.093	

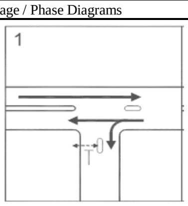
Notes:

Traffic Flow (pcu / hr) AM(PM)

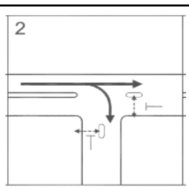


A.M. Check Phase		P.M. Check Phase	
εy	0.617	εy	0.596
L (sec)	39	L (sec)	39
C (sec)	120	C (sec)	120
y pract.	0.608	y pract.	0.608
R.C. (%)	-2%	R.C. (%)	2%

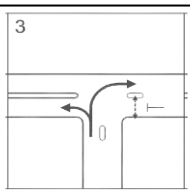
Stage / Phase Diagrams



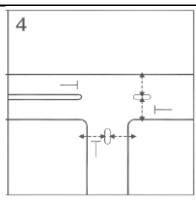
I/G = 6s



I/G = 6s



I/G = 12s



I/G = 18s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Dai Fat Street (F)**

Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E	→	A	1,2	3.5	0	0	1	0%	0%	1965	4070	1965	1965	3995	4030	831	0.423	0.423	726	0.370	0.370
Ting Kok Road	E	→ ↓	A	1,2	3.5	0	15	0	37%	18%	2105	0	2030	2065	0	0	859	0.423		764	0.370	
Ting Kok Road	W	←	B	3	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	831	0.395	0.395	652	0.310	0.310
Ting Kok Road	W	←	B	3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	789	0.395		618	0.310	
Dai Fat Street	N	↰	C	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	84	0.044		49	0.026	
Dai Fat Street	N	↰	C	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	86	0.044		51	0.026	

Notes:

Traffic Flow (pcu / hr) AM(PM)

1370(1350) →

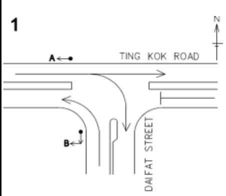
320(140) ↓

← 1620(1270)

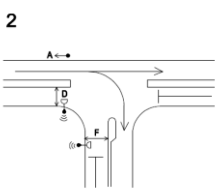
↰ 170(100)

A.M. Check Phase		P.M. Check Phase	
εy	0.818	εy	0.680
L (sec)	10	L (sec)	10
C (sec)	100	C (sec)	100
y pract.	0.810	y pract.	0.810
R.C. (%)	-1%	R.C. (%)	19%

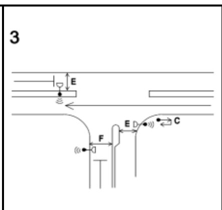
Stage / Phase Diagrams



I/G = 0



I/G = 6s



I/G = 6s

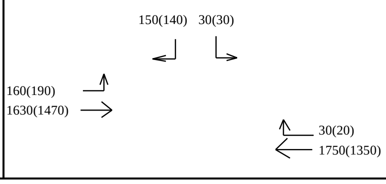
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Fung Yuen Road (G)**
Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
						Left	Right		A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	19%	24%	1965	4080	1935	1925	4050	4040	855	0.442	0.442	791	0.411	0.411
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	935	0.442		869	0.411	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	3%	3%	2115	0	2110	2110	0	0	919	0.436		708	0.335	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	861	0.436		662	0.335	
Fung Yuen Road	S		4	C	3.6	11	14	1	35% / 65%	37% / 63%	1975	4090	1770	1765	3715	3710	86	0.048	0.048	81	0.046	0.046
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	94	0.048		89	0.046	
Pedestrian Crossing			5p	D					Min. Crossing Time = 8Gm + 8FGm =16s													
			6p	D					Min. Crossing Time = 11Gm + 10FGm =21s													

Notes:

Traffic Flow (pcu / hr) AM(PM)

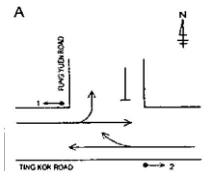


A.M. Check Phase	
εy	0.491
L (sec)	47
C (sec)	104
y pract.	0.493
R.C. (%)	1%

P.M. Check Phase	
εy	0.457
L (sec)	47
C (sec)	96
y pract.	0.459
R.C. (%)	1%

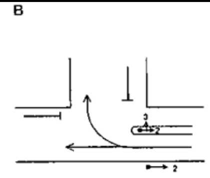
Stage / Phase Diagrams

A



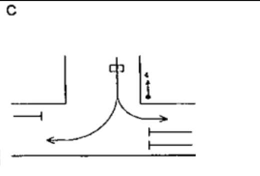
I/G = 4s

B



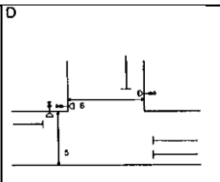
I/G = 6s+5s

C



I/G = 6s

D



I/G = 12s+16s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

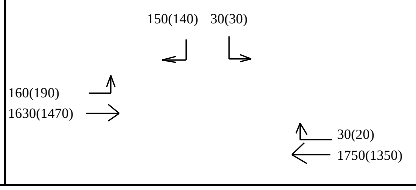
Junction: **Ting Kok Road / Fung Yuen Road (Jn G)**

Description: **2029 Reference Traffic Flows (Shifting of Crossing at Ting Kok Road)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	19%	24%	1965	4080	1935	1925	4050	4040	855	0.442	0.442	791	0.411	0.411
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	935	0.442		869	0.411	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	3%	3%	2115	0	2110	2110	0	0	919	0.436		708	0.335	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	861	0.436		662	0.335	
Fung Yuen Road	S		4	C	3.6	11	14	1	5% / 65	7% / 63	1975	4090	1770	1765	3715	3710	86	0.048	0.048	81	0.046	0.046
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	94	0.048		89	0.046	
Pedestrian Crossing			5p	D	Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	D	Min. Crossing Time = 11Gm + 10FGm =21s																	

Notes:

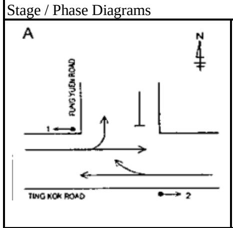
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.490	εy	0.457
L (sec)	48	L (sec)	48
C (sec)	104	C (sec)	96
y pract.	0.485	y pract.	0.450
R.C. (%)	-1%	R.C. (%)	-1%

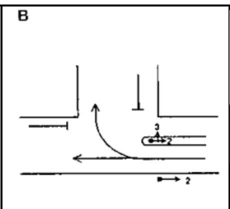
Stage / Phase Diagrams

A



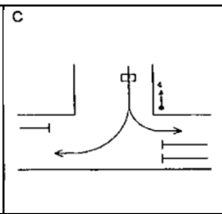
I/G = 4s

B



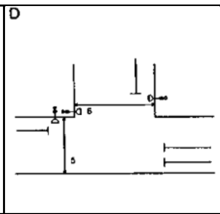
I/G = 6s+5s

C



I/G = 6s

D



I/G = 13s+16s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

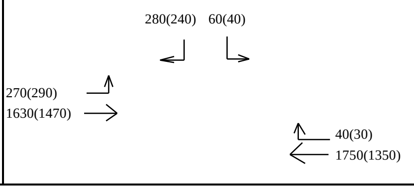
Junction: **Ting Kok Road / Fung Yuen Road (Jn G)**

Description: **2029 Design Traffic Flows (Shifting of Crossing at Ting Kok Road)(With Fung Yuen CDA (1))**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		1	A	3.5	17	0	1	30%	35%	1965	4080	1915	1905	4030	4020	903	0.471	0.471	834	0.438	0.438
Ting Kok Road	E		1	A	3.6	0	0	0	0%	0%	2115	0	2115	2115	0	0	997	0.472		926	0.438	
Ting Kok Road	W		2,3	A,B	3.6	0	19	0	4%	4%	2115	0	2110	2110	0	0	924	0.438		712	0.338	
Ting Kok Road	W		2	A,B	3.6	0	0	1	0%	0%	1975	4090	1975	1975	4085	4085	866	0.438		668	0.338	
Fung Yuen Road	S		4	C	3.6	11	14	1	7% / 63	0% / 70	1975	4090	1765	1770	3710	3715	162	0.092	0.092	133	0.075	0.075
Fung Yuen Road	S		4	C	3.6	0	17	0	100%	100%	2115	0	1945	1945	0	0	178	0.092		147	0.075	
Pedestrian Crossing			5p	D	Min. Crossing Time = 8Gm + 8FGm =16s																	
			6p	D	Min. Crossing Time = 11Gm + 10FGm =21s																	

Notes:

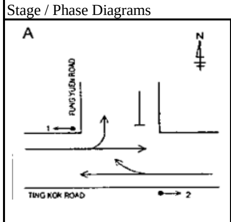
Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.563	εy	0.513
L (sec)	48	L (sec)	48
C (sec)	104	C (sec)	96
y pract.	0.485	y pract.	0.450
R.C. (%)	-14%	R.C. (%)	-12%

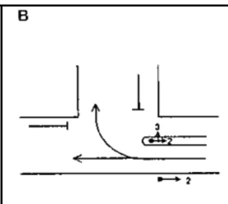
Stage / Phase Diagrams

A



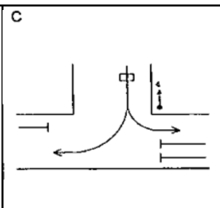
I/G = 4s

B



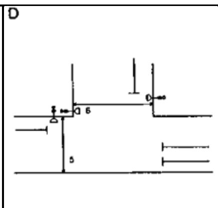
I/G = 6s+5s

C



I/G = 6s

D



I/G = 13s+16s

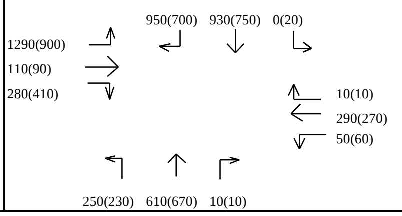
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Ting Kok Road / Yuen Shin Road / Dai Fuk Street (H)**
Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Ting Kok Road	E		A	1,2	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	638	0.333		445	0.232	
Ting Kok Road	E		A	1,2	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	652	0.333		455	0.232	
Ting Kok Road	E		B	2	3.5	0	0	1	0%	0%	1965	1965	1965	1965	1965	1965	110	0.056		90	0.046	
Ting Kok Road	E		B	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	280	0.145	0.145	410	0.213	0.213
Yuen Shin Road	N		C	2,3	3.5	15	0	1	100%	100%	1965	1965	1785	1785	1785	1785	250	0.140		230	0.129	
Yuen Shin Road	N		D	3	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	192	0.100	0.100	211	0.110	0.110
Yuen Shin Road	N		D	3	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	209	0.100		230	0.110	
Yuen Shin Road	N		D	3	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	209	0.100		229	0.110	
Yuen Shin Road	N		D	3	3.5	0	20	0	100%	100%	2105	2105	1960	1960	1960	1960	10	0.005		10	0.005	
Dai Fuk Street	W		E	4	3.0	17	0	1	30%	37%	1915	4000	1865	1855	3940	3930	166	0.089		160	0.086	
Dai Fuk Street	W		E	4	3.3	0	17	0	5%	6%	2085	0	2075	2075	0	0	184	0.089		180	0.087	
Ting Kok Road	S		F	1	3.5	0	22	1	100%	100%	1965	3930	1835	1835	3655	3655	477	0.260	0.260	351	0.192	0.192
Ting Kok Road	S		F	1	3.5	0	19	1	100%	100%	1965	0	1820	1820	0	0	473	0.260		349	0.192	
Ting Kok Road	S		F	1	4.0	15	0	1	0%	5%	2018	4113	2020	2005	4115	4100	456	0.226		377	0.188	
Ting Kok Road	S		F	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	474	0.226		393	0.188	

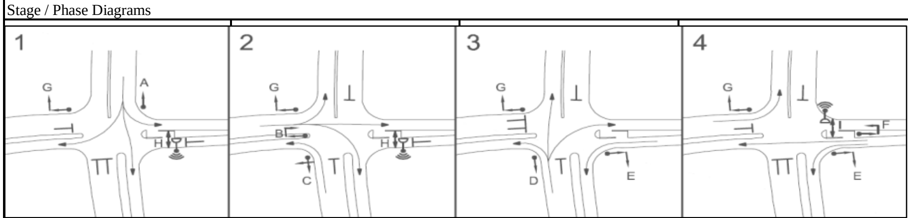
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.505	εy	0.514
L (sec)	40	L (sec)	40
C (sec)	100	C (sec)	96
y pract.	0.540	y pract.	0.525
R.C. (%)	7%	R.C. (%)	2%

Stage / Phase Diagrams



I/G = 7s	I/G = 8s	I/G = 11s	I/G = 17s

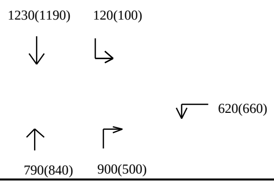
TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Yuen Shin Road / Dai Fat Road (I)**
Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Yuen Shin Road	N		A	1	4.0	0	0	0	0%	0%	2155	6465	2155	2155	6355	6385	573	0.266	0.266	452	0.210	0.210
Yuen Shin Road	N		A	1	4.0	0	50	0	61%	14%	2155	0	2115	2145	0	0	563	0.266		450	0.210	
Yuen Shin Road	N		A	1	4.0	0	45	0	100%	100%	2155	0	2085	2085	0	0	554	0.266		437	0.210	
Dai Fat Street	W		B	1	3.5	15	0	0	100%	100%	2105	4210	1915	1915	3875	3875	306	0.160		326	0.170	
Dai Fat Street	W		B	1	3.5	20	0	0	100%	100%	2105	0	1960	1960	0	0	314	0.160		334	0.170	
Yuen Shin Road	S		C	2	4.0	15	0	1	18%	16%	2018	4113	1980	1985	4075	4080	656	0.331	0.331	628	0.316	0.316
Yuen Shin Road	S		C	2	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	694	0.331		662	0.316	

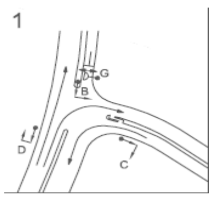
Notes:

Traffic Flow (pcu / hr) AM(PM)



A.M. Check Phase		P.M. Check Phase	
εy	0.597	εy	0.526
L (sec)	30	L (sec)	30
C (sec)	100	C (sec)	100
y pract.	0.630	y pract.	0.630
R.C. (%)	5%	R.C. (%)	20%

Stage / Phase Diagrams



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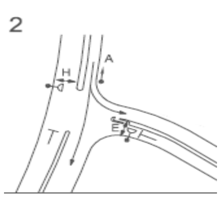

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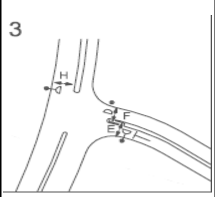


I/G = 15s

TRAFFIC SIGNALS CALCULATION Job No: 24093HK **CTA Consultants Ltd.**

Junction: **Tai Po Tai Wo Road / Yuen Shin Road (J)**

Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) A.M.	Revised Saturation Flow (pcu/hr) P.M.	Total Revised Saturation Flow (pcu/hr) A.M.	Total Revised Saturation Flow (pcu/hr) P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Tai Po Tai Wo Road	E		A	2,3	5.8	15	0	1	100%	100%	2199	2199	2000	2000	2000	2000	630	0.315	0.232	450	0.225	0.198
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	4210	1915	1915	3830	3830	445	0.232		380	0.198	
Tai Po Tai Wo Road	E		B	3	3.5	0	15	0	100%	100%	2105	0	1915	1915	0	0	445	0.232		380	0.198	
Yuen Shin Road	N		C	1	3.1	0	0	1	0%	0%	1927	6111	1927	1927	6111	6111	385	0.200	0.200	318	0.165	0.165
Yuen Shin Road	N		C	1	3.4	0	0	0	0%	0%	2095	0	2095	2095	0	0	418	0.200		346	0.165	
Yuen Shin Road	N		C	1	3.3	0	0	0	0%	0%	2089	0	2089	2089	0	0	417	0.200		345	0.165	
Yuen Shin Road	S		D	2	3.1	0	20	0	100%	100%	2067	2067	1925	1925	1925	1925	510	0.265	0.265	520	0.270	0.270
Yuen Shin Road	S		E	1,2	3.5	0	0	0	0%	0%	2103.6	4100.6	2103.6	2103.6	4100.6	4100.6	677	0.322		682	0.324	
Yuen Shin Road	S		E	1,3	3.8	0	0	1	0%	0%	1997	0	1997	1997	0	0	643	0.322		648	0.324	

Notes:

Traffic Flow (pcu / hr) AM(PM)

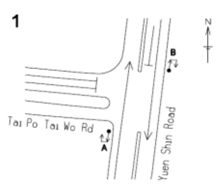
510(520) 1320(1330)

630(450)
890(760)

570(930) 1220(1010)

A.M. Check Phase		P.M. Check Phase	
εy	0.697	εy	0.634
L (sec)	13	L (sec)	13
C (sec)	100	C (sec)	100
y pract.	0.783	y pract.	0.783
R.C. (%)	12%	R.C. (%)	24%

Stage / Phase Diagrams



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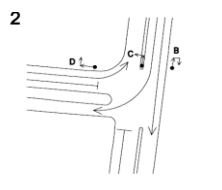

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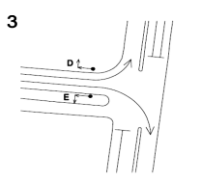


I/G = 6s

APPENDIX 3

Environmental Assessment

S12A Amendment of Plan Application,

Approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19

Proposed Rezoning from "AGR" & "GB" to "GIC" for a Proposed "Residential Care Homes for the Elderly (RCHE)"

At Lot 232 in D.D. 23, Tung Tsz Road, Tai Po, N.T.

Environmental Assessment Report

27 December 2024

Ref No.: C241003W-03

Submitted to:
R LEE Architects (HK) Ltd
Unit 1601, 16/F Stelux House,
698 Prince Edward Road East,
San Po Kong, Kowloon

Prepared By:
NOVOX Limited
Phone: (852) 2690-9881
Fax: (852) 2600-4286
Address: Rm L, 7/F, Block II, 14-24 Au Pui Wan St, Fo Tan, N.T.
Email: info@novox.com.hk

Project:	Proposed Residential Care Home for Elderly at Tung Tsz Road, Tai Po, N.T.
Document No.:	C241003W-03

Revision	Issue Date	Description	Author	Checker	Approver
A	27.12.2024	First Issue	QL	EN	BW

Approved by:

Banting Wong
MSc, CEng, MIOA,
MHKIQEP, MHKIOA, AFCHKRI, MHKIEIA

Disclaimer:

- This report is prepared and submitted by Novox Limited with all reasonable skill to the best of our knowledge, incorporating our Terms and Conditions and taking account of the resources devoted to it by agreement with the client.
- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

TABLE OF CONTENT

1 INTRODUCTION

1.1 BACKGROUND

R Lee Architects (the Applicant) intends to develop a 10-storey Residential Care Home for the Elderly (RCHE) (the Development) at Lot 232 in D.D. 23, Tung Tsz Road, Tai Po, N.T. (the Site).

For a proposed amendment to the approved Tung Tsz Outline Zoning Plan No. S/NE-TK/19, a planning application to the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (TPO) is required for rezoning from “AGR” & “GB” zone to “G/IC” zone.

To satisfy the Section 12A planning application, Novox Ltd is commissioned to conduct an environmental assessment to evaluate the potential environmental impact based on the latest master layout plan.

1.2 THE PROJECT AREA

The Site area is approximately 1494.67m^2 and it is located at Lot 232 in D.D. 23 in Tung Tsz Road, as shown in **Appendix 1.1.** The majority of the Site is zoned “AGR", and there is a very small portion of the Site encroach into the "GB" zone to the North-West. The site is currently an abandoned farm with concreted ground. The Proposed Development is a 10-storey RCHE which comprises a total of 225 beds and 28 suites. The anticipated year of construction completion and occupation is 2030.

The floor layout plans, and section diagrams of the Proposed Development are provided in the Planning Statement of the Planning Application.

1.3 OBJECTIVE AND SCOPE OF ENVIRONMENTAL ASSESSMENT

The key objectives of this EA 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, including

- Identify all sensitive receivers of the Proposed Development.
- Assess the potential air quality impact at the Proposed Development due to vehicular and any industrial emissions.
- Carry out a Noise Impact Assessment (NIA) during construction and operation of the RCHE Proposed Development.
- Assess the potential impact of water quality and waste management impact due to the Proposed Development.
- Recommend the necessary mitigation measures to alleviate any unacceptable impacts.

2 AIR QUALITY IMPACT ASSESSMENT

2.1 AIR QUALITY STANDARDS

The Air Pollution Control Ordinance (APCO) provides the statutory authority for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs), which stipulate the statutory limits of air pollutants and the maximum allowable numbers of exceedance over specific periods should be met. With passage of Hong Kong's Air Quality Objectives (AQOs) in the Air Pollution Control Ordinance (Cap. 311), the latest AQOs as listed in Table 1 have been in effect.

Table 1 Hong Kong Air Quality Objectives

Pollutant	Averaging time	Concentration limit[1] ($\mu g/m^3$)	Allowable number of exceedances
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) [2]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates ($PM_{2.5}$) [3]	24-hour	50	35
	Annual	25	Not Applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not Applicable
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: [i] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325 kilopascal.

[ii] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 µm or less.

[iii] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 µm or less.

2.1.1 The Site Environment

The existing environment of the proposed development is primarily affected by the local traffic such as Tung Tsz Road. No chimneys were observed within 200m from the Site boundary. The Site is mostly abandoned agricultural land with a small green area in the northwest corner. Groups of Village Houses, the "Treasure Spot Garden II", adjoin closely to the Site to the West and South-West. While similar Village House Developments, the "Jade View Villa" located slightly further away to the East. "Tsz Shan Monastery" is situated to the North-East. A Greenland zone located to the North which serves as a backdrop. As such, local traffic is considered to be the dominant emission source affecting the ambient air quality in these areas.

There is currently an air quality monitoring station operated by Environmental Protection Department (EPD) located outside the Project Site, namely Tai Po Monitoring Station (situated at Tai Po Government Offices Building, 1 Ting Kok Road). Despite this, in terms of geographical location, this monitoring station is considered the closest to the proposed Project Site. Meanwhile, the nearest CO monitoring station is North Monitoring Station (situated at 19 Pak Wo Road, Sheung Shui, New Territories). The annual average of air pollutants in µg/m^3 monitored at these stations for the year 2019-2023 are summarized in Table 2 below. In 2023, all measured parameters complied with the AQO except Ozone recorded non-compliance with the 8-hour AQO (160 µg/m3 with allowance of 9 exceedances of AQO limit per year).

Table 2 EPD Air Quality Monitoring Record at Tai Po Monitoring Station & North Monitoring Station in 2019-2023

Pollutant	Averaging Time	Conc. Limits (µg/m^3)	No. of Exceedances Allowed	Concentrations (µg/m^3) [1]					Remarks
				2019	2020	2021	2022	2023	
PM_{10}	24-hour	100	9	65	58	60	48	53	10th highest conc.
	Annual	50	Not Applicable	31	24	26	21	25	/
$PM_{2.5}$	24-hour	50	35	35	28	27	25	26	36th highest conc.
	Annual	25	Not Applicable	20	15	16	14	15	/
NO_2	1-hour	200	18	142	106	115	93	95	19th highest conc.
	Annual	40	Not Applicable	36	30	32	27	27	/
SO_2	10-minute	500	3	20	19	15	12	27	4th highest conc.
	24-hour	50	3	10	7	8	5	4	4th highest conc.
CO	1-hour	30,000	0	/	1830	2150	1710	2390	North Monitoring Station
	8-hour	10,000	0	/	1238	1550	1304	1231	North Monitoring Station
O_3	8-hour	160	9	**197**	**165**	**168**	**188**	**163**	10th highest conc.

Note:

[1] **Bolded** concentrations indicate exceedance of the air quality objectives

2.1.2 Representative Air Quality Sensitive Receivers (ASRs)

Within the 500m assessment area, Representative air sensitive receivers (ASRs) that are closest to the Project Site are anticipated to be the most affected and therefore considered the most representative ASRs for the worst-case scenario air quality impact assessment, whilst other ASRs located further away from these first-tier representative ASRs are expected to be less impacted. **Appendix 1.1** shows the locations of Representative ASRs of proposed RCHE development and details of the identified representative ASRs are summarized below -

ASR ID	Description	Use
ASR1	Treasure Spot Garden II	Residential
ASR2	Jade View Villa	Residential

2.1.3 Hong Kong Planning Standards and Guidelines (HKPSG)

According to Chapter 9, Environment of the Hong Kong Planning Standard and Guidelines (HKPSG), adequate buffer distance or screening should be provided between sensitive receptors and potential air pollution emitters. For roads that are distinguished as local distributor and truck road for active and passive recreational uses, the buffer distance must be greater than 5m and 20m respectively as shown in Table 3 below.

Table 3 Guidelines on Usage of Open Space Site

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

2.2 OPERATIONAL VECHICULAR EMISSION SOURCES

2.2.1 Evaluation of Air Quality Impact

The development may be subject to vehicular emission impact from roads nearby during the operational phase of the project. According to the Annual Traffic Census 2023 published by the Transport Department (TD), Tung Tsz Road has no classification and the road on the west of the Site has no name. Considering the Road is similar to a local distributor, 5m buffer distance thus be recommended as reference to HKPSG. No air-sensitive uses including openable window, fresh air intake and recreational use in the open space is located within the said buffer distances, no adverse air quality impact is anticipated. The buffer distance between the said roads and the proposed RCHE development is shown in **Appendix 1.1**. In order to avoid adverse air quality impact from the traffic emission, a buffer zone is recommended for the Proposed Development with the following requirements:

- No air-sensitive uses including openable window, fresh air intake and recreational uses in open space is allowed within buffer zones.
- With the provision of the buffer zone, the buffer distances recommended in HKPSG will be satisfied. Therefore, no adverse air quality impact on the Site from traffic emission is anticipated.

2.3 OPERATIONAL INDUSTRIAL EMISSION SOURCES

2.3.1 Evaluation of Air Quality Impact

As discussed in Section 2.1.1, no chimneys were observed within 200m from the Site boundary. The Site is mostly abandoned agricultural land with a small green area in the northwest corner. Groups of Village Houses, the "Treasure Spot Garden", adjoin closely to the Site to the West and South-West. While similar Village House Developments, the "Jade View Villa" located slightly further away to the East. "TszShan Monastery" is situated to the North-East. A Greenland zone located to the North which serves as a backdrop. It is confirmed that there is no air and odour emission sources in 200m study area by site survey. As such, local traffic is considered to be the dominant emission source affecting the ambient air quality in these areas. Thus, no adverse air quality impact to the proposed RCHE development due to industrial source emissions is anticipated.

2.4 CONSTRUCTION DUST EMISSION SOURCES

2.4.1 Evaluation of Air Quality Impact

The potential air quality impacts include the dust and exhaust emissions arising from the construction (e.g., demolition, site formation, foundation and formworks etc.). The nearest ASRs are Treasure Spot Garden II Block 2 and 3A (i.e., 7m to 10m between the Site and ASR). The constructional works of the proposed project will impose potential air quality impacts on the nearby ASRs during the constructional stage (Figure 2.1.2 refers).

Given that the distance between the Site boundary and Treasure Spot Garden II Block 2 and

3A is close (i.e., about 10m distance), the Site should erect of higher hoarding (e.g., at least 3m high at the near side facing Treasure Spot Garden II) to minimise the construction dust impact.

However, other ASRs are not immediately located the Project Site and the Site Area is only about 1494.67m^2 which is a very small footprint. Considering the size of site formation and excavation is in a small scale, the amount of excavated material and number of dump trunk would be limited. No significant dust impact from the construction works is anticipated.

In order to further minimize the potential dust emissions and for good site practice, relevant mitigation measures under the Air Pollution Control (Construction Dust) Regulation should be incorporated in the relevant works contracts.

Good practice and mitigation measures to be implemented during the construction phase are as follows:

- Regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.
- Frequent watering for particularly dusty areas and areas close to ASRs.
- Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.
- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.
- Tarpaulin covering of all dusty vehicle loads transported to and from the Site.
- Establishment and use of vehicle wheel and body washing facilities at the exit points of the Site.
- Use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry weather.
- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.
- Imposition of speed controls for vehicles within the Site.
- Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from off-site ASRs.
- Every stock of more than 20 bags of cement or dry Pulverised Fuel Ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.
- Electric power supply shall be provided for on-site machinery as far as practicable to

minimize aerial emissions.

It is also suggested that the contractor should set up a communication channel (e.g. regular meeting) with the management office of Treasure Spot Garden II to have a better dust control management, if necessary. With implementation of the recommended mitigation measures, no adverse air quality impacts during construction are anticipated.

No concurrent project in the surrounding area. Given that there is no adverse air quality impact during the construction, no cumulative air quality impact due to the project thus be anticipated.

2.5 OPERATION AIR QUALITY IMPACT

2.5.1 Evaluation of Air Quality Impact

Cooking Fume/odour from the proposed kitchen.

Kitchen will be provided at the Proposed Project. Oily fume and cooking odour emissions will potentially arising from the kitchen. In order to minimise the potential oily fume and odour emissions from the canteen/kitchen, the following considerations of positioning the exhaust outlets of the kitchen as recommended in the Control of Oil Fume and Cooling Odour from Restaurants and Food Business published by the Environmental Protection Department (EPD) shall be considered during the detailed design stage:

- locate the outlets at such a place where the ventilation is good and the emissions from them can be adequately dispersed without hindrance.
- provide sufficient separate distance from any sensitive receptor in the vicinity so that the emissions will not cause, or contribute to, an odour nuisance or other type of air pollution to the public.
- ensure the emission from the exhaust system will be directed vertically upwards, unless it can be demonstrated by an environmental professional that other direction is more advantageous in preventing the emission from causing air pollution problems.
- ensure the emission from the exhaust system will not be restricted or deflected by, for example, the use of plates or caps.

In order to minimise the impact of oily fume and cooling odour, the Applicant is committed to install a grease filter (as shown in **Appendix 2.2**) to control oily fume and cooking odour. Operation and maintenance of the exhaust system as well as the air pollution control equipment should be carried out by competent staff with sufficient training and relevant skills, and should be done in accordance with the manufacturer's specifications and specified procedures. To ensure proper performance, qualified professionals should be employed to undertake regular monitoring, inspection, cleaning and maintenance of components.

The tentative location of the Kitchen exhaust has been designed as far as possible all nearby ASRs. Considering that at source mitigation measure (e.g. grease filter) would be applied, no adverse odour impact from the proposed kitchen is anticipated.

3 NOISE IMPACT ASSESSMENT

3.1 NOISE ENVIRONMENT

3.1.1 The Site Environment

The Subject Site is surrounded by mainly low-rise residential development, including San Tau Kok Tsuen and Wai Ha Village. Tung Tsz Road is located near the southern side of the development nearby which will generate road traffic noise impact. No existing fixed noise sources are operating within 300m from the development site.

3.1.2 Representative Noise Sensitive Receivers (NSRs)

All the residential units within the proposed development are identified as sensitive receivers for noise impact assessment. Representative Noise Sensitive Receivers (NSRs) at each flat was selected for the quantitative traffic noise impact assessment, their locations and room sizes are shown in **Appendix 3.1**. The assessment points include all openable windows in habitable rooms such as living rooms and bedrooms. Windows in noise tolerance spaces such as toilets, bathroom and staircases are excluded.

There is no diagnostic rooms / wards in the proposed RCHE development. The Multi-Function Areas will not rely on operable window for ventilation.

The assessment points have been taken to be situated at 1.2 m above floor slabs and at 1 m away from the external facade of openable windows of habitable room of the flats.

3.2 ENVIRONMENTAL LEGISLATION AND STANDARDS

3.2.1 Road Traffic Noise Assessment Criteria

Noise standards are recommended in the *Hong Kong Planning Standards and Guidelines* (HKPSG) for planning against noise impact from road traffic. As stated in Table 4.1 of Chapter 9 of HKPSG, the criterion for road traffic noise impact on domestic premises (habitable rooms) is L_{10}(1-hour) 70dB(A). This criterion applies to uses which rely on openable windows for ventilation.

3.2.2 Fixed Noise Sources Assessment Criteria

Impacts of fixed noise sources within the Proposed Development on nearby noise sensitive buildings is governed by the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites* (IND-TM) issued under the Noise Control Ordinance ("NCO") and sections of Chapter 9 of HKPSG.

In setting the ANL, reference has to be made to the Area Sensitive Rating ("ASR") in Table 1 of IND-TM reflecting the type of area where the noise sensitive receivers ("NSRs") are situated. The proposed development and surrounding existing residential developments are considered low density residential area. The proposed development is expected to be in absence of influencing factor (IF). An ASR of "A" is considered representative of the noise sensitive uses. ANL and operation noise criteria for different Area Sensitivity Ratings

(ASRs) are summarized in **Table 3-1Table 3-1** and **Table 3-2**.

According to the HKPSG, the level of the intruding noise at the façade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL shown in the IND-TM or, in the case of the background being 5 dB(A) lower than the Acceptable Noise Level (ANL), the predicted noise level should not exceed the background.

Background noise level in terms of L_{90}(1-hr) will be measured onsite by future contractor so that it can be adopted for determining necessary noise mitigation measures to meet the requirement.

Table 3-1 Area Sensitivity Rating (ASR)

Degree to which NSR is affected by IF / Type of Area Containing NSR	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	**<u>A</u>**	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

Table 3-2 Acceptable Noise Levels (ANLs)

ASR / Time Period	A	B	**<u>C</u>**
Day (0700 to 1900 hours)	**<u>60</u>**	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	**<u>50</u>**	55	60

Remarks:

1) *Prevailing background noise level to be measured by future contractor. Prevailing background noise level or ANL-5 will be finally adopted.*

3.2.3 Construction Noise Assessment Criteria

The main piece of legislation controlling environmental noise nuisance impact is the *Noise Control Ordinance* (NCO). The NCO enables regulations and Technical Memoranda (TM) to be made, which introduce detailed control criteria, measurement procedures and other technical matters.

Construction noise is governed under the following TMs:

- Technical Memorandum on Noise from Percussive Piling (PP-TM).

- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM).
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM).

During "Restricted Hours", defined as 7pm to 7am from Monday to Saturday and all day on public holidays, the construction contractor must apply for and receive a Construction Noise Permit (CNP) from EPD for percussive piling (at any time) or any other construction activities conducted. While there is no planned construction works to be carried out during the restricted hours, the relevant TMs should be followed in case there is any need to carry out works in such time period in future.

3.3 ROAD TRAFFIC NOISE ASSESSMENT

3.3.1 Assessment Model

The U.K. Department of Transport's procedure *"Calculation of Road Traffic Noise"* (CRTN) is used to predict the hourly L_{10}(1-hour) noise levels generated from road traffic at selected representative NSRs using proprietary noise prediction software CadnaA. Road traffic noise impacts on various floor levels on the respective residential blocks/houses have been predicted. Practicable environmental mitigation measures will be recommended where necessary. The predicted noise levels are compared with the relevant HKPSG noise standards (i.e. L_{10}(1-hour) 70dB(A)).

The assessment methodology was implemented using noise prediction software CadnaA, which is a graphically based computer programs in full compliance with the noise prediction methodologies as set out in CRTN.

This proprietary modelling software is capable of simulating various road traffic conditions, road conditions and the form of noise mitigation measures. All the topographic effect, distance information, view angle information, shielding effects, ground absorption and façade reflection can be accurately illustrated and computed.

Topographic barrier including surrounding building structures, retaining walls, and natural terrains etc. all provide screening or reflection effect to the noise source. This information is retrieved from the latest digital map data provided by Lands Department and digitized in the road traffic noise model.

For the propagation of noise, a worst-case hard ground as defined in CRTN was assumed throughout the Study Area.

A +2.5dB(A) correction for façade reflection was applied at receptor locations in accordance with CRTN.

3.3.2 Traffic Flow Data

The road layout defines the road width, opposing traffic lane separation, road surface type, traffic mix, traffic flow and design speed. For the purpose of this road traffic noise impact assessment, traffic flows have been forecasted for all major roads within 300m of the proposed development. The road network was divided into discrete segments, each of which was assigned a segment number.

The proposed development is scheduled for construction completion and operation in year 2030. Traffic forecast for year 2045 representing the worst situation within 15 years from the operation of the residential care home is provided by project traffic consultant and included in **Table 3-3** and **Appendix 1.1**.

Table 3-3 Year 2045 Traffic Forecast for Noise Impact Assessment

Road ID.	Road Name	Direction	Road Surface	Road Speed [km/h]	AM Peak		PM Peak	
					Traffic Flows [veh/hr]	% of HV *1	Traffic Flows [veh/hr]	% of HV *1
01	Tung Tsz Road	EB	Impervious	50	90	37%	70	36%
02	Tung Tsz Road	WB	Impervious	50	60	34%	70	47%
03	Tung Tsz Shan Road	NB	Impervious	50	40	37%	20	39%
04	Tung Tsz Shan Road	SB	Impervious	50	20	51%	40	39%
05	Tung Tsz Road	EB	Impervious	50	130	37%	90	39%
06	Tung Tsz Road	WB	Impervious	50	90	51%	110	39%
07	Access Road	WB	Impervious	50	40	37%	30	39%
08	Access Road	EB	Impervious	50	50	51%	50	39%
09	Universal Gate Road	SB	Impervious	50	20	10%	20	10%
10	Universal Gate Road	NB	Impervious	50	10	37%	20	39%
11	Tung Tsz Road	WB	Impervious	50	180	51%	140	39%
12	Tung Tsz Road	EB	Impervious	50	130	20%	180	14%

Remarks:

1) HV includes Light Van, Public Light Bus, Light Goods Vehicle, Medium Goods Vehicle, Heavy Goods Vehicle and Container/Tractor, Coach and Bus.

3.3.3 Road Surface Conditions

The CRTN modelling method uses emission level adjustments to take into account the influence of various road surfaces and gradients on noise emission level. A -1dB correction to the basic road source noise level is applied to impervious road surface with traffic speed below 75km/hr, and -3.5dB correction to the basic road source noise level for pervious road surface.

3.3.4 Road Traffic Noise Impact for Baseline Scenario

Quantitative road traffic noise impact assessment has been carried out and compared against the criterion. Noise levels were calculated for the baseline scenario without noise mitigation in place. Predicted maximum traffic noise levels for each assessment point are shown in table below. The detailed noise model and contour map are shown in **Appendix 3.1** for reference. The assessment is based on conservation assumption of hard reflecting ground surface over the entire Study Area.

The predicted noise levels at all residential units comply with HKPSG $L_{10(1\ hour)}$ 70dB(A) noise criterion. Noise mitigation measures are not necessary.

Table 3-4 Predicted Road Traffic Noise Impact for Unmitigated Scenario

Window ID	Predicted Noise Level $L_{10,\ 1\ hour}$, dBA								Noise Criteria, dBA
	1/F	2/F	3/F	4/F	5/F	6/F	7/F	8/F	
W01	59.0	59.1	59.2	59.3	59.5	59.6	55.9	58.5	70
W02	59.4	59.4	59.5	59.6	59.8	59.9	56.0	58.7	70
W03	59.8	59.8	59.9	60.0	60.1	60.2	56.2	59.0	70
W04	60.2	60.2	60.2	60.3	60.4	60.4	56.4	59.3	70
W05	60.6	60.6	60.6	60.7	60.7	60.7	56.6	59.6	70
W06	61.0	61.0	61.0	61.0	61.0	61.0	56.7	59.9	70
W07	61.5	61.5	61.5	61.4	61.4	61.3	57.0		70
W08	62.0	61.9	61.9	61.8	61.7	61.7	57.3		70
W09	62.5	62.5	62.4	62.3	62.2	62.1	58.3		70
W10	63.1	63.1	63.0	62.9	62.9	62.8	60.3		70
W11	58.8	58.9	58.9	59.2	59.5	59.3	59.9		70
W12	55.6	55.7	55.9	56.3	56.9	55.8	57.6		70
W13	54.5	54.6	54.9	55.3	56.0	54.6	56.8		70
W14	54.0	54.1	54.4	54.9	55.5	53.9	56.2		70
W15							47.2		70
W16							50.7		70
W17	49.7	50.2	50.5	51.2	52.2	53.1	52.6		70
W18	50.1	50.5	50.9	51.4	52.3	53.1	52.7		70
W19	50.0	50.5	50.8	51.3	52.2	53.0	52.7		70
W20	50.0	50.5	50.9	51.4	52.2	53.0	52.5		70
W21	35.5	38.4	41.6	42.1	42.7	43.5	44.7		70
W22	40.8	42.1	44.1	44.5	45.1	45.7	46.8		70

Remarks:

South-West Façade (W01–W10)

North-East Façade (W11–W22)

3.4 FIXED SOURCE NOISE ASSESSMENT

3.4.1 Assessment Model

Standard acoustical principles in accordance with *"ISO 9613-2:1996 Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation"* will be adopted for prediction of fixed noise impact. The general equation used to calculate the equivalent continuous sound pressure level at a receiver location arising from each individual noise source is described below:

$$L_{eq} = L_w + D_c - A_{div} - A_{atm} - A_{gr} - A_{bar} - A_{misc}$$

Where

L_w is the sound power level of the noise source;

D_c is the directivity factor of the noise source;

A_{div} is the attenuation due to geometrical divergence;

A_{atm} is the attenuation due to atmospheric absorption;

A_{gr} is the attenuation due to ground effect;

A_{bar} is the attenuation due to barrier;

A_{misc} is the attenuation due to miscellaneous other effects.

The prediction methodology described in ISO 9613-2 is implemented via noise prediction software CadnaA. A 3D model was constructed taking into account the topology and site layout plan. CadnaA is proprietary software for noise mapping of road traffic, railway as well as fixed industrial plants, etc. It has been used for city-scale Strategic Noise Mapping in Europe according to the EC Directive 2002/49/EC, the reliability has been well verified and accepted.

Topographic barrier including surrounding buildings, retaining walls, and natural terrains etc. all provide screening effect to the noise source. This information is retrieved from the latest digital map data provided by Lands Department.

The noise barriers within the proposed development include self-screening by noise tolerant building blocks and architectural fins. These barriers are constructed in the 3D model based on latest master layout plan. For calculation of barrier screening effect, maximum insertion loss is capped at 20dB for single barrier, 25dB for double barrier, according to ISO 9613.

For the propagation of noise, a worst-case hard ground was assumed throughout the Study Area. No ground attenuation effect is applied.

A +3.0dB(A) correction for façade reflection was applied at receptor locations.

3.4.2 Identified Fixed Noise Source Generated by the Project

Planned fixed noise sources within the Proposed RCHE Development are identified as shown in **Appendix 3.2**.

Among the identified sources, the dominate sources are four (4) nos. of cooling towers located on the open rooftop having direct line of sight to NSRs. The noise may potentially affect San Tau Kok Tsuen and Wai Ha Village in the close proximity.

Most of the Mechanical and Electrical (M&E) equipment, such as chiller, water pumps, lift machines, etc. will be installed in enclosed plant rooms of the Proposed RCHE Development. Transformers will be located in the basement level and placed inside enclosed structure. The guidance of "Good Practices on Ventilation System Noise Control" and "Good Practices on Pumping System Noise Control" issued from EPD shall be referred to. Appropriate mitigation measures, where necessary, shall be provided to comply with the noise criteria.

Small power rating split type air conditioning systems will be installed for individual room. However, the noise impact of those small power rating outdoor units shall be minimal, and the contribution is hence not considered in the noise impact assessment.

3.4.3 Allowable Sound Power Level

At this stage the cooling towers for the project had not been confirmed as which shall be designed in future by the design and build contractor. As such the maximum allowable sound power level will be determined by back calculation from the separation distance between the noise source and nearby representative nearest noise sensitive receivers are given in **Table 3-5**.

A catalogue of low noise type cooling towers as shown in **Appendix 3.2** for reference. The Sound Power Level (SWL) of this cooling tower model is 93dB which is adopted in the noise model. The sound power level and noise mitigation requirements will be stipulated in the project contractor specification governing the equipment selection by the design and build contractor.

Table 3-5 Proposed Fixed Source Noise Mitigation Treatment

Noise Sources	Allowable SWL	Noise Mitigation Description (refer to **Appendix 3.2**)
Cooling Tower	93 dB(A) (Unmitigated)	- Intake silencer with IL of 20dB(A), the silencer is typically 900 to 1200 long subject to supplier model selection - Discharge silencer with IL of 12dB(A), the silencer is typically 600 to 900 long subject to supplier model selection

3.4.4 Fixed Plant Noise Assessment Results

Based on the allowable SWL, noise mitigation measures and four cooling towers in full load operation, the noise impact at the worst affected façade at nearby representative NSRs are tabulated below.

Table 3-6 Predicted Fixed Source Noise Impact to Surroundings

ID	NSR	Predicted Noise Level at Worst Façade, dB(A)	Nighttime Noise Criteria, ANL-5 dB(A)
N01	190 San Tau Kok	34.3	45
N02	85 Wai Ha	44.1	45
N03	87 Wai Ha	44.6	45

As such, provided the fixed plant noise generation at the cooling tower does not exceed the allowable SWL, fixed plant noise impact towards the affected NSRs will not exceed the noise criteria stipulated in the HKPSG.

3.5 CONSTRUCTION NOISE IMPACT

Various construction activities will be the key noise sources generated during the construction phase. In particular, the use of PME and the vehicle movement within the Site are the major potential noise sources. Construction shall be carried out during non-restricted hours as far as practicable. The mitigation measures recommended in ProPECC PN1/24 should be implemented where applicable. In addition, the following measures and on-site practice are recommended in order to minimize the potential construction noise impacts during daytime:

- Quiet PME and construction method should be adopted if possible.
- The Contractor shall devise and execute working methods to minimise the noise impacts on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented.
- Switch off idling equipment.
- Regular maintenance of equipment.
- Fit muffler or silencer for equipment.
- Noisy equipment and noisy activities should be located as far away from the NSRs as is practical.
- Use quiet construction method, e.g. use saw-cut or hydraulic crusher instead of excavator mounted percussive breaker.
- PME should be kept to a minimum and the parallel use of noisy equipment / machineries should be avoided.

- Erect noise barriers or noise enclosure for the PME if appropriate.
- Implement good house-keeping and provide regular maintenance to the PME.
- Spot check resultant noise levels at nearby NSRs.

If construction work involving use of PME will be required during restricted hours, a CNP shall be applied for under the NCO. The noise criteria and assessment procedures for obtaining a CNP are specified in GW-TM.

With the implementation of the abovementioned mitigation measures, adverse construction noise impact is not anticipated.

4 WATER QUALITY IMPACT ASSESSMENT

4.1 INTRODUCTION

This section reviews the water quality impacts from the Project. The potential environmental impacts from construction effluent generated by the proposed works and operation of the proposed residential home for elderly are assessed. Standards, guidelines and legislation, recommended mitigation measures and the disposal strategy are reviewed.

4.2 LEGISLATIONS, STANDARDS AND GUIDELINES

The following relevant Hong Kong legislations/guidelines governing water pollution control have been referenced in carrying out the assessment:

- Environmental Impact Assessment Ordinance and EIAO-TM (Annex 6 and 14);
- Water Pollution Control Ordinance (WPCO) (Cap. 358) (as amended by the Water Pollution Control (Amendment) Ordinance 1990 and 1993);
- Water Pollution Control (General) Regulations (as amended by the Water Pollution Control (General) (Amendment) Regulations 1990 and 1994);
- Water Pollution Control (Sewerage) Regulation;
- Water Quality Objectives (WQOs) for relevant Water Control Zones (WCZs);
- Practice Note for Professional Persons ProPECC Note PN 2/23, Construction Site Drainage; and
- Practice Note for Professional Persons ProPECC Note PN 1/23, Drainage Plans subject to Comment by the Environmental Protection Department.
- ETWB TC(W) No. 5/2005 “Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works

4.3 IDENTIFICATION OF WATER SENSITIVE RECEIVERS

The project site is located within the Northeast of New Territories and within the catchment of the Tolo Harbour and Channel Water Control Zone.

A nearby existing Foul Manhole is available for the project area.

The quality of effluent during the construction and operation phase of the projects will be bounded by the discharge standard of Tolo Harbour and Channel Water Control Zone, subject to the estimated discharge quantity. Standards for effluents discharged into the coastal waters of Tolo Harbour and Channel Water Control Zone is annexed in Cap. 358AK Technical Memorandum on Effluent Standards, shown in **Appendix 4.1**.

For the marine environment, the nearest EPD Water Quality Monitoring Station (WQMS) to Tung Tsz Road is TM5. The latest summary of baseline condition of subject WQMS in

2023 is extracted, reference from "Marine Water Quality in Hong Kong in 2023" by EPD.

The Tolo Harbour and Channel WCZ is highly land-locked, and hence its water body is generally subject to a natural hydrological phenomenon of water column stratification and associated formation of bottom layer water masses with relatively low DO level in summer period due to restricted water exchange with the open waters. In 2023, the overall marine WQO compliance rate for this WCZ was 71%, mainly ascribed to the influence on the DO WQO compliance rate caused by the aforesaid natural hydrological phenomenon. On the other hand, the bacteriological WQO for secondary contact recreational uses in the WCZ has been consistently achieved, indicating a good water quality suitable for the beneficial uses.

Upon the implementation of the Tolo Harbour Action Plan since the mid-1980s, there has been substantial improvement in the water quality in Tolo Harbour in the past three decades.

Summary of water quality statistics for the Tolo Harbour and Channel WCZ in 2023

Parameter	DM1 (Nearest to the Stie)
Temperature (°C)	25.1 (17.5 - 30.4)
Salinity	30.2 (18.7 – 32.7)
Dissolved Oxygen (mg/L)	6.7 (5.0 – 7.8)
Dissolved Oxy gen (% Saturation)	96 (79 - 122)
pH	7.8 (7.3 - 8.3)
Secchi Disc Depth (m)	2.7 (1.5 – 3.8)
Turbidity (NTU)	5.5 (0.4 – 48.8)
Suspended Solids (mg/L)	4.0 (1.6 – 11.6)
5-day Biochemical Ox y gen Demand (mg/L)	1.3 (0.4 – 3.4)
Ammonia Nitrogen (mg/L)	0.023 (<0.005 – 0.082)
Unionised Ammonia (mg/L)	0.001 (<0.001 - 0.005)
Nitrite Nitrogen (mg/L)	0.003 (<0.002 - 0.005)

Nitrate Nitrogen (mg/L)	0.011 (<0.002 – 0.074)
Total Inorganic Nitrogen (mg/L)	0.04 (0.01 – 0.16)
Total Kjeldahl Nitrogen (mg/L)	0.43 (0.20 – 0.74)
Total Nitrogen (mg/L)	0.44 (0.21 – 0.74)
Orthophosphate Phosphorus (mg/L)	0.004 (<0.002 - 0.010)
Total Phosphorus (mg/L)	0.05 (0.04 - 0.07)
Silica (as SiO2) (mg/L)	0.95 (<0.05 – 2.80)
Chlorophy ll-a (µg/L)	4.6 (1.0 - 15.0)
E.coli (count/100mL)	2 (<1 - 190)
Faecal Coliforms (count/100mL)	8 (<1 - 500)

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 construction and operation of the Project are identified, further study will be conducted. The Water Sensitive Receivers (WSRs) identified within 500m of the Project boundary that may potentially be affected are shown in **Appendix 4.2** and the representative WSRs are listed below –

WSR ID	**Description**
WSR1	Drainage Channel
WSR2	Agricultural Land
WSR3	Woodland
WSR4	Nullah
WSR5	Swamp
WSR6	Fishpond

4.4 WATER QUALITY IMPACTS AND MITIGATIONS DURING CONSTRUCTION PHASE

4.4.1 Potential Impact

Proposed construction works mainly involve excavation of soil, piling and building construction works. Key water pollution sources include:

General Construction Activities

General construction activities, including wheel washing, dust suppression from excavation and pilling works, concrete casting and utility installation, may generate wastewater which would contain high concentration of SS. Various construction works may also generate debris and waste such as packaging, construction materials and general refuse. Uncontrolled discharge of site effluents and waste generated from the construction works would lead to deterioration in water quality. Adoption of the guidelines and good site practices for handling and disposal of construction discharges as specified in below mitigation section would minimize the potential impacts.

Surface Runoff from Rainfall and Wind Erosion

In particular, surface runoff into receiving water courses during and immediate after rainstorm events is of major concern. During rainstorms, site runoff would wash away the soil particles on unpaved lands and areas with exposed topsoil. Sediment lade runoff and wind-blown dust would result in deteriorating water quality with increase of SS levels and turbidity and may result in induced effects on aquatic ecological resources. It is important that proper site practice and good site management (as specified in the ProPECC PN 1/94 “Construction Site Drainage”) to be followed to prevent site runoff with high level of SS from entering the surrounding waters. With the implementation of appropriate measures to control runoff and drainage from the construction site, disturbance of water bodies would be avoided and deterioration in water quality would be minimal.

Spillage of Chemicals

Accidental spillage and the storage of chemicals used on-site, such as petroleum products, surplus adhesives, spent lubrication oil, grease and mineral oil, spent acid and alkaline solutions/solvent and other chemicals, may contaminate the surface soils. The contaminated soil particles may be washed away by construction site runoff or stormwater drainage and eventually may affect nearby water bodies. The potential impacts could however be mitigated by practical mitigation measures and good site practices as given in below mitigation section.

Sewage from the Construction Workforce

Sewage effluents will arise from the sanitary facilities provided for the on-site construction workforce. The characteristics of sewage would include high levels of BOD5, Ammonia and E. coli counts. This temporary sewage can be handled by providing adequate portable chemical toilets. Provided that sewage is not discharged directly into storm drains or inland waters adjacent to the construction site, and temporary sanitary facilities are used and properly maintained, it is unlikely that sewage generated from the sites would have a significant water quality impact.

Construction Works in Close Proximity of Nearby Water Bodies

Construction activities within or in close vicinity to nearby water bodies may affect the water quality due to potential release of wastewater which is generally with high concentration of SS and elevated pH. Mitigation measures shall be implemented to control the release of wastewater into the adjacent water environment. With proper implementation of appropriate construction runoff control practices as referred to ProPECC PN 1/94 "Construction Site Drainage" and the provision of mitigation measures as described in the ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works", it is anticipated that no unacceptable water quality impacts would be arising from the construction works nearby the water bodies.

4.4.2 Mitigation Measures

Dust Suppression

Water used in dust suppression should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be leaded to silt removal facilities before being discharged to the storm drain.

Wheel Washing Water

All vehicles and plant should be cleaned before they leave a construction site to minimize the deposition of earth, mud, debris on roads. A wheel washing facility should be provided at every site exit if practicable and wheel-wash overflow shall be directed to silt removal facilities before being discharged to the storm drain. The site boundary between the wheel washing facility and the public road should be placed with sand bunds to prevent wheel-wash overflow from entering public road drains.

Wastewater from Concrete Casting

Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum. To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an on-line standby pump of adequate capacity and with automatic alternating devices. Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal.

Rubbish and Litter

Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the works area. It is recommended to clean the construction sites on a regular basis. Adequate refuse collection points shall be provided on-site.

Construction Site Runoff

The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable to minimise surface runoff and the chance of erosion. It is expected that the following measures recommended will effectively control runoff from the works sites and avoid water pollution downstream and shall be implemented during construction phase.

Surface runoff from construction sites should be discharged into storm drains via sand/silt removal facilities such as sedimentation basin/tank. The treated effluent discharge from construction stages should be sited away from natural water course. Earth bunds or waterfilled barriers with geotextile sheet should be provided on site boundaries to intercept surface runoff from outside the site so that it will not wash across the site and to prevent surface runoff flowing out of the site. Bunds or sandbags should also be used within the site to direct surface runoff into the silt removal facilities. Stagnant surface runoff should be pumped to the silt removal facilities before discharged into storm drains.

Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system without having previously passed through sedimentation tank, and to prevent storm runoff from getting into foul sewers. Discharge of surface runoff into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.

Silt removal facilities and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding.

Surface excavation should be carefully programmed to avoid wet-season operation. If it is unavoidable, any exposed top soils should be covered with a tarpaulin or other means. For the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, as excavation proceeds. Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms.

Open stockpiles (e.g. aggregates, sand and fill material) should also be covered with a tarpaulin to avoid erosion during rainstorms. The washing of material from the stockpiles directly into the storm drains should be prevented by passing the runoff through sedimentation tank. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.

Spillage of Chemicals

Chemical waste, as defined under the Waste Disposal (Chemical Waste) (General) Regulation, includes any substance being scrap material, or unwanted substances specified under Schedule 1 of the Regulation. Substances likely to be generated by construction activities arise from the maintenance of construction plant and equipment of the Project. These include, but not limited to the following:

- Lubricating oil and waste fuel (diesel) from construction plant with improper maintenance;

- Spent solvents from equipment cleaning activities.

Due to the scale of an active work front of the Project, it is anticipated that no maintenance shop for construction plant and equipment would be operated on-site and storage fuel on-site is minimal. Drainage traps such as grease traps and petrol interceptors will be installed at each of the drainage outlets to filter out chemical pollutants from surface runoff.

Mitigation such as providing drip tray/proper storage of chemical containers will be strictly implemented during the construction works. In case of any leakage on bare ground, oil and grease decontamination kit will be available on-site for clean-up of oil leakage. Any fuels should be stored in bunded areas such that spillage can be easily collected. The contractor shall prepare an oil / chemical clean-up plan in the Waste Management Plan before the commencement of construction works. It should ensure that leakages or spillages are contained and cleaned up immediately. Once spillage is identified on-site, the clean-up procedures should be carried out as below:

- Contact the site agent and/or foreman immediately and report the spillage;
- Identify the source of spillage and determine nature of the material;
- Stop leakage immediately where possible;
- Identify all current and potential affected areas according to the flow of spillage and stop the spillage from flowing to other works areas;
- Contain the surface runoff of spillage by using bunds made from available materials;
- After the surface runoff of spillage is contained, remove the materials (including contaminated soil where necessary) using pumps and/or absorbent materials; and
- Dispose of the materials, including the contaminated soil, as chemical waste

Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance (Cap. 354). The contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap. 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for disposal of chemical wastes. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap. 354) details the requirements to deal with chemical wastes. General requirements are given as follows:

- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;
- Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and
- Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area

Sewage Effluent from Construction Workforce

Portable chemical toilets would be provided for handling the sewage effluent generated by the workforce. The number of the chemical toilets required for the construction sites would be subject to later detailed design, the capacity of the chemical toilets, and contractor's site practices. A licensed contractor would be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.

Domestic sewage generated by the construction workforce should be appropriately managed to avoid potential adverse impacts of uncontrolled sewage discharge into nearby water courses. Portable chemical toilets shall be appropriately located on-site in proximity to all major works areas where they shall remain and be maintained in good working order for the convenience of the workforce during the construction phase.

The provision of temporary toilet facilities within the water gathering ground, if any, is subject to approval of the Director of Water Supplies. As a minimum requirement, temporary toilet facilities must be located more than 30m from any watercourse.

Notices would be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site would be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.

Construction Works in Close Proximity of Nearby Water Bodies

The practices outlined in ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should also be adopted where applicable to minimize the water quality impacts upon any natural streams or surface water systems. Relevant mitigation measures from the ETWB TC (Works) No. 5/2005 should be followed. Examples are shown below -

- Construction works close to the inland waters should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low.
- The use of less or smaller construction plants may be specified in areas close to the water courses to reduce the disturbance to the surface water.
- Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.
- Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.
- Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.
- Proper shoring may need to be erected in order to prevent soil or mud from slipping into the watercourses.
- Fencing should be erected on the sides facing the nearest stream course to trap all wind-

blown litters such as paper, plastic bags, bottles and boxes within the site from entering the nearby water bodies.

4.5 WATER QUALITY IMPACTS AND MITIGATIONS DURING OPERATION PHASE

4.5.1 Potential Impact

The Project is to build a residential care home for elderly, accommodating at most 428 nos. of bedspaces. Sewage from the residents as well as workers and visitors will be generated from bathing and showers, toilet flushing, pantry, toilet basins, etc.

4.5.2 Mitigation Measures

All storm water/rainwater from both open paved and developed areas of the site will be conveyed to the storm water drain.

The *ProPECC Note PN 5/93* 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 site effluents generated within the proposed development area should follow the relevant guidelines and practices as given in the *ProPECC Note PN 5/93*.

The disposal of the treated effluent shall comply with relevant statutory requirements and guidelines such as Water Pollution Control Ordinance (Cap. 358), etc. All discharges during the operation phase of the proposed development are required to comply with the Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS) issued under Section 21 of the Water Pollution Control Ordinance (WPCO). The TM-DSS defines acceptable discharge limits to different types of receiving waters. Under the TM-DSS, effluents discharged into the drainage and sewerage systems, inland and coastal waters of the Water Control Zones (WCZs) are subject to pollutant concentration standards for specified discharge volumes. These are defined by the Environmental Protection Department (EPD) and are specified in licence conditions for any new discharge within a WCZ. Therefore, no adverse water quality impact on WQO is anticipated.

All storm water/rainwater from open paved and developed areas of the site will be conveyed to the storm water drain via properly designed surface drainage. Facilities such as standard gully grating, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system. Good management measures such as regular cleaning and sweeping open paved area of the site is suggested during operational phase to reduce the suspended solid or other unwanted pollutants or waste fall into the stormwater drain.

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.

Similar to that during the construction phase, a water discharge license should be obtained for the operation of the proposed residential care home for elderly. All the requirements and conditions as stipulated on the license shall be observed and complied with.

5 WASTE MANAGEMENT

5.1 INTRODUCTION

This section reveals and discusses types of wastes generated from the Project during construction and operation phases. Hence, proper waste management strategies are recommended to reduce, reuse, recycle and dispose of wastes.

5.2 LEGISLATIONS, STANDARDS AND GUIDELINES

The following relevant Hong Kong legislations and guidelines governing waste disposal and management have been referenced in carrying out the assessment:

- Waste Disposal Ordinance (Cap. 354);
- *A Guide to the Chemical Waste Control Scheme;*
- *A Guide to the Registration of Chemical Waste Producers;*
- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; and
    - *Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers*.

5.3 WASTE MANAGEMENT IMPLICATIONS OF THE CONSTRUCTION PHASE

Major construction activities for the Project include demolition of existing property, site clearance, piling, construction of substructure and superstructure. Considering the small scale of the Project, it is anticipated not much waste would be generated though the exact quantity will be subject to detailed construction methods.

Wastes generated from the Project during the construction phase generally consist of:

- Construction and demolition (C&D) waste;
- General refuse; and
- Chemical waste.

Possible wastes generated from the Project are detailed in Table 5-1.

Table 5-1 Possible Waste Generated During the Construction Phase

WASTE TYPE	POSSIBLE WASTE GENERATED FROM THE PROJECT
INERT C&D WASTE	• CONCRETE FROM DEMOLITION OF EXISTING PROPERTY • EXCAVATED MATERIALS (EXCLUDING TOPSOIL)

Waste Type	Possible Waste Generated from the Project
Non-inert C&D waste	• FELLED TREES • REMOVED PLANT • TOPSOIL • DISCARDED FURNITURE • DAMAGED SCAFFOLDING BAMBOO • WOOD FORMWORK • USED PACKAGING MATERIALS
General refuse	• WASTEPAPER • FOOD DEBRIS • PACKAGING MATERIAL
Chemical waste	• SPENT LUBRICATING OIL • PAINT

A Waste Management Plan (WMP) will be prepared to outline the estimated types and quantities of waste generated in the Project and formulate the approaches in dealing with them. Typical hierarchy of waste management, i.e., avoid, minimize, recycle and disposal as the last resort, will be adopted for the Project. The aims of the WMP are to:

- improve the resource efficiency.
- increase the waste and materials awareness of staff; and
- help to discharge duty of care obligations.

5.3.1 Waste Avoidance

To avoid generation of waste during the construction phase, good and detailed planning and smart procurement is crucial. The following approaches are suggested:

- avoid excess order;
- arrange delivery of goods according to construction progress;
- reject and return damaged goods;
- keep protective packaging on and ensure storage areas are secure and weatherproofs;
- minimize movement of goods to lower the chance of damage to goods; and
- eliminate over packaging and liaise with suppliers to return packaging materials to them.

5.3.2 Construction and Demolition Materials

Excavated materials, such as soil and rock, and demolition concrete should be reused for backfilling on site as far as practicable. Surplus materials of these inert types should be delivered to the Civil Engineering and Development Department (CEDD) managed public fill reception points and/or sorting facilities. Prior licensing is required from the CEDD.

Non-inert C&D wastes, in particular steel bars and used cables from demolition works of this project, are recyclables and should be delivered to proper outlets for recycling. On the other hand, felled trees, removed plant and topsoil are normally not reusable and should be delivered to the landfill for disposal.

Considering that there are many types of wastes generated, proper sorting and segregation of various C&D wastes could minimize cross contamination and enhance waste recovery quantity.

A trip ticket system will be implemented for any wastes disposal to the public fill reception points, sorting facilities and landfills. All the disposal records should be properly maintained.

5.3.3 Chemical Waste

Chemicals, including lubricating oil, paint, thinner, etc. will be used in the Project. Should there be any chemical wastes generated in the Project, the Contractor is required to register as chemical waste producer pursuant to the Waste Disposal (Chemical Waste) (General) Regulation. Proper containers, labels and storage areas must be provided in accordance with the aforesaid regulation.

All the chemical waste should be collected by licensed chemical waste collector for disposal at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi or other licensed chemical waste treatment/disposal facilities.

5.3.4 General Refuse

General refuse includes wastepaper, packaging materials and food debris generated by the workforce on site. No canteen will be provided on site during the construction phase. The quantity of general waste is anticipated minimal in view of the small scale of the construction works. Nonetheless, before offsite disposal, they should be segregated into recyclable and non-recyclable wastes and kept in different covered storage areas/bins, where all of them should be sufficiently maintained and cleaned, to avoid attracting vermin and pests. All the general refuse will be collected on-site, separately from C&D materials by an appropriate waste collector employed by the contractor to the landfill.

Training should be provided for all site workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling. The training is expected to ensure their awareness of good waste management and the specific measures used at the site.

5.4 WASTE MANAGEMENT IMPLICATIONS OF THE OPERATIONAL PHASE

The project site will be converted into a residential care home for elderly. Wastes generated during operation phase includes:

- General refuse; and

- Clinical waste.

5.4.1 General Refuse

General refuse during the operation phase mainly comes from daily living of residents in the care home, e.g., food waste, packaging of goods, used plastic and glass bottles, bedding and blankets, etc., which are similar to those from general households. Considering the number of residents is low, the quantity of general waste should not be significant.

Solid waste should be properly kept in covered containers/storage areas to avoid attracting of vermin or pests. Recycling containers are recommended to be provided at suitable locations to encourage recycling in the care home.

5.4.2 Clinical Waste

Residential care home for elderly is considered as a small clinical waste producer. It is likely that some types of clinical wastes, particularly needles and sharps, would be generated from its operation. As such, the Operator of the care home should complete the "*Clinical Waste Producer Premises Code Request Form*" and manage the clinical waste in accordance with the *Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers*.

Clinical waste should be segregated from other wastes. Used needles and sharps are classified as Group 1 clinical waste and should be stored safely in sharps box, before transferring to a disposal site. Colour of the sharps box should be either in yellow or a combination of yellow and white and sealed with proprietary closure.

The care home operator shall engage the service of licensed collectors to collect and transport clinical waste to the CWTC for proper disposal. Alternatively, the clinical waste may also be delivered by a health professional under the clinical waste producer, if there is any, and subject to compliance of additional requirements as stipulated in the *Code of Practice for the Management of Clinical Waste – Small Clinical Waste Producers*.

The care home operator must also keep all the records of the clinical waste consigned to a licensed collector or delivered to a collection point or licensed disposal facility. To achieve it, it is suggested to retain the Waste Producer Copy of the Clinical Waste Trip Tickets of each delivery.

6 CONCLUSION

This Environmental Assessment presents the findings from assessing the potential impacts associated with the operation of the proposed RCHE development to confirm its environmental suitability. Key environmental concerns have been addressed and potential impacts assessed covering the following:

- Air Quality
- Noise
- Water Quality
- Waste Management

Overall, it would be environmentally acceptable with no adverse impacts on the identified sensitive uses. Suitable noise mitigation measures are recommended to minimize noise impacts to meet the specified noise standard.

Air Quality

The development may be subject to vehicular emission impact from roads nearby during the operation of the project. However, no adverse vehicular emission impact is anticipated upon incorporation of the relevant buffer distance stipulated under the HKPSG into the layout design.

There is no chimney within 200m from site boundary, i.e., complying the buffer distance for chimney emissions under the HKPSG. Thus, no adverse air quality impact to the proposed residential development due to industrial chimney emissions is anticipated.

Noise

Road traffic would be the major source of noise nuisance during the Project operation. The predicted noise levels at all residential units comply with HKPSG $L_{10(1\ hour)}$ 70dB(A) noise criterion.

A catalogue of cooling towers as shown in **Appendix 3.2** for reference. The Intake Silencers and Discharge Silencers will be provided for the cooling towers located on open rooftop. The sound power level and noise mitigation requirements will be stipulated in the project contractor specification governing the equipment selection by the design and build contractor. Provided the fixed plant noise generation at the cooling tower does not exceed the allowable SWL, fixed plant noise impact towards the affected NSRs will not exceed the noise criteria stipulated in the HKPSG.

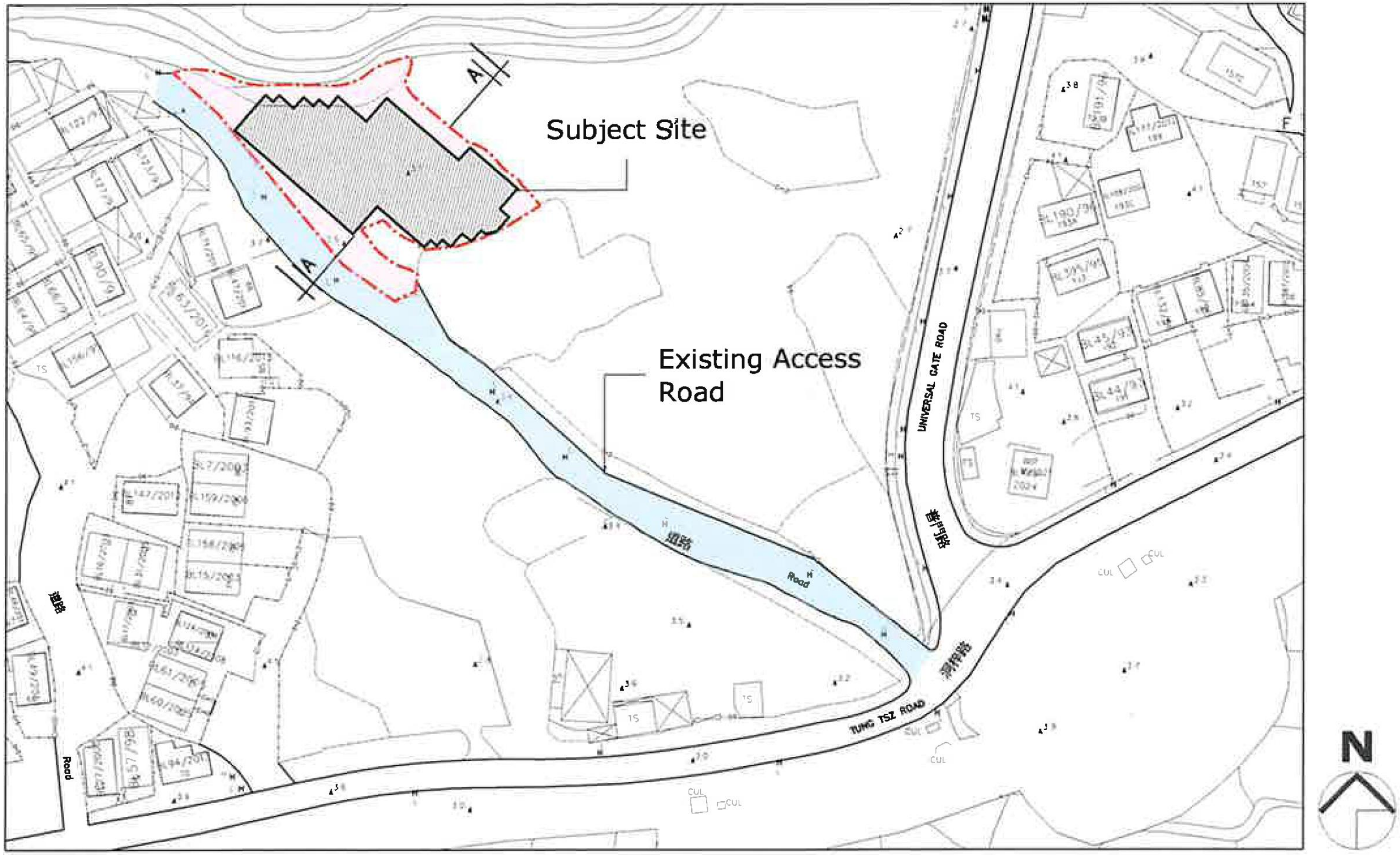
Water Quality

With a properly designed sewerage and drainage system, no insurmountable water quality impacts would be generated from the construction and operation phases of the Project.

Waste Management

The quantity of waste to be generated from the Project is anticipated not significant, considering the small project scale. Through proper project planning and execution, waste could be further avoided while useful materials could be reused or recycled. With implementation of the statutory procedures and recommended mitigation measures for offsite disposal of surplus excavated material, non-inert wastes, general refuse, chemical and clinical wastes, there should not be any insurmountable waste impact.

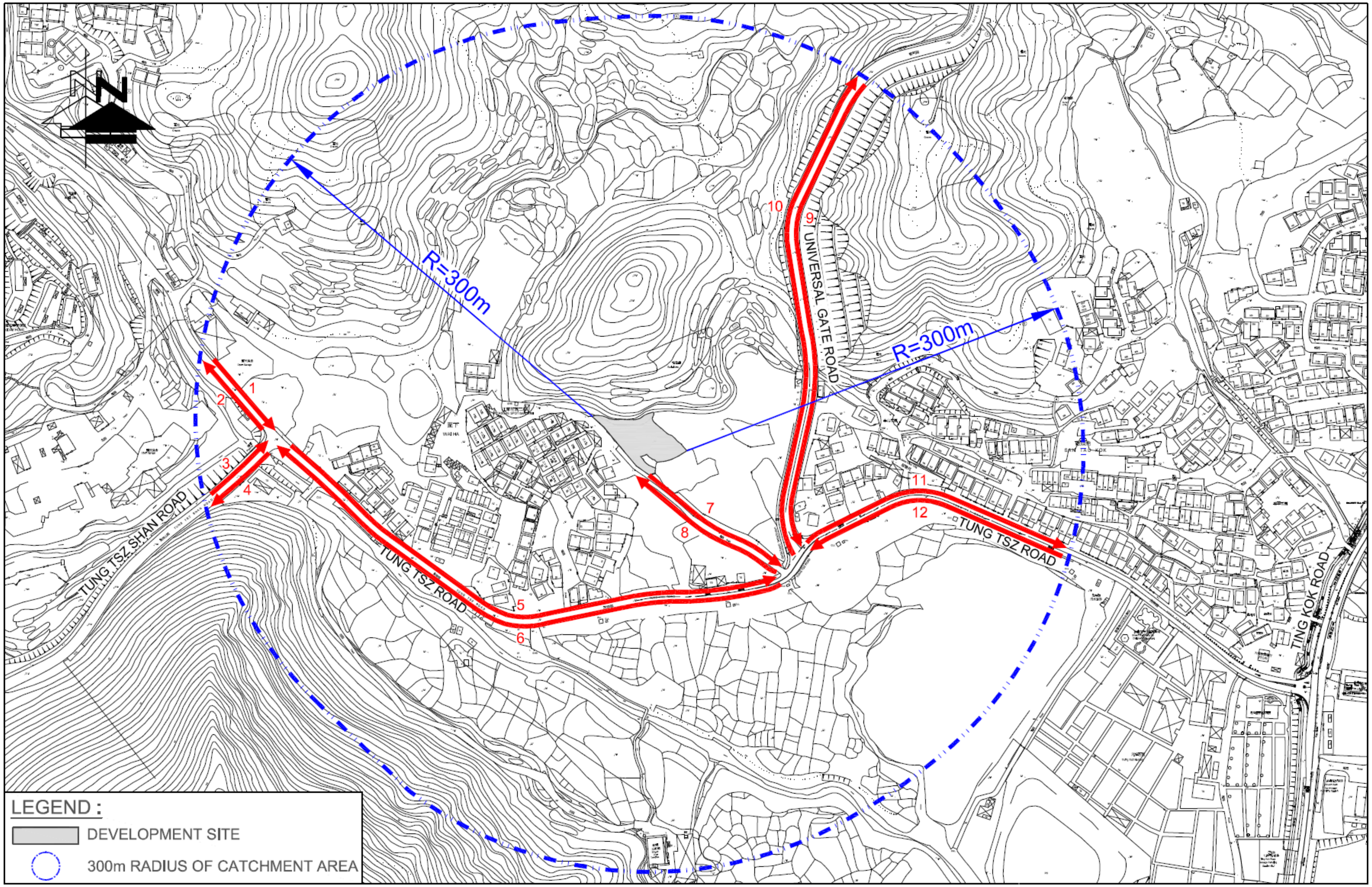
APPENDIX 1.1. SITE LAYOUT PLAN & SURROUNDING ENVIRONMENT



BLOCK PLAN

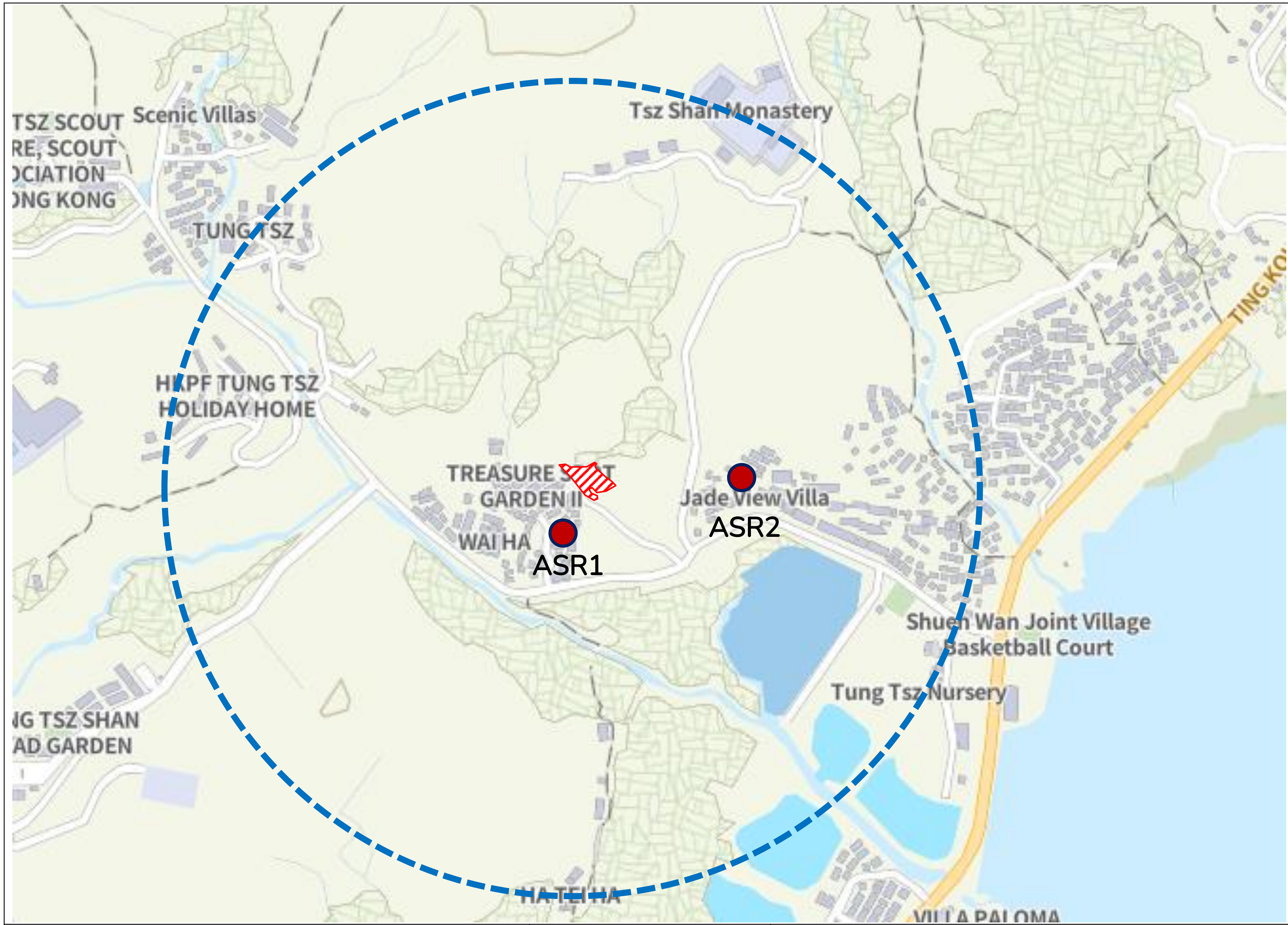
SCALE – 1:1500

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 1.1.1		LEAD ARCHITECT: R Lee Architects (HK) Ltd	ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Qingqing Li
					CHECKED BY: Eddy Ng
DRAWING TITLE: SITE LAYOUT PLAN AND SURROUNDING ENVIRONMENT	SCALE: N.T.S.	REV: A			APPROVED BY: Banting Wong



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 1.1.2	LEAD ARCHITECT: R Lee Architects (HK) Ltd ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee
DRAWING TITLE: LOCATION OF ADJACENT ROADS	SCALE: N.T.S. REV: A		CHECKED BY: Eddy Ng APPROVED BY: Banting Wong

APPENDIX 2.1. AIR QUALITY SENSITIVE RECEIVERS & EMISSION SOURCES



LEGEND

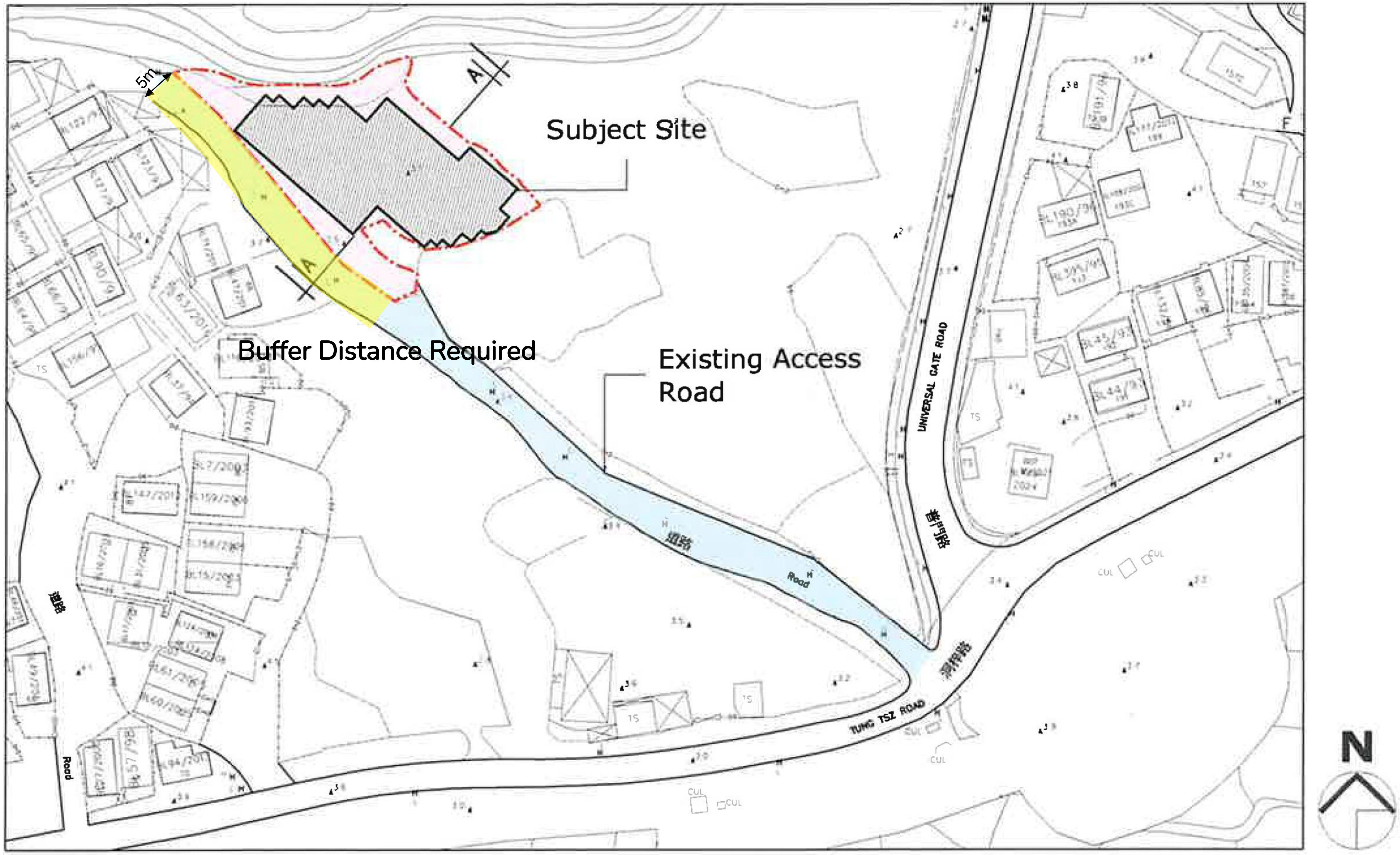
SITE BOUNDARY

500m STUDY AREA

AIR SENSITIVE RECEIVER

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 2.1.1		LEAD ARCHITECT:	ENVIRONMENTAL CONSULTANT:
DRAWING TITLE: REPRESENTATIVE ASRs	SCALE: N.T.S.	REV: A		

PREPARED BY	Qingqing Li
CHECKED BY	Eddy Ng
APPROVED BY	Banting Wong



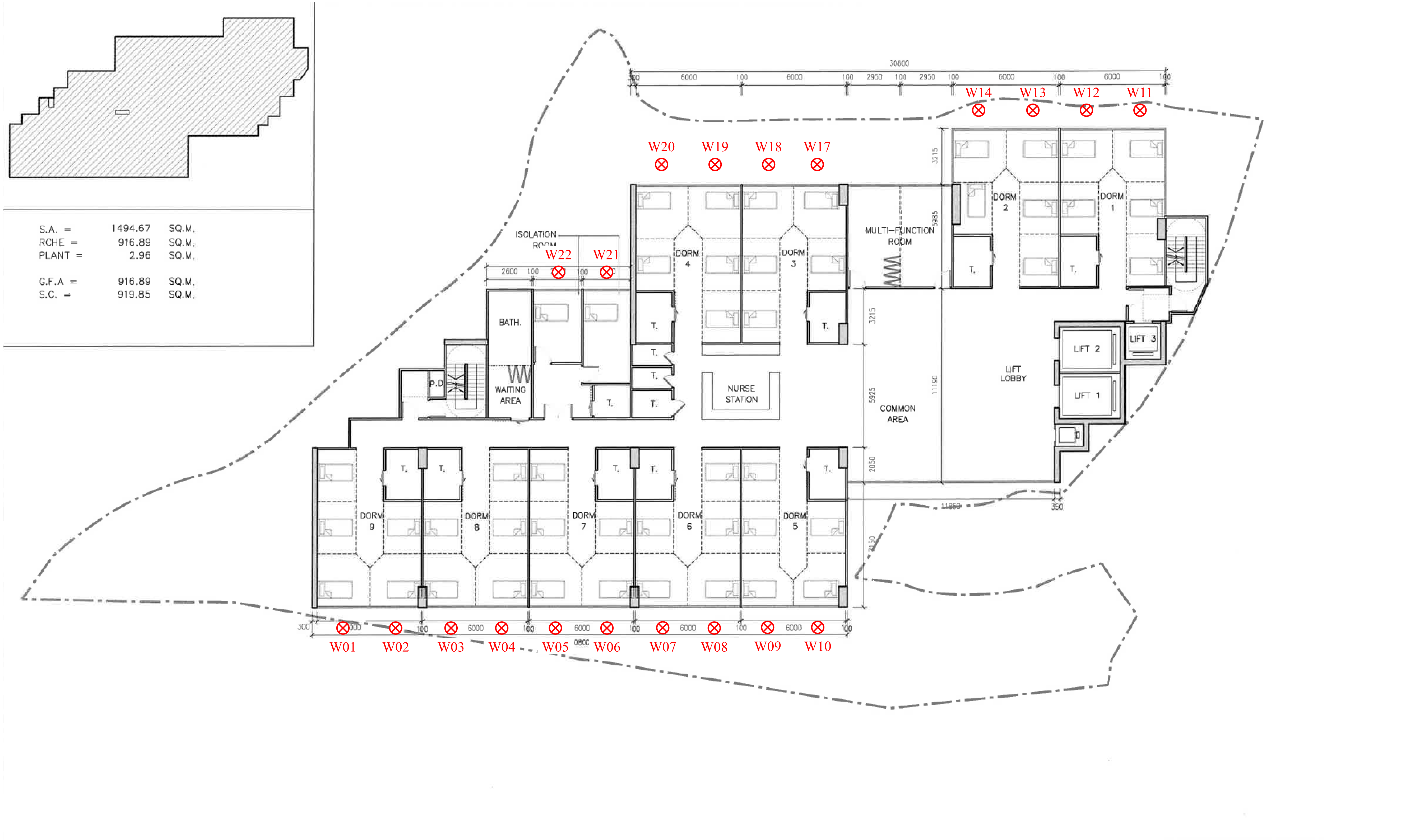
BLOCK PLAN

SCALE – 1:1500

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 2.1.2		LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY	Qingqing Li
			ENVIRONMENTAL CONSULTANT:	CHECKED BY	Eddy Ng
DRAWING TITLE: BUFFER DISTANCE FROM VEHICLE SOURCES	SCALE: N.T.S.	REV: A		APPROVED BY	Banting Wong

APPENDIX 2.2. BROCHURE OF THE GREASE FILTER

APPENDIX 3.1. TRAFFIC NOISE IMPACT ASSESSMENT



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.1
DRAWING TITLE: REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR TRAFFIC NOISE IMPACT ASSESSMENT (1/F TO 5/F TYPICAL)	SCALE: N.T.S. / REV: A

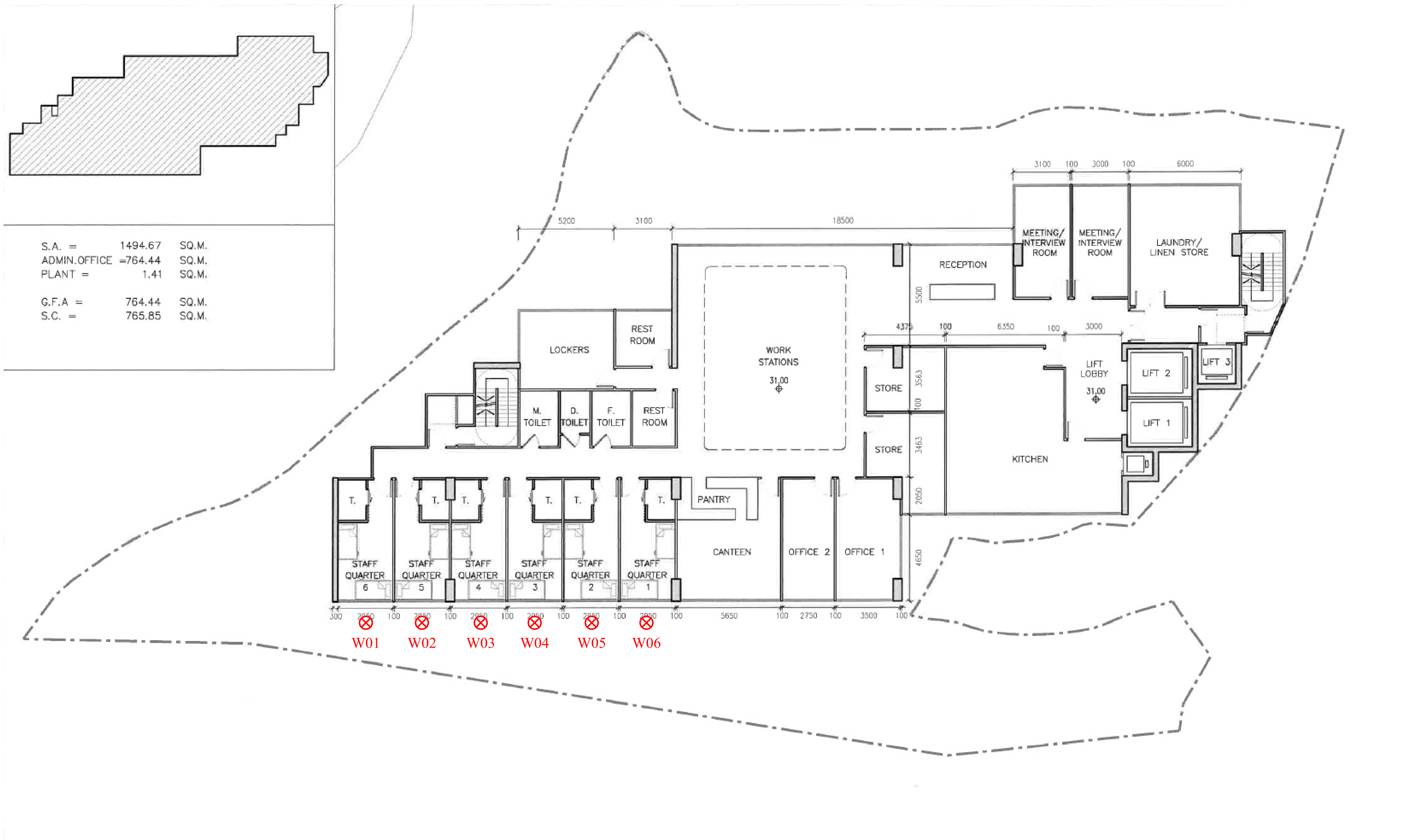
LEAD ARCHITECT: R Lee Architects (HK) Ltd

ENVIRONMENTAL CONSULTANT: Novox

PREPARED BY	Phoenix Lee
CHECKED BY	Eddy Ng
APPROVED BY	Banting Wong

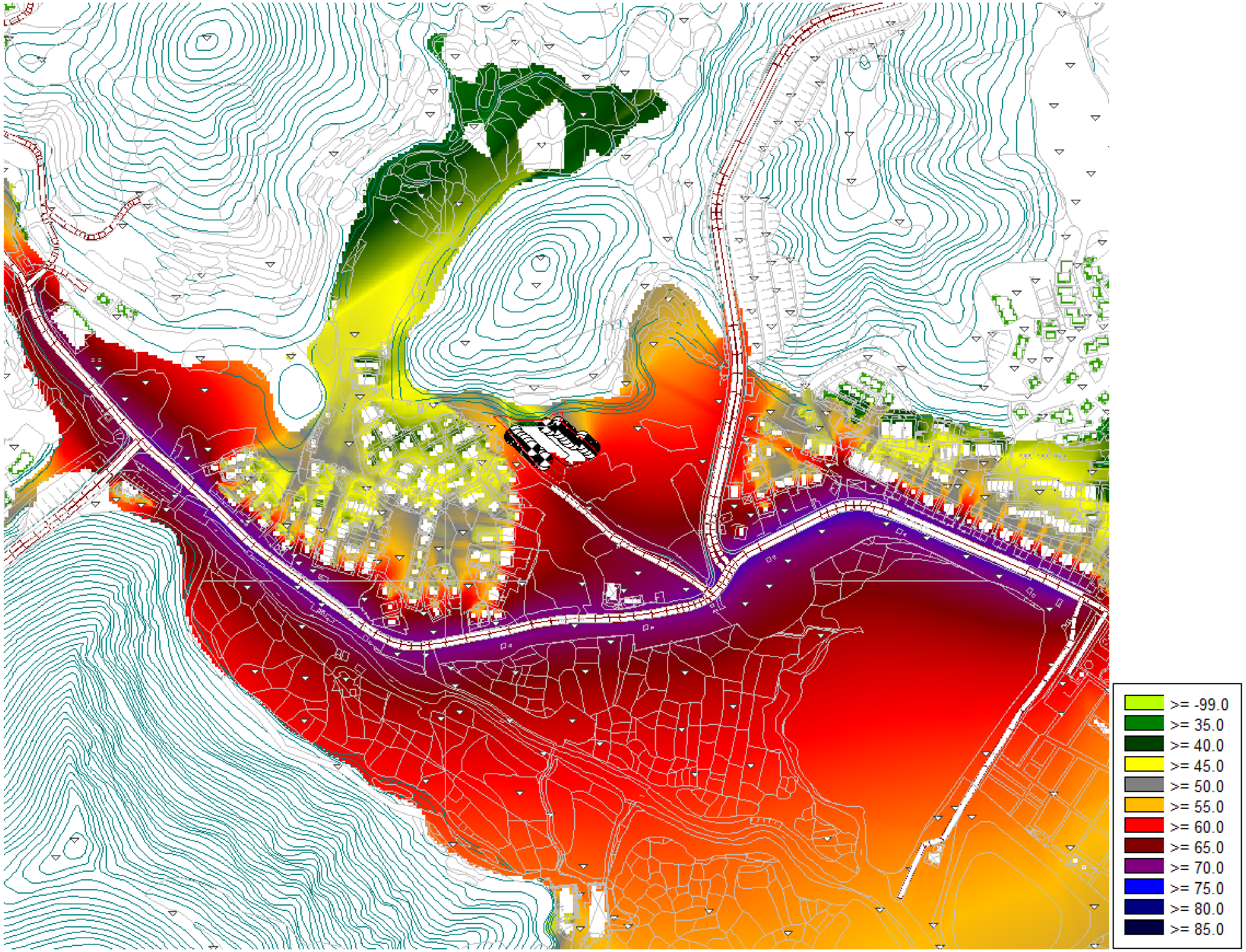
PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.2		LEAD ARCHITECT: R Lee Architects (HK) Ltd / ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee
DRAWING TITLE: REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR TRAFFIC NOISE IMPACT ASSESSMENT (6/F)	SCALE: N.T.S.	REV: A		CHECKED BY: Eddy Ng
				APPROVED BY: Banting Wong

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.3	LEAD ARCHITECT: R Lee Architects (HK) Ltd ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee
DRAWING TITLE: REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR TRAFFIC NOISE IMPACT ASSESSMENT (7/F)	SCALE: N.T.S. REV: A		CHECKED BY: Eddy Ng APPROVED BY: Banting Wong



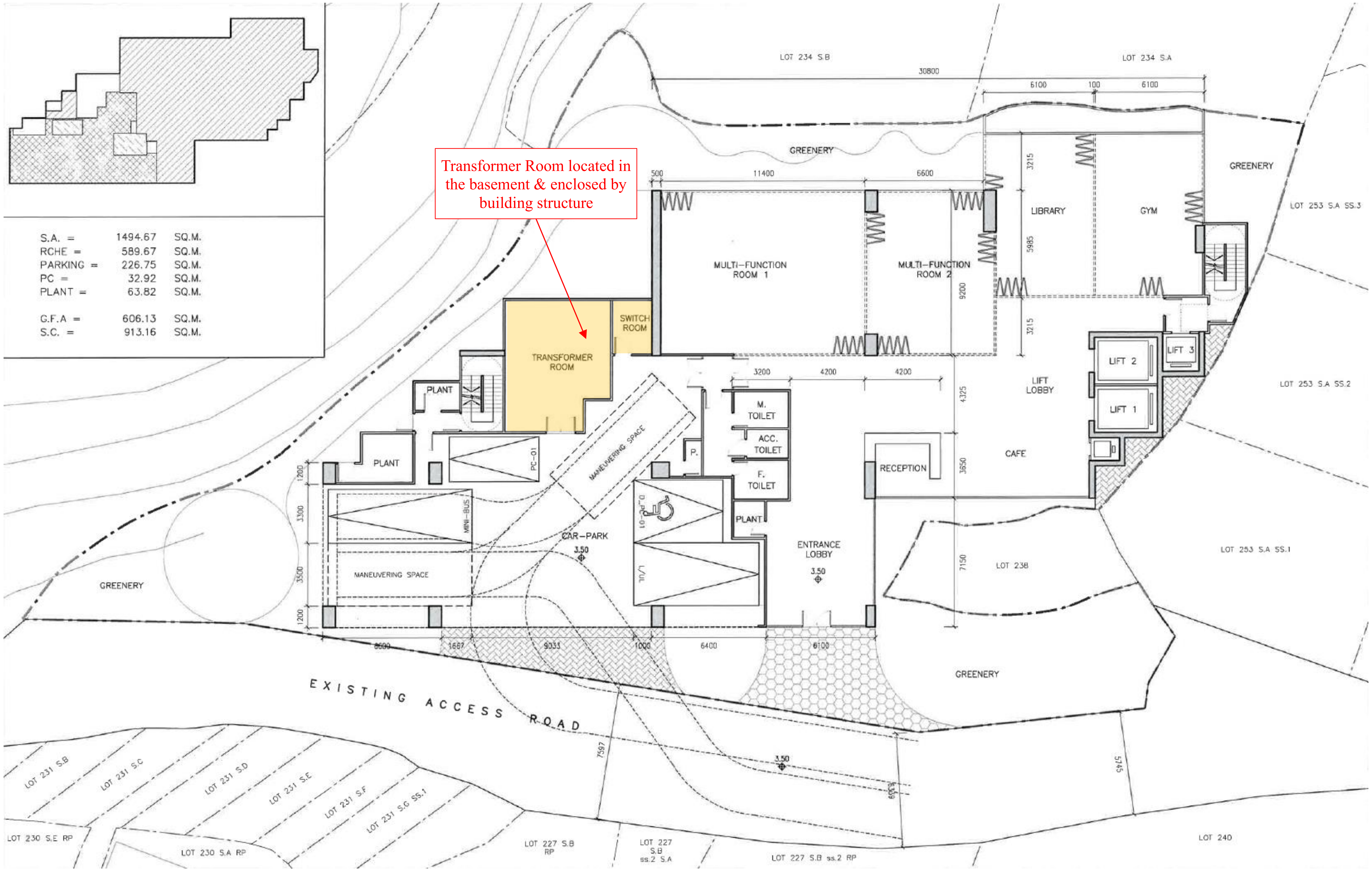
PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.4	LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY: Phoenix Lee
DRAWING TITLE: REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR TRAFFIC NOISE IMPACT ASSESSMENT (8/F)	SCALE: N.T.S. / REV: A	ENVIRONMENTAL CONSULTANT: Novox	CHECKED BY: Eddy Ng APPROVED BY: Banting Wong

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.5		LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY	Phoenix Lee
			ENVIRONMENTAL CONSULTANT: Novox	CHECKED BY	Eddy Ng
DRAWING TITLE: 3D VIEW OF NOISE MODEL, NOISE SOURCES AND REPRESENTATIVE NSRS	SCALE: N.T.S.	REV: A		APPROVED BY	Banting Wong



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.1.6		LEAD ARCHITECT: R Lee Architects (HK) Ltd ENVIRONMENTAL CONSULTANT:	PREPARED BY: Phoenix Lee CHECKED BY: Eddy Ng APPROVED BY: Banting Wong
DRAWING TITLE: NOISE CONTOUR OF ROAD TRAFFIC NOISE IMPACT (UNMITIGATED)	SCALE: N.T.S.	REV: A		

Appendix 3.2. FIXED SOURCE NOISE ASSESSMENT

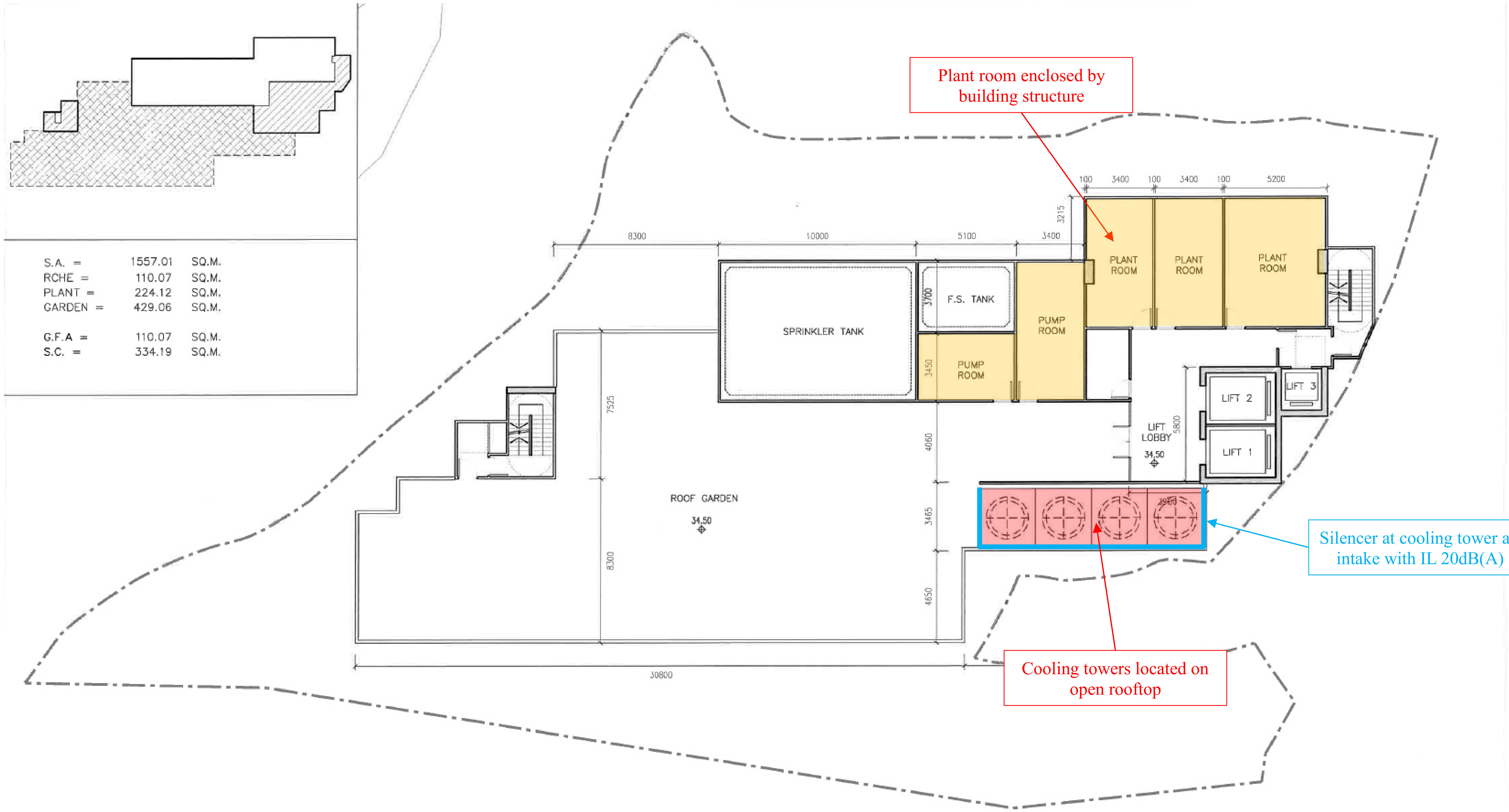


PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.2.1
DRAWING TITLE: FIXED NOISE SOURCES LOCATIONS & MITIGATION TREATMENT (LG/F)	SCALE: N.T.S. / REV: A

LEAD ARCHITECT: R Lee Architects (HK) Ltd

ENVIRONMENTAL CONSULTANT: Novox

PREPARED BY	Phoenix Lee
CHECKED BY	Eddy Ng
APPROVED BY	Banting Wong



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.2.2	LEAD ARCHITECT: R Lee Architects (HK) Ltd; ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee
DRAWING TITLE: FIXED NOISE SOURCES LOCATIONS & MITIGATION TREATMENT (R/F)	SCALE: N.T.S. / REV: A		CHECKED BY: Eddy Ng; APPROVED BY: Banting Wong

1

The ryowo™ Group is the pioneer and manufacturer of fiberglass-reinforced polyester (FRP) cooling towers in Hong Kong.

We offer a full range of product lines in FRP, stainless steel and galvanized steel water-cooling towers. With our vital production station, Shenzhen RYOWO Cooling Tower Company Limited, we manufacture, market and service a full range of water-cooling towers. Over 90% of the cooling tower parts are from our own factory and, as a result, control of cost and quality are ensured.

RYOWO has been a member of the Cooling Technology Institute since 1982. With our own R&D Department and testing facilities, we have five lines of product which are CTI-201 certified.

In 2004, our R & D department successfully developed a CTI STD-20l rated product line, the FWS series, the highest standard of water-cooling towers with guaranteed cooling capacity. In order to expand the application of our cooling towers, we developed the integrated drift eliminator, and used the super low noise fan as an option in this series.

FWS

Low Noise Cross Flow Type

THE COOLING TOWER YOU CAN RELY ON

MODEL DESIGNATION

FWS-300-15-AS /L

- STD-201 Certified Line (FWS)
- Model Nos (300-15)
- GI - for FRP Casing & Basin, HDG Structure
- SS - for FRP Casing & Basin, SS Structure
- AG - for HDG Casing, Basin & Structure
- AS - for SS Casing, Basin, SS Structure
- /E is for integrated drift eliminator
- /AE is for additional drift eliminator
- /L is for additional louver installed in front of air inlet face
- /SLF is for super low noise fan

ryowo™

Cooling Tower selected

3 SPECIFICATION

Model	Nominal Water Flow	Dimension				Fan Motor	Fan Dia	Piping					Sound Power Level	Weight	
	M^3/hr	L mm	W mm	h mm	H mm	kW	mm	In mm	Out mm	Fv mm	Of mm	Dr mm		Dry kgs	Wet kgs
FWS-94-3.7	94	4000	2000	4125	4625	3.7	1600	100x2	150	25	50	50	88	1335	2300
FWS-94-5.5	107				4705	5.5							91	1385	2350
FWS-94-7.5	119				4745	7.5							93	1400	2365
FWS-127-5.5	127	4400	2300	4125	4705	5.5	1800	100x2	150	25	50	50	90	1570	3000
FWS-127-7.5	141				4745	7.5							92	1585	3015
FWS-127-11	160				4825	11							94	1650	3080
FWS-169-7.5	169	4400	2600	4125	4745	7.5	2000	125x2	200	25	50	50	92	1690	3700
FWS-169-11	192				4825	11							94	1760	3770
FWS-169-15	213				4870	15							95	1770	3780
FWS-200-7.5	190	4600	2600	4145	4785	7.5	2400	125x2	200	40	80	50	91	2195	4000
FWS-200-11	215				4865	11							93	2250	4055
FWS-200-15	235				4910	15							95	2255	4060
FWS-250-7.5	210	4800	3200	4345	4985	7.5	2400	125x2	200	40	80	50	90	2890	5000
FWS-250-11	240				5065	11							93	2945	5055
FWS-250-15	265				5110	15							94	2950	5060
FWS-275-7.5	225	5200	3200	4145	4785	7.5	2900	150x2	200	40	80	50	89	3050	5160
FWS-275-11	255				4865	11							92	3105	5215
FWS-275-15	285				5910	15							94	3110	5220
FWS-300-7.5	235	6000	3200	4345	4895	7.5	2400	150x2	200	40	80	50	89	3310	6500
FWS-300-11	270				5065	11							91	3365	6555
FWS-300-15	300				5110	15							93	3370	6560
FWS-300-18.5	320				5175	18.5							94	3410	6600
FWS-300-22	340				5215	22							95	3470	6660
FWS-330-7.5	260	6300	3200	4145	4785	7.5	2900	150x2	250	50	80	50	88	3405	6595
FWS-330-11	300				4865	11							91	3460	6650
FWS-330-15	330				4910	15							93	3465	6655
FWS-330-18.5	350				5175	18.5							94	3505	6695
FWS-330-22	375				5215	22							95	3565	6755
FWS-350-7.5	275	5400	3600	5425	6065	7.5	3000	150x2	250	50	80	50	89	3580	6770
FWS-350-11	315				6145	11							91	3635	6825
FWS-350-15	350				6190	15							93	3640	6830
FWS-350-18.5	375				6255	18.5							94	3680	6870
FWS-350-22	400				6295	22							95	3740	6930
FWS-400-7.5	285	6600	3600	4345	4985	7.5	3000	125x4	250	50	80	50	87	3630	7000
FWS-400-11	325				5065	11							89	3685	7055
FWS-400-15	360				5110	15							91	3690	7060
FWS-400-18.5	385				5135	18.5							92	3730	7100
FWS-400-22	410				5195	22							93	3790	7160
FWS-400-30	450				5255	30							94	3820	7185
FWS-500-7.5	305	6000	4200	5355	5990	7.5	3400	125x4	250	50	80	50	87	4230	8000
FWS-500-11	345				6070	11							90	4285	8055
FWS-500-15	385				6115	15							91	4290	8060
FWS-500-18.5	410				6180	18.5							93	4325	8100
FWS-500-22	435				6220	22							94	4390	8120
FWS-500-30	485				6280	30							95	4415	8145
FWS-550-7.5	315	6600	3600	5355	5990	7.5	3000	125x4	250	50	80	50	87	4350	8080
FWS-550-11	360				6070	11							89	4405	8135
FWS-550-15	400				6115	15							91	4410	8140
FWS-550-18.5	430				6180	18.5							92	4450	8180
FWS-550-22	455				6220	22							94	4510	8240
FWS-550-30	500				6280	30							95	4535	8275
FWS-600-11	435	7000	4200	5500	6255	11	3700	150x4	300	50	80	50	89	5015	9000
FWS-600-15	485				6300	15							91	5020	9005
FWS-600-18.5	520				6365	18.5							92	5060	9045
FWS-600-22	550				6405	22							94	5120	9085
FWS-600-30	610				6465	30							95	5140	9110
FWS-600-37	650				6485	37							96	5330	9300
FWS-700-11	515	7000	5000	5500	6255	11	3700	150x4	300	50	80	50	89	5650	12000
FWS-700-15	570				6300	15							91	5655	12005
FWS-700-18.5	610				6365	18.5							92	5690	12055
FWS-700-22	645				6405	22							93	5755	12120
FWS-700-30	720				6465	30							95	5780	12145
FWS-700-37	765				6485	37							96	5970	12335
FWS-800-11	555	7500	5000	6400	7155	11	4200	150x4	300	50	80	50	88	6905	14880
FWS-800-15	615				7200	15							90	6910	14885
FWS-800-18.5	655				7265	18.5							91	6945	14920
FWS-800-22	695				7305	22							93	7010	14985
FWS-800-30	760				7365	30							95	7035	15010
FWS-800-37	820				7385	37	4200	150x4	350	50	80	50	98	7225	15200
FWS-800-45	880				7405	45							99	7255	15230
FWS-800-55	940				7495	55							100	7365	15340

Notes:

1/CTI Certification applies to the operation with the Wet Bulb Temp. between 12.8°C and 32.2°C, Max. Entering Water Temp. 51.7°C, Min. Range of 2.2°C and Min. Approach of 2.8°C.

2/The nominal water flows are based upon 37°C HWT, 32°C CWT, 28°C WBT, 32°C DBT and 101.3 kPa Barometric pressure.

3/Sound Power Level is in dBA re 10^{-12} Watt.

4/Data and specifications are subjected to change without prior notice.

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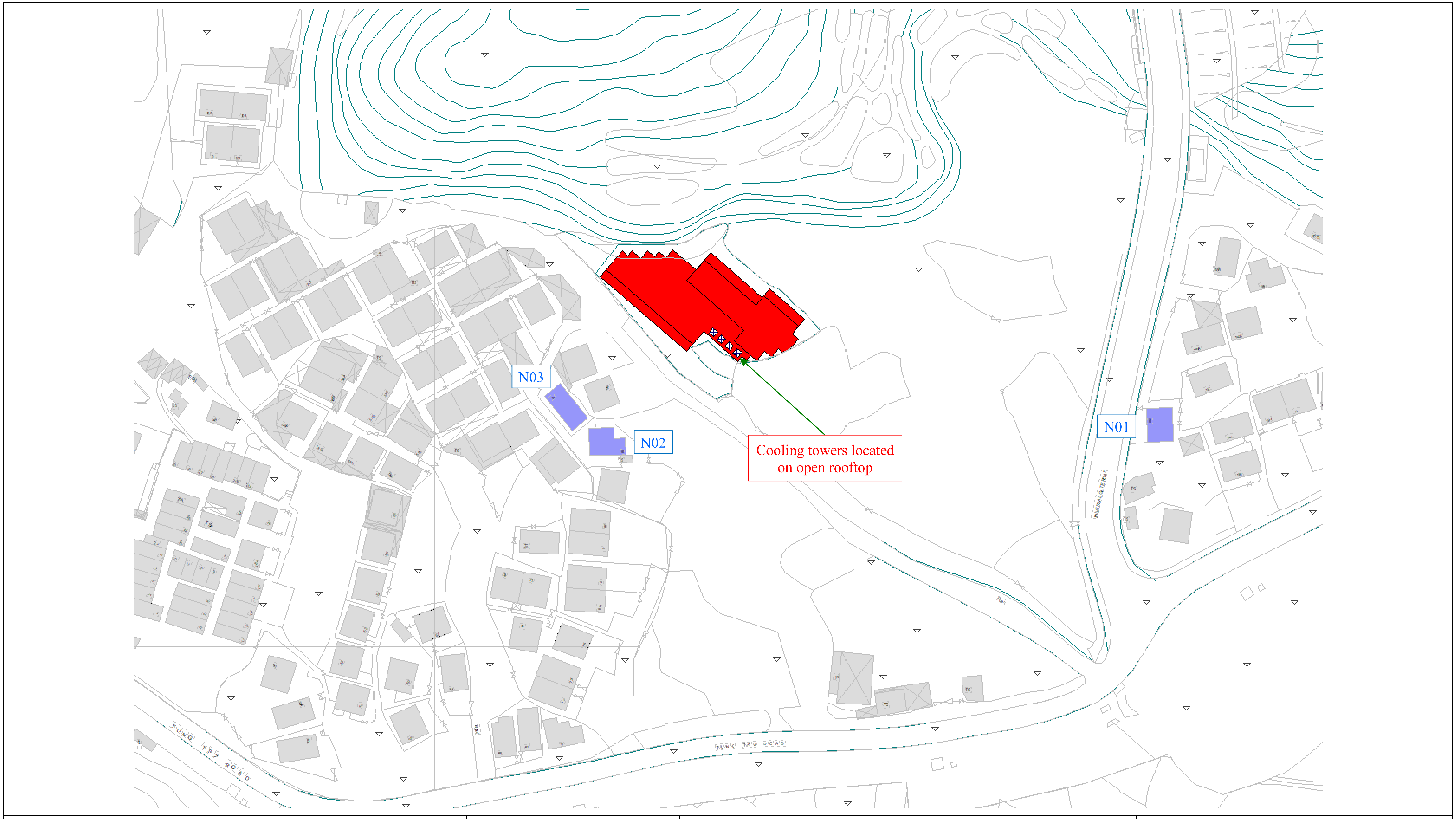
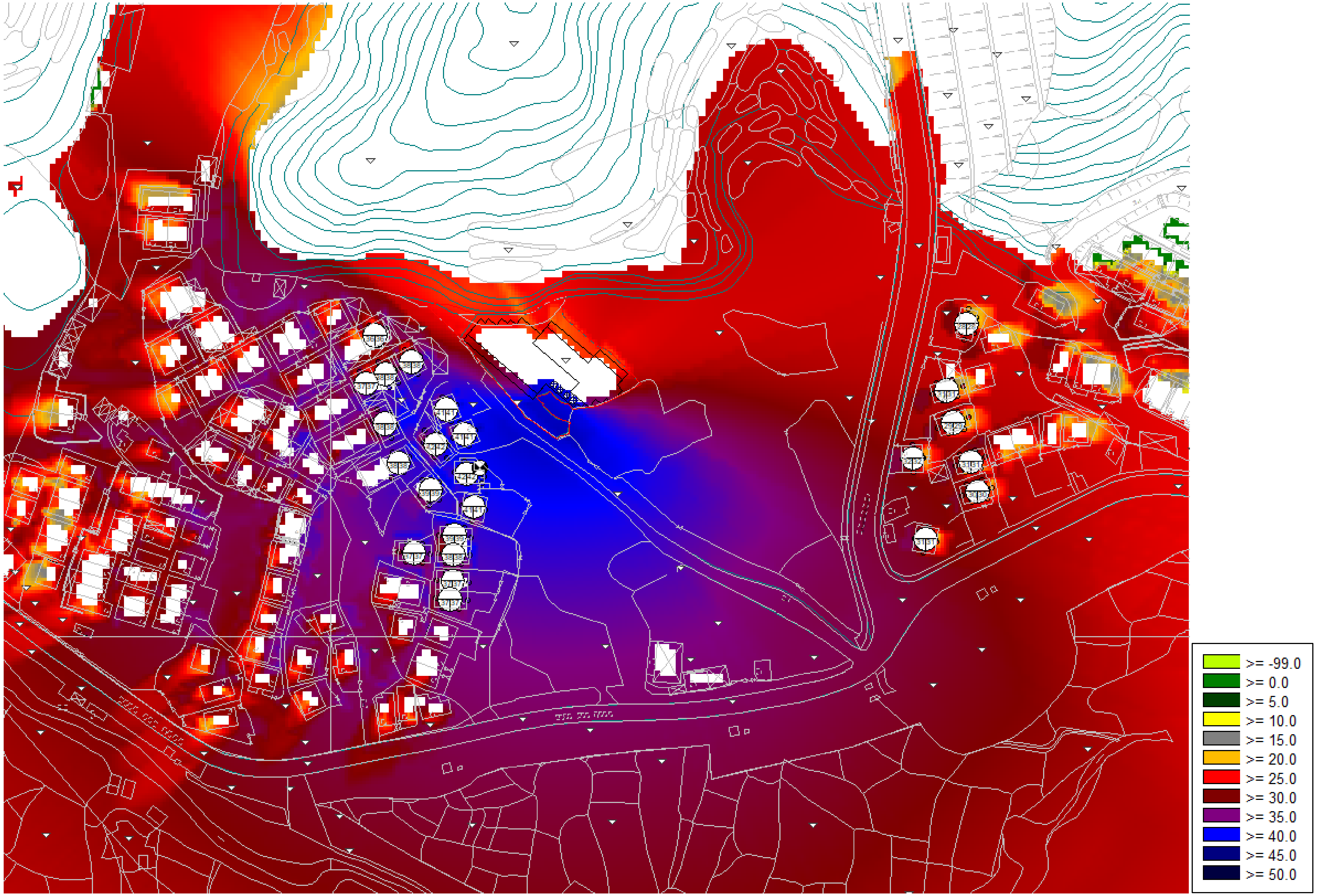
PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.2.3	LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY: Phoenix Lee
		ENVIRONMENTAL CONSULTANT: NOVOX	CHECKED BY: Eddy Ng
DRAWING TITLE: ACOUSTIC DATA FOR PROPOSED COOLING TOWERS	SCALE: N.T.S. / REV: A		APPROVED BY: Banting Wong



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.2.4		LEAD ARCHITECT: R Lee Architects (HK) Ltd; ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee; CHECKED BY: Eddy Ng
DRAWING TITLE: LOCATION OF FIXED NOISE SOURCES & REPRESENTATIVE NSRS	SCALE: N.T.S.	REV: A		APPROVED BY: Banting Wong



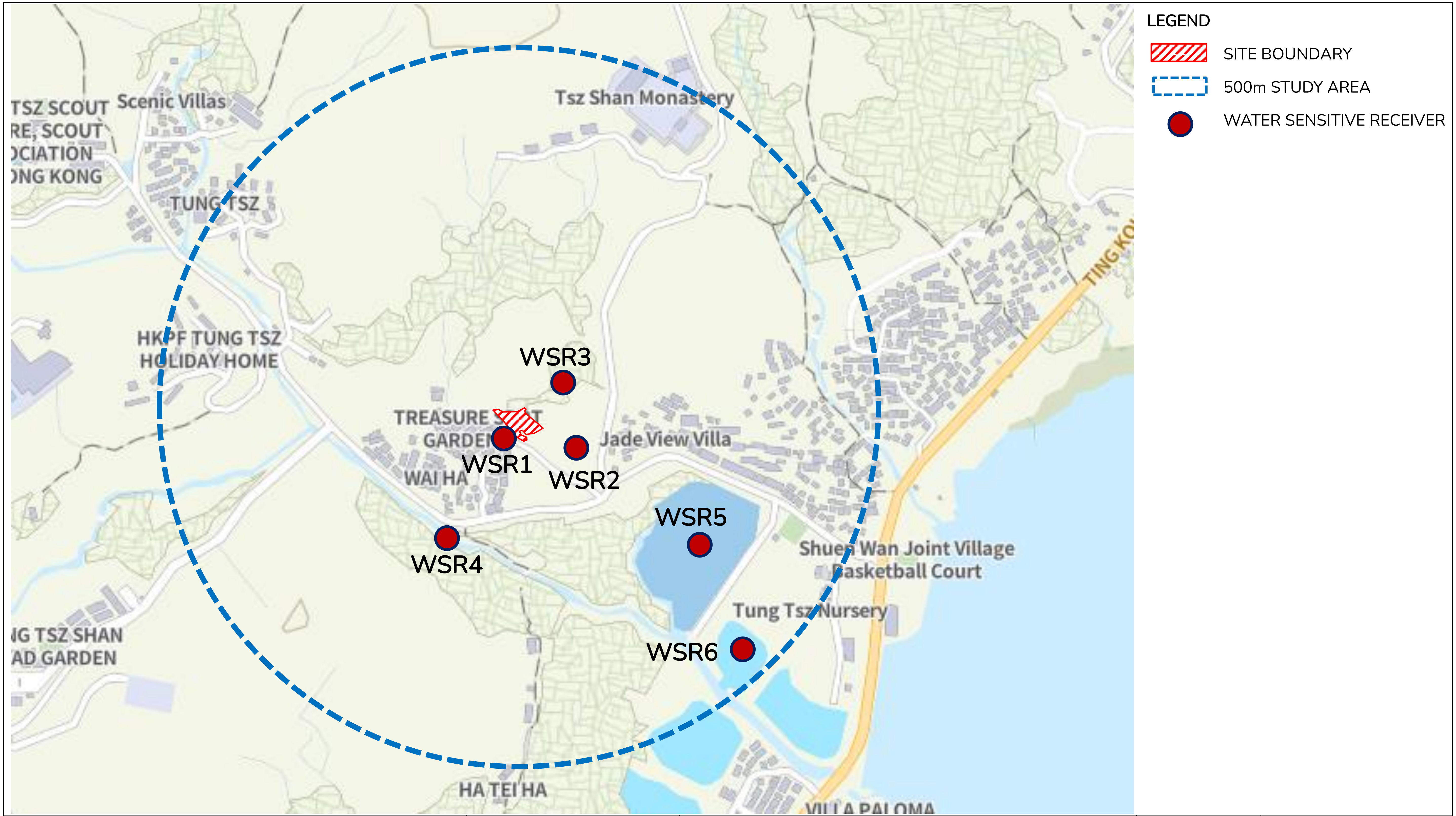
PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 3.2.5	LEAD ARCHITECT: R Lee Architects (HK) Ltd ENVIRONMENTAL CONSULTANT: Novox	PREPARED BY: Phoenix Lee
DRAWING TITLE: NOISE CONTOUR OF FIXED SOURCE NOISE IMPACT (MITIGATED)	SCALE: N.T.S. REV: A		CHECKED BY: Eddy Ng APPROVED BY: Banting Wong

Appendix 4.1. WATER QUALITY STANDARD

Determinand / Flow rate (m^3/day)	≦10	>10 and ≦200	>200 and ≦400	>400 and ≦600	>600 and ≦800	>800 and ≦1000	>1000 and ≦1500	>1500 and ≦2000	>2000 and ≦3000	>3000 and ≦4000	>4000 and ≦5000	>5000 and ≦6000
pH (pH units)	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9
Temperature (℃)	45	45	45	45	45	45	45	45	45	45	45	45
Colour (lovibond units) (25mm cell length)	1	1	1	1	1	1	1	1	1	1	1	1
Suspended solids	30	30	30	30	30	30	15	15	15	15	15	15
BOD	20	20	20	20	20	20	10	10	10	10	10	10
COD	80	80	80	80	80	80	50	50	50	50	50	50
Oil & Grease	20	20	20	20	20	20	10	10	10	10	10	10
Iron	10	10	10	7	5	4	2.7	2	1.3	1	0.8	0.6
Boron	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Barium	5	4	3	2.5	2	1.6	1.1	0.8	0.5	0.4	0.3	0.2
Mercury	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Other toxic metals individually	1	1	0.8	0.5	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1
Total toxic metals	2	2	1.6	1	1	0.8	0.2	0.2	0.2	0.2	0.14	0.1
Cyanide	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.05	0.03	0.02	0.02	0.01
Phenols	0.5	0.5	0.5	0.25	0.25	0.25	0.1	0.1	0.1	0.1	0.1	0.1
Sulphide	5	5	5	5	5	5	2.5	2.5	1.5	1	1	0.5
Total residual chlorine	1	1	1	1	1	1	1	1	1	1	1	1
Total nitrogen	20	20	20	15	15	15	15	15	10	10	10	10
Total phosphorus	8	8	5	5	5	5	5	5	5	5	5	5
Surfactants (total)	15	15	15	15	15	15	10	10	10	10	10	10
E. coli (count/100ml)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 4.1.1		LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY: Qingqing Li
DRAWING TITLE: STANDARDS FOR EFFLUENTS DISCHARGED INTO THE COASTAL WATERS OF TOLO AND PORT SHELTER WATER CONTROL ZONE	SCALE: N.T.S.	REV: A	ENVIRONMENTAL CONSULTANT: NOVOX	CHECKED BY: Eddy Ng
				APPROVED BY: Banting Wong

Appendix 4.2. WATER SENSITIVE RECEIVERS



PROJECT: PROPOSED RESIDENTIAL CARE HOME FOR ELDERLY AT TUNG TSZ ROAD, TAI PO, N.T.	DRAWING NO.: C241003W-03 Figure 4.1.2	LEAD ARCHITECT: R Lee Architects (HK) Ltd	PREPARED BY: Qingqing Li
DRAWING TITLE: WATER SENSITIVE RECEIVERS	SCALE: N.T.S. REV: A	ENVIRONMENTAL CONSULTANT: AVOVOX	CHECKED BY: Eddy Ng
			APPROVED BY: Banting Wong

Drainage Impact Assessment for Proposed Residential Care Home for the Elderly (RCHE) Development at Tung Tsz, Tai Po

C241003W-02-A

PREPARED FOR

R LEE Architects (HK) Ltd

PREPARED BY

Eddy Ng
BSc(Hons), MHKIOA, MIOA, MMOIA, MIET, MAES, MASHRAE, MHKIEIA, REnv, BEAM Pro

APPROVED BY

Wong Kam San
MSc, CEng, MIOA, MHKIOA, AFCHKRI, MHKIEIA, MHKIQEP

27 December 2024

Contents

1. Background

The applicant, R Lee Architect, intends to develop one 10-storey building block situated at Tung Tyz, Tai Po, New Territories for the Proposed Residential Care Home for the Elderly (RCHE) Development.

The purpose of this report is to conduct a Drainage Impact Assessment (DIA) to assess the potential sewerage impact arising from the proposed development.

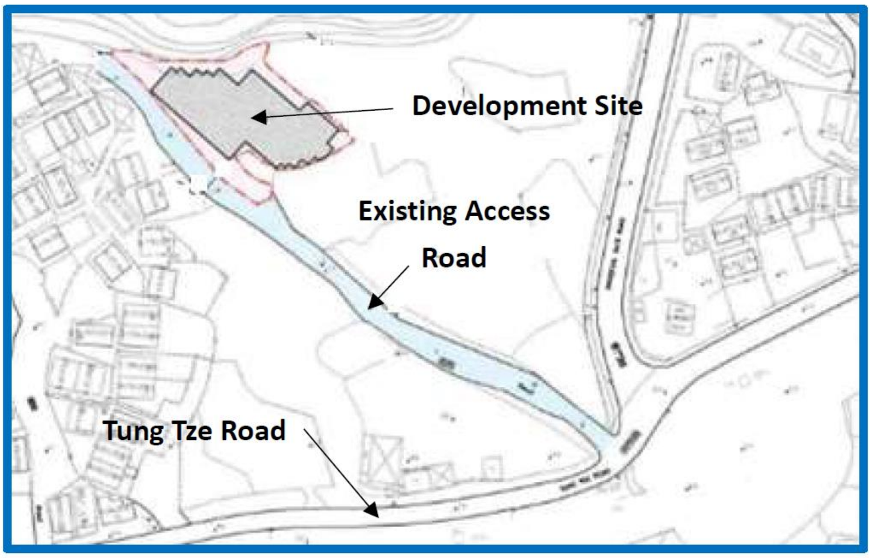
2. Objective

These DIA objectives are to assess the potential sewerage impact arising from the proposed development and recommend mitigation measures, if necessary, to alleviate the impacts.

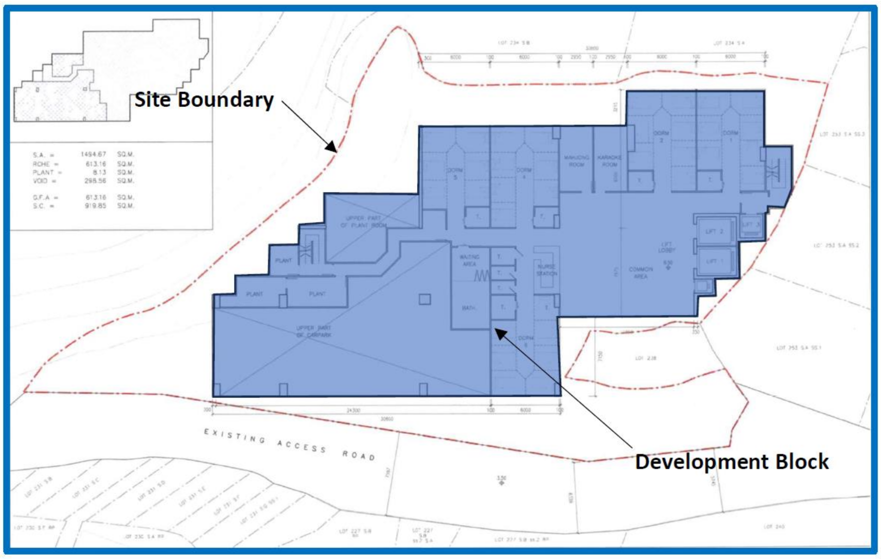
3. Site Information

The Premise:	D.D.23, Lot 232RP, 232 S.A. RP, 232 S.A.ss. 1 to 14, 232 S.B. RP, 232 S.B. ss 1 to 2, 232 S.C. to 232 S.E., 233 RP, 233 S.A to 233 S.M., 237 S.R. 238, 239 RP, 239 SG.
Address:	Tung Tsz, Tai Po

Location Plan:



Development Plan:



Development Schedule: Proposed Residential Care Home for the Elderly (RCHE) Development

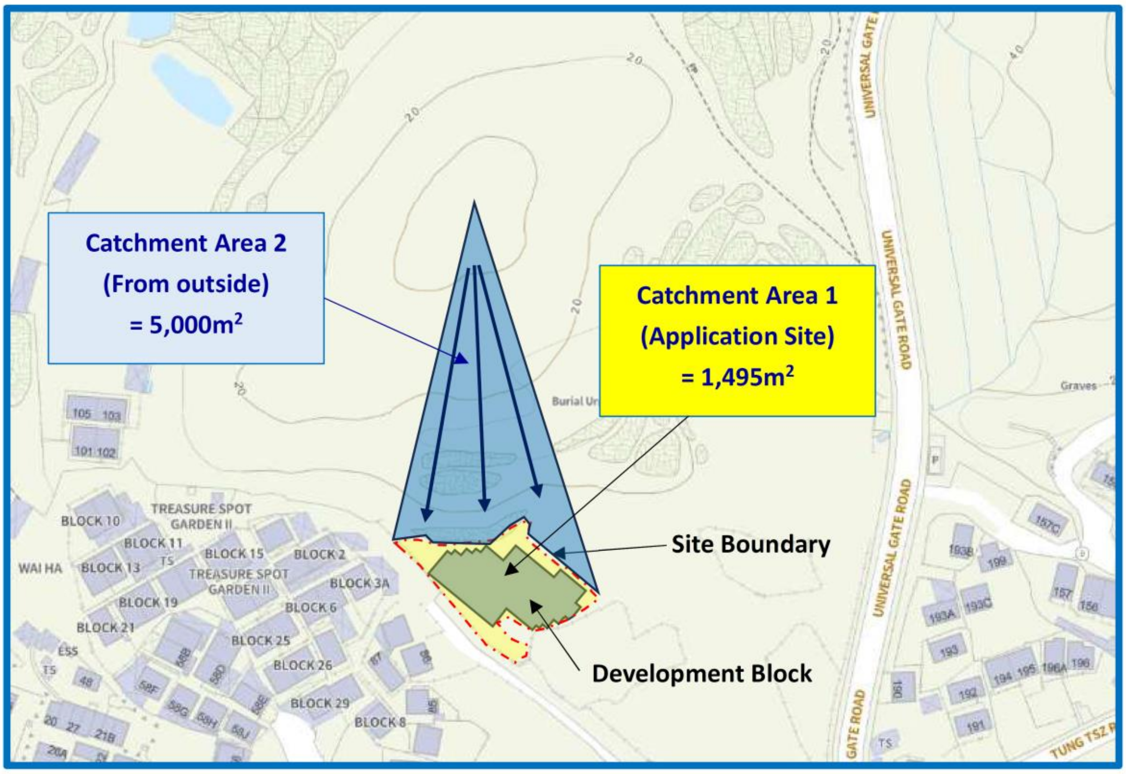
Site Area:	1,494.67m^2
Class of Site:	A
Proposed Plot Ratio for Non-domestic:	5.57 < 9.5
Proposed Site Coverage above for Non-domestic (Above 15m):	61.09% < 80%
Proposed Building Height:	34.50mPD
Absolute Height:	31.0m
Proposed No. of storey:	10 storeys

Proposed Gross Floor Area

LG/F (ENTRANCE & CARPARK)	:	606.13m²	
UG/F (RCHE)	:	613.16 m²	
1/F-5/F (RCHE)	:	916.89m² x 5 storeys = 4584.45 m²	(45 no. of beds x 5 storey)
6/F (RCHE)	:	886.14 m²	(17 no. of suites)
7/F (RCHE)	:	759.44 m²	(11 no. of suites)
8/F (MANAGEMENT OFFICE)	:	764.44 m²	
R/F (SKY GARDEN)	:	110.07 m²	
TOTAL	:	**8323.83 m² (89597 ft²) (28 no. of suites & 225 no. of beds)**	

4. Drainage Impact Assessment

i) Catchment Areas



Catchment Area 1 (Application Site) = 1,495m^2
Catchment Area 2 (From the adjacent hillside) = 5,000m^2

ii) Design Manuel
DSD - STORMWATER DRAINAGE MANUAL

iii) Design Method
a) Rational Method (DSD STORMWATER DRAINAGE MANUAL 7.5.2)
Qp = 0.278CiA
Where
Qp = peak runoff in m^3/s
C = runoff coefficient (dimensionless)
i = rainfall intensity in mm/hr
A = catchment area in km^2

b) Runoff Coefficient
In Hong Kong, a value of C = l.0 is commonly used in developed urban areas. In less developed areas, appropriate C values in order to ensure that the design would be fully cost-effective.

Surface Characteristics	**Runoff coefficient, C***
Asphalt	0.70-0.95
Concrete	0.80-0.95
Brick	0.70-0.85
Grassland (heavy soil**)	
Flat	0.13-0.25
Steep	0.25-0.35
Grassland (sandy soil)	
Flat	0.05-0.15
Steep	0.15-0.20

The surface of the site will be covered by Asphalt, the C1 should be 0.85 (Mid value) and the surface of the adjacent hill side is Grassland (heavy soil, the C2 should be 0.15.

c) 6.6.1 Village Drainage and Main Rural Catchment Drainage Channels
'Village Drainage' refers to the local stormwater drainage system within a village. A stormwater drain conveying stormwater runoff from an upstream catchment but happens to pass through a village may need to be considered as either a 'Main Rural Catchment Drainage Channel' or 'Village Drainage', depending on the nature and size of the upstream catchment. In any case, the impact of a 50-year event should be assessed in the planning and design of village drainage system to check whether a higher standard than 10 years is justified. (50 Years is used.)

d) Rainfall Intensity

Table 2d – Intensity-Duration-Frequency (IDF) Relationship of North District Area for durations not exceeding 240 minutes

Duration (min)	Extreme Intensity x (mm/h) for various Return Periods T(year)						
	2	5	10	20	50	100	200
240	28.5	37.7	43.4	48.6	54.9	59.4	63.6
120	42.2	54.7	62.5	69.6	78.4	84.7	90.8
60	61.0	75.7	84.3	92.0	$\boxed{101}$	108	114
30	84.0	100	110	118	128	135	142
15	106	127	139	150	163	173	182
10	119	141	155	168	184	196	208
5	138	161	177	193	216	234	254

i (rainfall intensity) = 101mm/hr (Duration of 60min is used)

e) Calculations of Water Flow

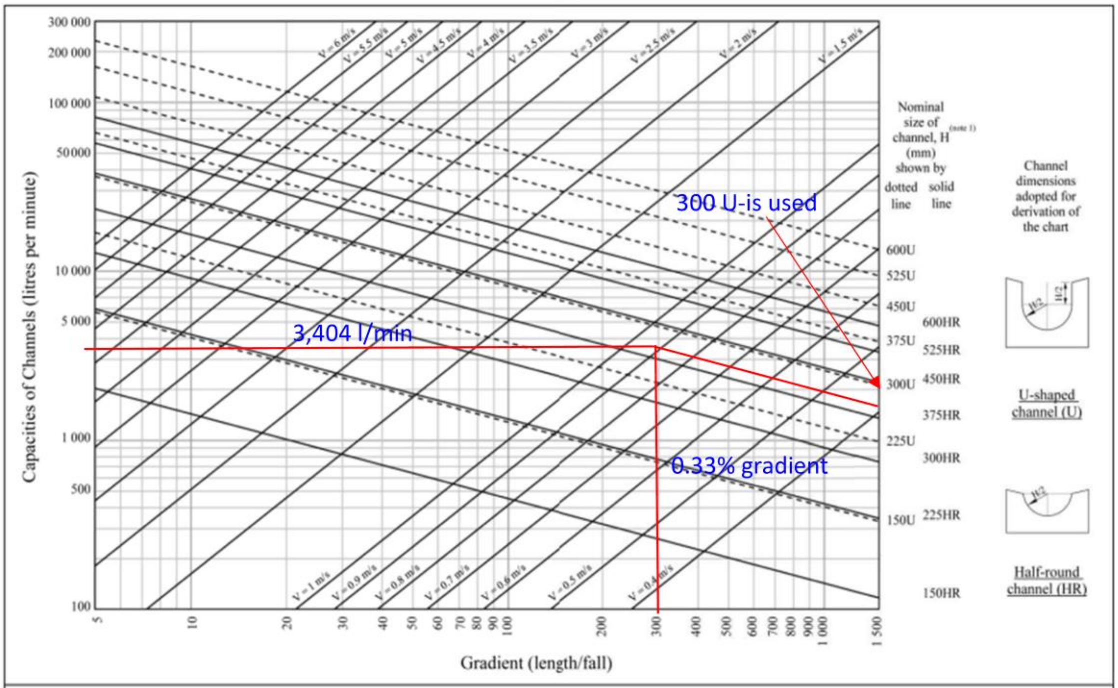
Qp = 0.278CiA
C1 = 0.85 (Asphalt)(mid value) (Application Site)
C2 = 0.15 (Grass Land (Sandy Soil) (Adjacent Area)
i = 101 mm/hr
A1 = 1,495m^2 (0.001495km^2) (Application Site)
A2 = 1,200m^2 (0.001200km^2) (Adjacent Hill Side)
Qp = 0.278 x 101 x ((0.85 x 0.001495) +(0.15 x 0.005000))
Qp =0.0567 m^3/s or 3,404 l/min

For conservative calculations, all catchment areas are combined for all U-Channels.

f) Design of U-channel

GEO Technical Guidance Note No. 43 (TGN 43) Guidelines on Hydraulic

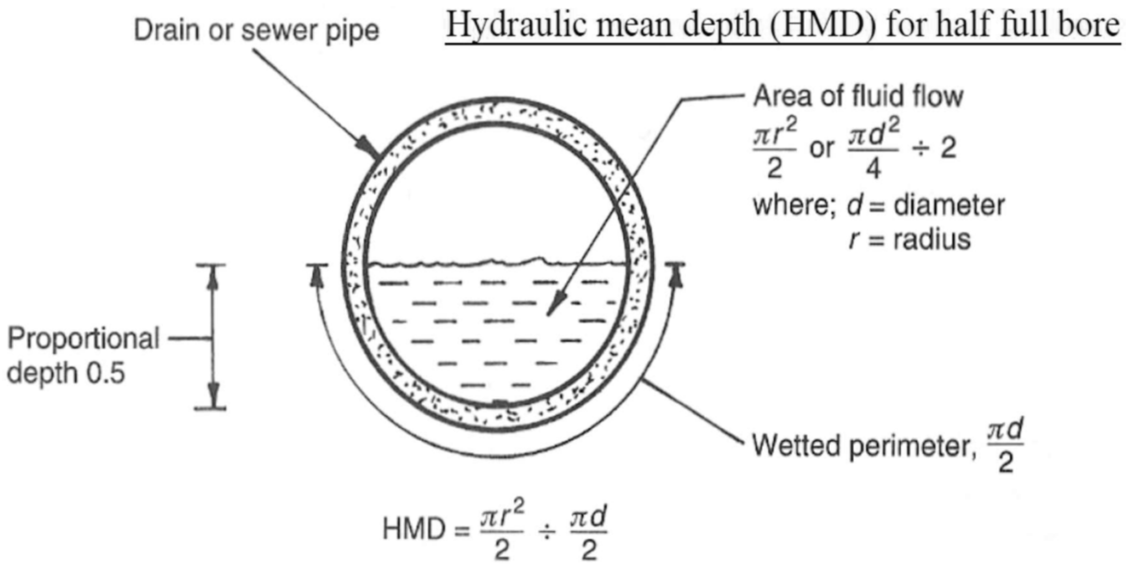
Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm



Note: (1) Refer to the latest CEDD Standard Drawings for the details of U-shaped (U) and half-round (HR) channels.

For 3,404 l/min, 300 U-channel is used

f) Design of Pipe



Depth of flow	HMD
0.25	Pipe dia. (m) / 6.67
0.33	Pipe dia. (m) / 5.26
0.50	Pipe dia. (m) / 4.00
0.66	Pipe dia. (m) / 3.45
0.75	Pipe dia. (m) / 3.33
Full	Pipe dia. (m) / 4.00

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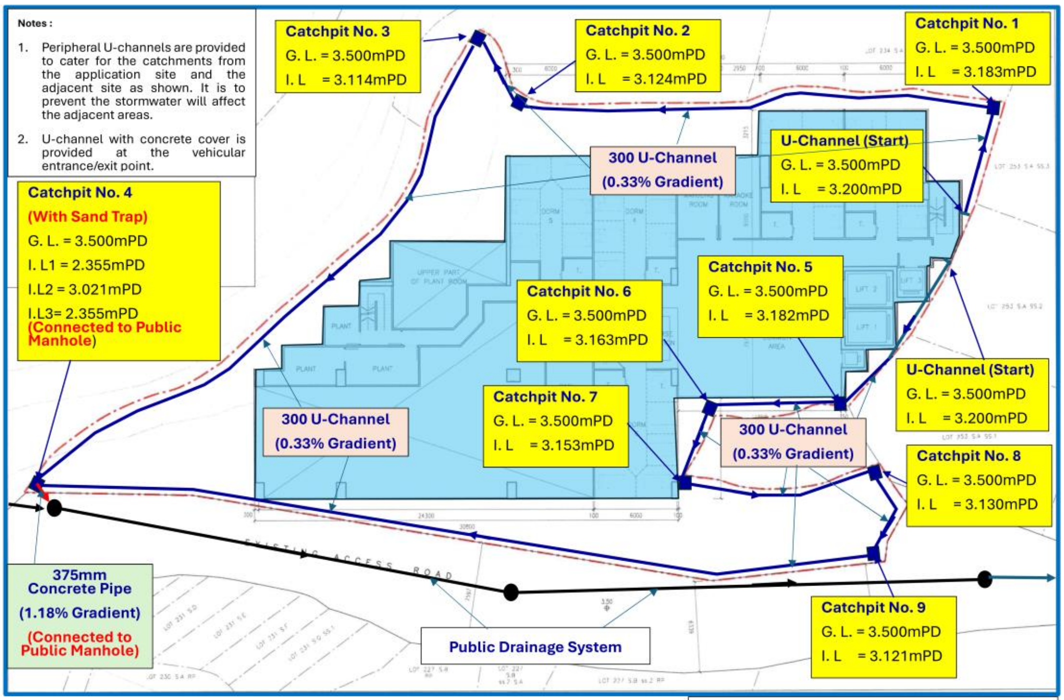
The 0.5 full bore, velocity of 1.5m/s and 375mm pipe is used.

The capacity of the pipe :

Q = V x A = 1.5 x πx (0.375)2/4 x 0.5 = 0.0828m^3/s > 0.0567m^3/s, OK

Chezy"s formula:
where
V = velocity of flow = 1.5m/s
m = hydraulic mean depth (HMD) → HMD = 0.375 / 4.00 = 0.09375
C = Chezy coefficient = (0.09375)1/6/(0.015(concrete pipe))= 44.94
1.5 = 44.94 x (0.09375 x i)0.5
(1.5/44.94)2 = 0.09375 x i
Thus i = 0.01188 or 1.18% (i = inclination or gradient as 1/X)

iv) Drainage Plan



Proposed Drainage Plan

Drawing No. TT 001

5. Conclusion

Since there is no change of total catchment areas and the total Stormwater flow (0.057m^3/s) from this developing area is considered small in quantity and therefore the impact is negligible.

Sewerage Impact Assessment for Proposed Residential Care Home for the Elderly (RCHE) Development at Tung Tsz, Tai Po

C241003W-01-B

PREPARED FOR

R LEE Architects (HK) Ltd

PREPARED BY

Eddy Ng
BSc(Hons), MHKIOA, MIOA, MMOIA, MIET, MAES, MASHRAE, MHKIEIA, REnv, BEAM Pro

APPROVED BY

Wong Kam San
MSc, CEng, MIOA, MHKIOA, AFCHKRI, MHKIEIA, MHKIQEP

27 December 2024

Contents

1. Background

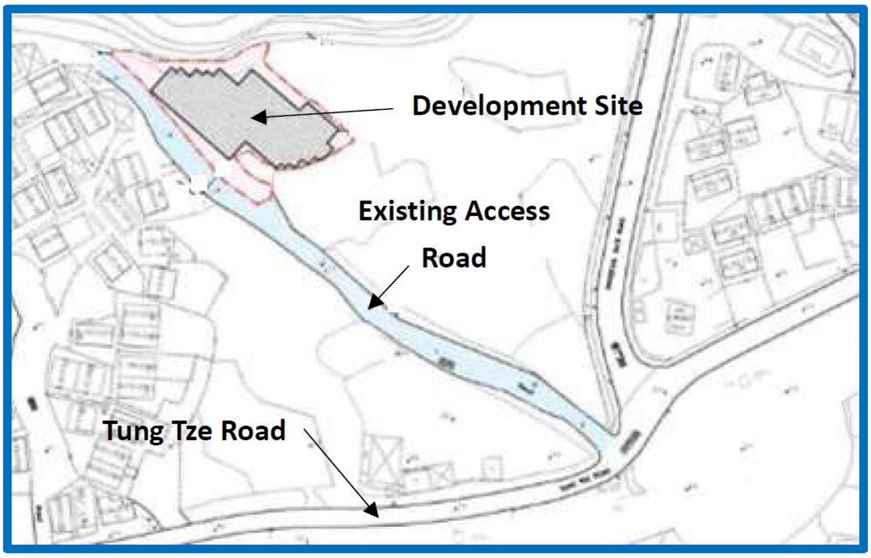
The applicant, R Lee Architect, intends to develop one 10-storey building block situated at Tung Tyz, Tai Po, New Territories for the Proposed Residential Care Home for the Elderly (RCHE) Development.

The purpose of this report is to conduct a Sewerage Impact Assessment (SIA) to assess the potential sewerage impact arising from the proposed development.

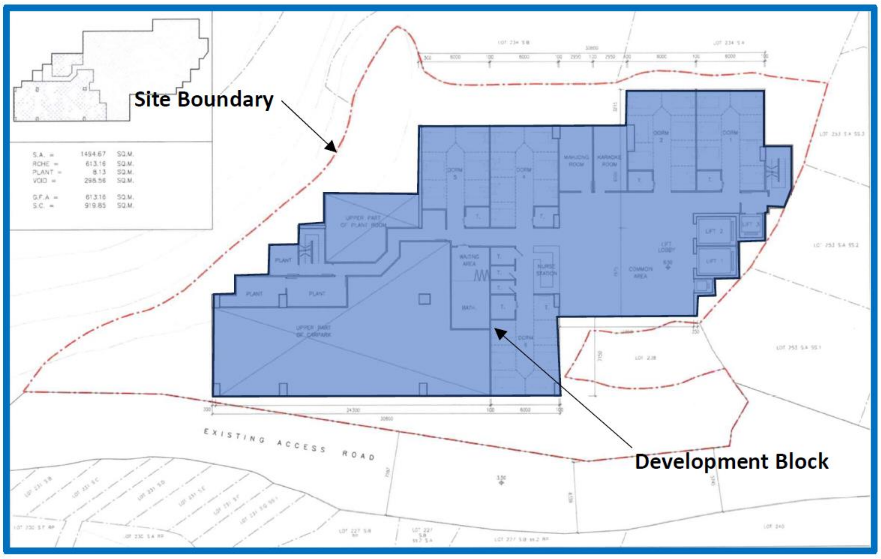
2. Objective

These SIA objectives are to assess the potential sewerage impact arising from the proposed development and recommend mitigation measures, if necessary, to alleviate the impacts.

3. Site Information

The Premise:	D.D.23, Lot 232RP, 232 S.A. RP, 232 S.A.ss. 1 to 14, 232 S.B. RP, 232 S.B. ss 1 to 2, 232 S.C. to 232 S.E., 233 RP, 233 S.A to 233 S.M., 237 S.R. 238, 239 RP, 239 SG.
Address:	Tung Tsz, Tai Po
Location Plan:	

Development Plan:



Development Schedule: Proposed Residential Care Home for the Elderly (RCHE) Development

Site Area:	1,494.67m^2
Class of Site:	A
Proposed Plot Ratio for Non-domestic:	5.57 < 9.5
Proposed Site Coverage above for Non-domestic (Above	61.09% < 80%
Proposed Building Height:	34.50mPD
Absolute Height:	31.0m
Proposed No. of storey:	10 storeys

Proposed Gross Floor Area			
LG/F (ENTRANCE & CARPARK)	:	606.13m²	
UG/F (RCHE)	:	613.16 m²	
1/F-5/F (RCHE)	:	916.89m² x 5 storeys = 4584.45 m²	(45 no. of beds x 5 storey)
6/F (RCHE)	:	886.14 m²	(17 no. of suites)
7/F (RCHE)	:	759.44 m²	(11 no. of suites)
8/F (MANAGEMENT OFFICE)	:	764.44 m²	
R/F (SKY GARDEN)	:	110.07 m²	
TOTAL	:	**8323.83 m² (89597 ft²) (28 no. of suites & 225 no. of beds)**	

4. Sewage Impact Assessment

i) No. of Residents/Employees

a) No. of Residents = 253 beds

b) No. of Employees = 120 Nos. (About 2 times as recommended by Code of Practice for Resident Care Home)

ii) Estimated Sewage Flows :

EPD Technical Paper Report No. EPD/TP1/05 – Table T-2 (Unit Flow Rate Factor of Commercial Flows and Student Flows)

8. UNIT FLOW FACTORS – COMMERCIAL AND INSTITUTIONAL FLOWS

8.1 Commercial flows comprise flows due to commercial activities and due to employees. Flows from Job types J2 – J12 are classified as commercial flows. The unit flow factors of the 11 Job types are provided in **Table T-2** below. The derivation of the UFFs of employees and students were presented in **Appendix III.**

Table T-2 : Unit Flow Factors of Commercial Flows and Student Flows

	Unit (per)	Datum (2002) (m^3/day)	Increase per Annum (m^3/day)	Planning for Future (m^3/day)
Commercial Employee	employee	0.080	-	0.080
Commercial activities				
(a) Specific trades:				
J2 Electricity Gas & Water	employee	0.250	-	0.250
J3 Transport, Storage & Communication	employee	0.100	-	0.100
J4 Wholesale & Retail	employee	0.200	-	0.200
J5 Import & Export	employee	-	-	-
J6 Finance, Insurance, Real Estate & Business Services	employee	-	-	-
J7 Agriculture & Fishing	employee	-	-	-
J8 Mining & Quarrying	employee	-	-	-
J9 Construction	employee	0.150	-	0.150
J10 Restaurants & Hotels	employee	1.500	-	1.500
J11 Community, Social & Personal Services	employee	0.200	-	0.200
J12 Public Administration	employee	-	-	-
(b) General –territorial average	employee	0.200	-	0.200
School student	person	0.040	-	0.040

Notes of Table T-2:

(1) For planning of a new sewerage system, the planning unit flow factors should be used and the worst possible combination of commercial flows for the future development scenarios should be considered to ensure that the sewerage system under planning will be sustainable.

(2) For job types J10 and J11, the "per-employee" unit flow factor takes into account the flows of customers and/or tenants.

(3) The total unit flow generated from an employee in a particular trade is the sum of the unit flow factor of employee and the unit flow factor of commercial activities of a particular trade under consideration.

EPD/TP 1/05 Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Page 9 of 14

Site	Use	Global Unit Flow Factor (m3/person/day)	No. of Residents/Employees	ADWF (m3/day)
Tung Tyz, Tai Po	RCHE J11 (Community, Social & Personal Service)	0.200	253 residents + 120 staff = 373	74.6

iii) Sewer Pipe Design :
For sewer pipe, one quarter (1/4) full bore is used to allow space for a core of air in centre of the stack and the air keeps fluctuations to a minimum.

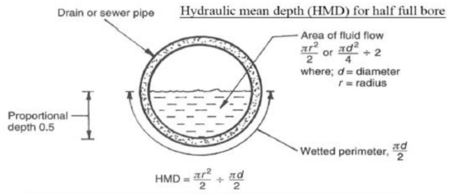
Minimum velocity of 0.7m/s (smaller than 300mm diameter) is used for maintaining self-cleansing purpose.

To facilitate inspection and cleaning, pipe should not be less than 200mm diameter.

Design Flow = 74.6m^3/day or 0.000863m^3/s

1/4 full bore, velocity of 0.7m/s and 225mm pipe is used.

The capacity of the pipe :
Q = V x A = 0.7 xπx $(0.225)^2/4$ x 0.25 = 0.00695m^3/s 0.000863m^3/s, **OK**



Depth of flow	HMD
0.25	Pipe dia. (m) / 6.67
0.33	Pipe dia. (m) / 5.26
0.50	Pipe dia. (m) / 4.00
0.66	Pipe dia. (m) / 3.45
0.75	Pipe dia. (m) / 3.33
Full	Pipe dia. (m) / 4.00

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Chezy"s formula: $V = C\sqrt{m \times i}$

where V = velocity of flow = 0.7m/s

m = hydraulic mean depth (HMD) → HMD = 0.225 / 6.67 = 0.0337

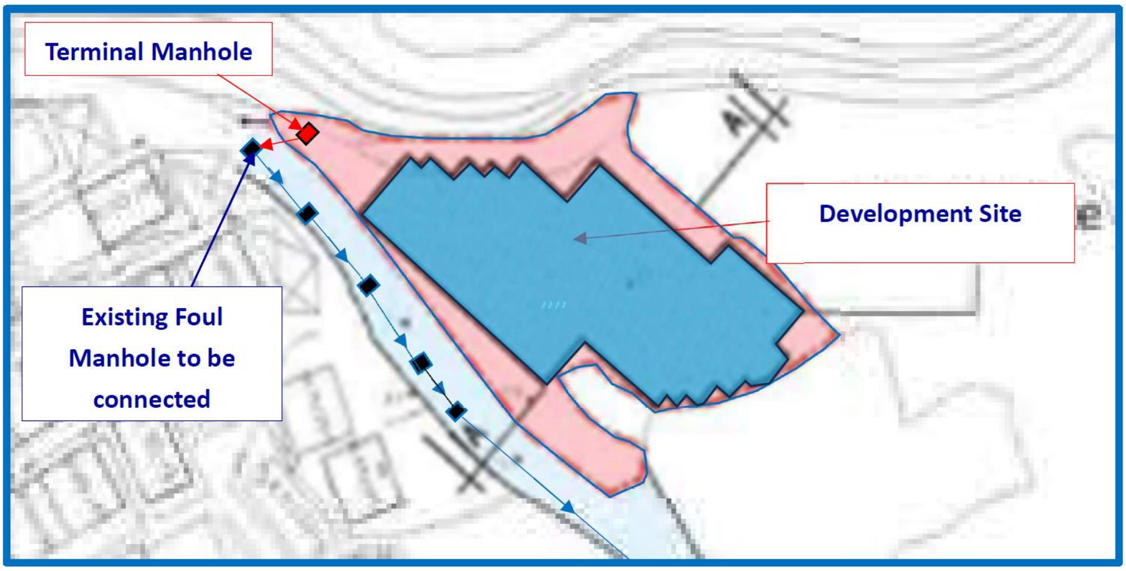
C = Chezy coefficient = $(0.0337)^{1/6}$/(0.015(concrete pipe))= 37.89

0.7 = 37.89 x $(0.0337 \text{ x i})^{0.5}$

$(0.7/37.89)^2$ = 0.0337 x i

Thus i = 0.0101 or **1.01%** (i = inclination)

iv) Connection to Public Foul System :
The foul water from the developing site will be discharged into the nearby existing Foul Manhole (as shown below).



5. Conclusion :

The total foul water flow (0.000863m3/s) from this developing area is considered small in quantity and therefore the impact is negligible.

APPENDIX 4

Landscape Master Plan

PROPOSED REZONING FROM "AGR" & "GB" TO "G/IC"
FOR A PROPOSED "SOCIAL WELFARE FACILITES"
(RESIDENTIAL CARE HOMES FOR THE ELDERLY) (RCHE)
Tung Tsz, Tai Po, N.T.

R LEE ARCHITECTS LTD

CONTENTS

Figure

1.0 Introduction

1.1 The Landscape Master Plan is prepared and submitted in support of the S12A application for a proposed amendment to the approved Tung Tsz Outline Zoning Plan ("the approved OZP") No. S/NE-TK/19.

The proposed amendment is to rezone a Site from "AGR" & "GB" zone to "G/IC" zone to facilitate the development of a proposed RCHE.

1.2 The Application Site locates at Lot No. 232 RP, 232 S.A RP, 232 S.A ss. 1 to 14, 232 S.B RP, 232 S.B ss. 1 to 27, 232 S.C to 232 S.E, 233 RP, 233 S.A to 233 S.M, 237 RP, 237 S.A to 237 S.R, 239 RP, 239 S.A to 239 S.G in D.D. 23, Tung Tsz, Tai Po, N.T. ***(Figure 1 refers).***

1.3 The Floor Plans of the proposed RCHE is attached for reference per ***Figure 2***.

1.4 The Indicative Landscape Master Plans for the future Development is presented in ***Figure 3 to Figure 9***.

2.0 Existing Site Condition

2.1 The application site with an area of Approx. 1,495m^2 and is accessible from an Access Road which discharge to Tung Tsz Road, then finally to Ting Kok Road, at level +3.5 mPD by the North-West.

2.2 It adjoins a "V" zone Development, "Treasure Spot Garden" to the West and a few pieces of abandoned Farmlands on the other sides.

To the North of the Site, there is a piece of "GB" zone full of natural vegetation which serve as a back drop to the Development.

2.3 By closely adjoining a "V" zone to the West, the Site possesses similar features and settings as a "V" zone.

2.4 The surrounding abandoned Farmlands are not well maintained and be filled up with untidy/ messy shrubs and bushes.

The incorporation of Landscaping to the Development would benefit the neighbours and would further enhance the Environment once completed.

2.5 The existing Site is paved by Concrete for easy maintenance. There is NO additional compensatory planting required for the proposed development as there is NO tree exists on Site.

3.0 Proposed RCHE Development

3.1 The proposed RCHE Development is of 10 storeys high, with lower 9 storeys (LG/F to 7/F) to be served as RCHE Dormitories. The Floor Level of 7/F is within 24m from Ground Floor, which comply with relevant Regulation. ***(Figure 2 refers)***

A range of Dormitory sizes from Shared Rooms with individual privacy on lower floors, to individual Suites of various sizes on upper floors. The Suites on 6/F and 7/F are equipped with open Flat Roofs for extra enjoyment or even individual hobby farming.

3.2 A range of Common Facilities like Café Lounge, Multi-function Rooms, Library, Gymnasium, etc. locate on LG/F, next to a generous Entrance Lobby (at level +3.50).

Loading/ Unloading of Goods and Passengers are also provided adjacent to the Entrance Lobby. Plenty of Greenery, Garden, Outdoor Exercise and Sitting-out Spaces are also planned on various outdoor areas.

3.3 The Floor above the Dormitories (8/F) is designed for supportive functions like Administration Office, Meeting/ Interview Rooms, Kitchen, Laundry and Linen Stores, etc.

6 Staff Quarters are also provided for Staffs on 8/F so that overnight staffs could provide more timely services to the Elderly in case needed.

3.4 The Top of the Building on Roof Floor (at level +34.50) is designed as an Open Roof Garden for the Leisure of the Staffs and Visitors. It also serves to provide Roof Greeney according to SBDG.

3.5 The GFA allocation is tabulated as below:

Site Area		: 1,494.67 m^2	16,088.62 ft^2
Class of Site		: A	
Proposed Plot Ratio for Non-Domestic		: 5.57 < 9.5	
Proposed Site Coverage above for Non-Domestic (Above 15m)		: 61.09% < 80%	
Maximum Gross Floor Area		8,323.83 m^2	89,597 ft^2
Proposed Building Height		34.50 mPD	
Absolute Height		31.0 m	
Proposed No. of Storey		10 STOREYS	
Proposed Gross Floor Area			
LG/F	ENTRANCE & CARPARK	606.13 m^2	
UG/F	RCHE	613.16 m^2	
1/F – 5/F	RCHE	916.89 m^2 x 5 storeys =4584.45 m^2	45 no. of beds x 5 storeys
6/F	RCHE	886.14 m^2	17 no. of suites
7/F	RCHE	759.44 m^2	11 no. of suites
8/F	MANAGEMENT OFFICE	764.44 m^2	
R/F	SKY GARDEN	110.07 m^2	
TOTAL		**8,323.83 m^2**	**28 no. of suites & 225 no. of beds**
Parking Spaces: (Loading/ Unloading)			
No. of LGV		1 Nos.	
No. of Minibus		1 Nos.	
No. of Private Car Parking		1 Nos.	
No. of Accessible Private Car Parking		1 Nos.	
No. of Motorcycle Parking		1 Nos.	

Please refer to ***Figure 3*** for the Proposed Development

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4.0 Landscape Design Proposal

4.1 The Conceptual design of the Landscape Master Plan is illustrated as per ***Figure 3*** to ***Figure 8***.

4.1.1 Figure 3 : LG/F Conceptual Landscape Plan

4.1.2 Figure 4 : 6/F Conceptual Landscape Plan

4.1.3 Figure 5 : 7/F Conceptual Landscape Plan

4.1.4 Figure 6 : R/F Conceptual Landscape Plan

4.1.5 Figure 7 : Conceptual Landscape Master Plan

4.1.6 Figure 8 : Detail Sections

4.1.7 Figure 9 : Detail Sections

4.2 The captioned Figures aim to introduce future landscape expectation and perspectives, providing a sense of the relationship between the landscape and Architecture to present the high quality and diverse open space and green coverage for the user.

4.3 The landscape design proposal will introduce the main concept followed by a brief of the landscape element planning with thoughtful arrangement with hard and soft landscape and components.

5.0 Landscape Design Objectives

5.1 The main design objectives for the landscape are listed below:

Propose a distinctive luxury landscape that is specially designed for elderly use.

Integrate the visual context of the development and preview the new look of the site and architecture.

Soften the visual impact for the surroundings with vegetation screening

Balancing the Green coverage and Open Space for the user to maximize the potential of the outdoor space

Adapting to the thermal climate of Hong Kong and ensuring the outdoor area is comfortable for the user through reasons in Hong Kong.

6.0 Open Space

6.1 As illustrated in ***Figure 10***. The proposed development has provided a required amount of open space in accordance with the requirement of Hong Kong Planning Standard and Guidelines (HKPSG) with $1m^2$ per user for the proposed development. The components and facilities in the open space satisfy the requirement of the elderly and are easy to be managed by the staff.

6.2 Approx. 253 beds will be provided in the captioned development which indicates equal to the population of the development. ***Figure 10*** shows the scheme will provide not less than $400m^2$ of open space for the resident which satisfies the requirement of HKPSG and the needs of future residents.

6.3 All the landscaping and open space within the site boundary would be constructed, managed, and maintained by the developer and relevant authorities after the completion of the Defects Liability Period and Establishment Period.

6.4 Open Terraces, with overhang Canopy and Trellis are provided for Suites in Upper Floor. Those would create a comfortable Outdoor Living Space, with reasonable portion under shade for the Elderly.

Planters are also provided by the side for extra enjoyment.

7.0 Green Coverage

7.1 The Site Area of the proposed development does not conform to the minimum size requirement to provide Greenery coverage in the building. However, in order to improve the environmental quality of the urban space and open space, we are pleased to offer Greenery Space in accordance with the requirement for the development of 1000 m^2 - 2000 m^2 site area as detailed in Buildings Department Practice Notes PNAP APP-152, Sustainable Building Design Guidelines; and DEVB Technical Circular (Works) No. 3/2012. The design has included a minimum of 10% Greenery in the Primary Zone (15 m above main street level) and a total of 20% coverage.

7.2 The site area of the Proposed Development is 1,495 m^2. The Green Coverage provided is 259.87 m^2 which is not be less than 149.5 m^2 in primary zone. Total green coverage provided is 557.6 m^2 which is not less than 298.93 m^2. ***Figure 11*** shows the location and amount of the Greenery Coverage.

7.3 Some greenery may extend to the covered area in order to maintain the consistency of the greenery view. Those species would be carefully selected in order to live in both outdoor and covered conditions.

7.4 Only Vertically uncovered Greenery Space has been counted as Green Coverage.

8.0 Landscape Design Components

8.1 The following description of the Components aim to improve the user experience for the potential user, staff, and visitor for the proposed development and minimize the visual impacts via various vegetation planting and greenery coverage. Facilitates and spaces are all accessible, barrier-free, and elderly-friendly to ensure the feasibility.

8.2 The Proposed Landscape design should refer to ***Figure 2*** to ***Figure 9*** and including several main components detailed as follow:

①-The Entrance Landscape

8.3 Soft Landscaping are proposed on both sides of the Building Entrance. It aids to soften the approach and to reduce the visual impact of the building.

②-Building Setback and Widened Pedestrian Pavement

8.4 Due to the irregular shape of the Site, the building is setback for the Access Road at various width, up to a width of 5m at the Entrance. By doing so, the Users would be facilitate and be more accessible with any equipment passing by. The pavement also provides a safer and independent path to separate pedestrian from vehicles.

③-Tai Chi Circle

8.5 A Tai Chi Circle is proposed to the West Corner, which is a transient place suitable for Tai Chi exercise.

④-Stone Pebble Path

8.6 A Stone Pebble Path along the North Side is ideal for everyday walking exercise to improve the body circulation.

⑤-Outdoor Fitness Equipments

8.7 A series of Outdoor Fitness Equipments at the Northern corner are built for those Elderly of greater mobility and require more vigour fitness exercise.

⑥-Tranquility Seating Place

8.8 The North-East Corner is surrounded by wooden benches and grass paver. The semi-circular seat provides a semi-enclosure and trees were planted along the space. The space provides a private space for the resident & their family to enjoy landscape view and social activities. Those space could be accessed from Indoor Multi-Function Rooms directly during semi-outdoor functions.

⑦-Accessible Parking

8.9 The Car Park provides extra space for the loading/unloading bay & Accessible Parking for visitor and resident, which complies with The Technical details and design on parking for drivers with disabilities in Volume 6 Chapter 8 of TPDM and the third schedule to the Building (Planning) Regulation (Cap 123F).

8.10 Signage clearly indicates the exact locations of the designated parking spaces for users for all the circulation. The signage will not be obscured and can be seen from the driver's seat.

⑧-Partly Covered Terraces

8.11 Terraces are directly accessible by Suites at higher Floor, with Canopy and Trellis covering to provide a semi-outdoor space. It would be ideal for those who enjoy daily fresh air during sitting out.

⑨-Flower Planter on Terraces

8.12 Mini Flower Planter located by the side of the Terraces intends to soften the building form and provide views for the Suite resident. Flower aims to reduce the anxiety of the resident when they require to stay alone. All the vegetation planted in the flower planter are designed to be slightly higher than the parapet of the Suite to ensure the user can easily notice the greenery through the window in the same level.

⑩-Roof Garden on R/F

8.13 The Roof Garden is a large outdoor area for user entertainment and space for events & activities. Being on the topmost floor, the Roof Garden maintain great advantages of non-distractive sight view and fresh air ventilation. Users can enjoy high-quality views and the equipment in their accommodation experience. Figure 8 shows the layout plan of the Roof Garden accommodated every section location mentioned below.

⑪-Observatory Garden

8.14 Located on the Western Side of the Roof Garden, residents are able to have the view of Mai Po Nature Reserve and Wetland Area and observe the skyline without distraction. Seats are provided in the garden for users to relax and rest here.

⑫-Urban Farming

8.15 The Farming area is located in the middle of the Roof Garden. The 300m soil layer for farming would be sunken to ensure the user remains accessed at the same level as other sections of the Roof Garden. Four deeper planters will also be provided for the diversity of vegetation planting experiences in urban farming. Both Farming and its products can consequence a better communication and social relationship for the resident to support their mental and psycho-health during accommodation.

9.0 Soft Landscape Design Elements

9.1 The proposed planting scheme aims to improve the living environment of the potential RCHE resident with Greenery. All trees can provide a secondary shade for the uncovered area for future use of the equipment mentioned. The use of trees, shrubs, and flowers will also provide a soft enclosure to characterize different open spaces and mark the boundary in a more comfortable way. The soft landscape will simulate a natural environment for the user but at the same time respond to the architecture to embrace both.

9.2 Soft Landscape can efficiently reduce the visual impact produced by the newly-built shape, which could benefit the surrounding residential housing by reducing visual impact and the uncomfortable feeling generated by the new development.

9.3 The selected vegetation will characterize the primary theme of the proposed environment, providing a colour version of the expectation of all the Greenery Area. The potential planting species will integrate into the architecture for a welcoming environment for the resident with different colours and textures.

Table 1 : Planting Species for Soft Landscapes.

Botanical Name	Size(mm)	Spacing(mm)
Trees (on L/F Floor only)		
Cinamomum burmannii	Heavy Standard	1,000
Terminalia mantaly	Heavy Standard	1,000
Large Specimen Shrub Species (multi-stem)		
Cascabela thevetia	1500 (h) x 1000 (s)	500
Hibiscus Syriacus	1500 (h) x 1000 (s)	500
Lagerstroemia Indica	1500 (h) x 1000 (s)	500
Murraya paniculata	1500 (h) x 1000 (s)	500
Shrub		
Brunfeisia calycina	300 x 300	250
Caesalpinia pulcherrima	300 x 300	250
Camellia sasanqua 'pink snow'	300 x 300	250
Clerdendrum myricoides ' Ugandense'	300 x 300	250
Dichroa febrifuga	300 x 300	250
Duranta repens 'Golden Leaves'	300 x 300	250

Botanical Name	Size(mm)	Spacing(mm)
Ficus microcarpa 'Crassifolia'	1200 x 500	400
Ficus microcarpa ' Golden Leaves'	500 x 500	400
Hibiscus rosa sinensis	500 x 500	400
Ixora coccinea 'Sunkist'	250 x 250	200
Murraya paniculata	300 x 300	250
Schefflera arboricola	600 x 600	500
Tabernaemontana divaricata 'Flore Pleno'	300 x 300	250
Small Shrub Species		
Plumbago auriculata	250 x 200	250
Blechnum orientale	250 x 200	250
Cuphea hyssopifolia	250 x 200	250
Dietes bicolor	250 x 200	250
Lantana montevidensis	250 x 200	250
Nephrolepis exaltata	250 x 200	250
Ground Cover		
Asparagus densiflorus ' Sprengeri'	250 x 200	250
Catharanthus roseus	250 x 200	250
Soleirolia soleirolii (Baby Tears)	250 x 200	250
Syngonium podophyllum	250 x 200	250
Lawn		
Axonopus compressus		

Note: The plant species listed above provide an indication of the future character of the proposed landscape areas only. The design will be subject to review during the detailed design stage of the project. These changes will be reflected in the Landscape Master Plan Submission.

Soil Depth for Greenery Area and Planters

9.4 Three soil depths will be applied in the proposed development to ensure adequate soil for the vegetation planted above. The tree planting area will incorporate at least 1200mm depth soil, 600mm depth for shrubs, and 300mm for the lawn excluding the depth of the drainage requirement. Figures 9 & 10 show the different depths of the planter of the proposed development.

Irrigation and Drainage

9.5 A Manual system with lockable water points will be installed every 40m for the proposed Irrigation system for the development. The proposed source of water supply will be subject to final approval from the Water Services Department. Sub-soil drainage shall be provided for all planting areas with cellular drainage systems such as "Mira-drain" or an approved equivalent. Figure 10 shows the Diagram of drainage outlet.

Feature Paving

9.6 Different paving will be used for aesthetic appearance and to identify different zone on the same level. The pavement on G/F in front of the Entrance Lobby promote the priority of space for pedestrian path while excluding vehicles to avoid accidents. It would be constructed with high-quality materials in feature patterns to respond to the architectural design & function, and to ensure the floor are flattened and easy to access for all residents.

9.7 Non-slip paving materials will be utilized at the site and the proposed finishes and materials are summarized below:

Access road and pedestrian pavements: Subtle shades of natural granite and concrete pavers designated to create visual continuity with the adjacent pedestrian pavement whilst creating a distinct identity at the threshold of the development.

Main Gardens: Combination of natural granite, concrete paving, recycled plastic timber decks, and specialist sport surfacing using both formal paving and naturalistic paving for horizontal surfaces building on the design theme for the architectural and landscape schemes.

9.8 Wherever possible all landscape areas will cater for multiple use needs including people with impaired ability and access for the disabled in accordance with Building Department's Design Manual Barrier Free Access 2008.

9.9 The landscape design considers the requirements of Chapter 6 of the DMBFA for the use of elderly residents whereby the landscape has been designed without steps, thresholds, small ramps, or kerbs, wherever possible. Where changes in level are unavoidable handrails or grab bars will be provided. Floor surface will comply with Division 4. Slip-resistant floor finishes and avoids the use of shiny and reflective floors such as marble, glazed tiles, and the like. Open jointed pavers or aeration paver blocks with uneven or very rough surface will be avoided at external open space.

Planter Walls

9.10 Where possible planters will be at-grade however where raised planters are required the planter walls and coping will be clad with the same cladding materials as building external cladding.

Lighting

9.11 The lighting design concept for the landscape areas should be designated to contribute to the quality of the development in nocturnal views, providing an aesthetically pleasing landscape through the highlighting of the landscape elements. All the landscape areas will be provided with sufficient illumination to meet the requirement of lighting standards, particularly for the entrance areas and pedestrian access paths. The lighting concept will include three types of lighting as follows:

- Amenity lighting highlighting feature trees, walls, sculptures, and planting through the use of spotlights and up-lightings;

- Area lighting involving the use of low-level lighting sources such as lighting bollards and recessed wall lights for sitting areas and main landscape spaces designed to avoid glare/light spillage to adjacent properties; and

- General safety lighting with the minimum lux level which will last between midnight and early morning. The covered area on 1/F will last 24 hours to ensure the illumination level of the areas.

Site Furniture

9.12 The landscape design would include the provision of the site furniture including seating. In addition to its functional attributes, it would also contribute to the perceived quality of the landscape. All the seat shall be provided with seating walls and some location shall potentially provide movable seating. These locations are preliminary at this stage being subject to the detailed design of the landscape spaces and their programme for use

Safety Requirement

9.13 All outdoor facilities will be designed, constructed, and operated in full compliance with relevant safety standards and guidelines.

10.0 Landscape Management and Maintenance

10.1 Upon completion of the construction works, a 12-months Defects Liability Period (DLP) will be implemented applying to the hard landscape whereby the specialist contractor will be responsible for the maintenance during the first year.

A. Routine Maintenance (Daily - Weekly)

- Rubbish and litter removal
- Sweeping and cleaning
- Water feature cleaning
- Damage inspection, repair of site furniture and light bulb replacement
- Routine management attendance, inspection, and cleaning of surface channels and subsoil drainage, in particular at elevated levels.

B. Annual/ Long-term Maintenance

- Repainting
- Resurfacing of worn pavement
- Replacing worn parts of site furniture, lighting fixtures, and other facilities
- Replacement of damaged landscape furniture

10.2 Similarly, the softworks contractor will be responsible for a 12-month Establishment Period (EP) for the planting after practical completion. This allows a period of time for the proper establishment of the plants and the replacement of any losses.

10.3 At the end of the 12-month DLP/EP, the property owner will be responsible for arrangements to take care of all landscape areas within the development. This includes general tree care and proper tree maintenance in accordance with relevant guidelines promulgated by DEVB.

Tree Risk Assessment

10.4 A Tree Risk Assessment for the target area shall be conducted annually in accordance with the 'Handbook in Tree Management' promulgated by the GLTM Section of DEVB.

FIGURE 1

Location Plan

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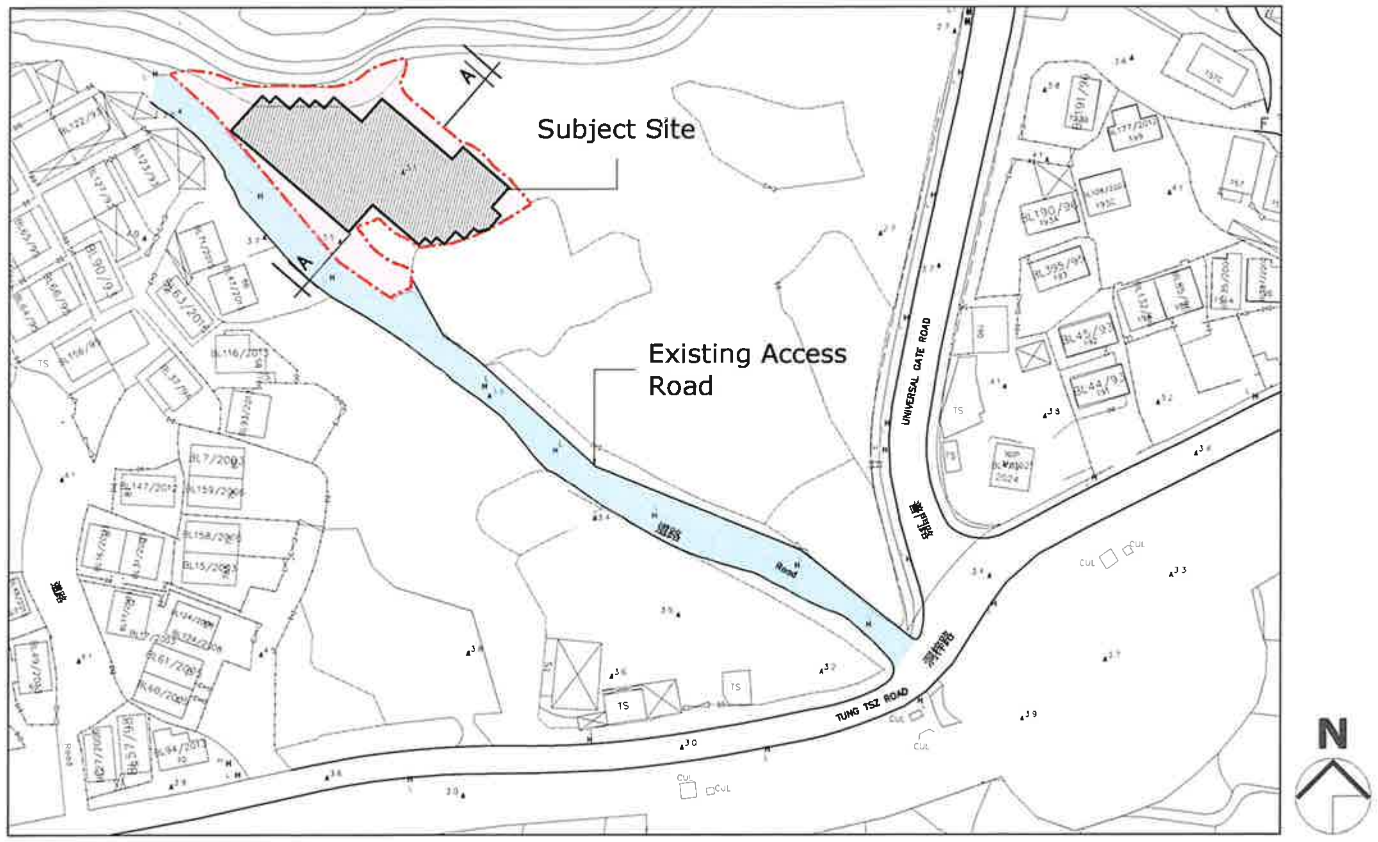
FIGURE NO.	TITLE	1:13000 (A4)	- OCT. 2024
1	LOCATION PLAN		

FIGURE 2

Proposed RCHE Design



BLOCK PLAN

SCALE – 1:1500

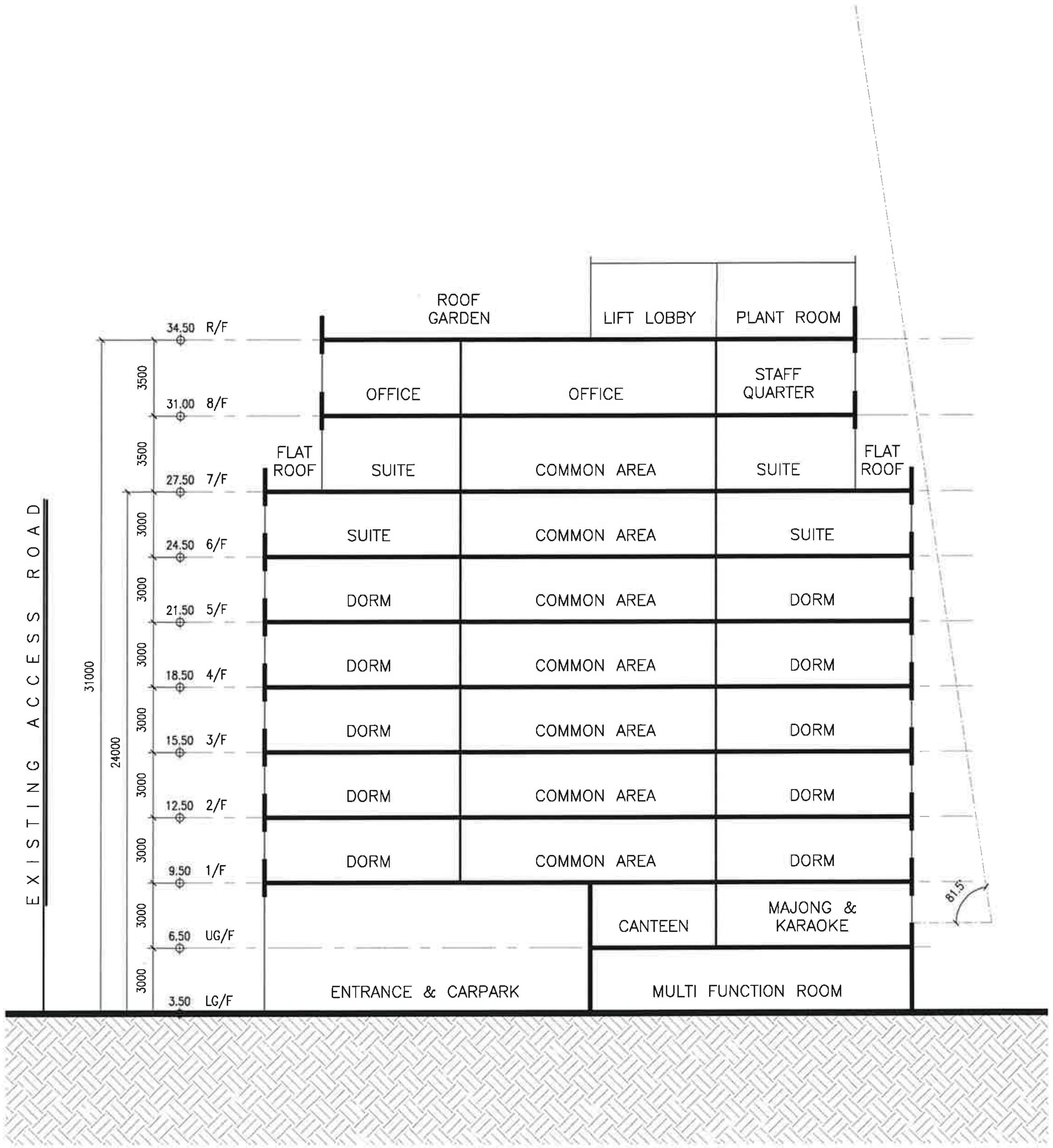
DEVELOPMENT SCHEDULE:

Site Area	:	1494.67 m² (16088.62 ft²)	
Class of Site	:	A	
Proposed Plot Ratio For Non-Domestic	:	5.57 < 9.5	
Proposed Site Coverage above For Non-Domestic (Above 15m)	:	61.09% <80%	
Proposed Building Height	:	34.50 mPD	
Absolute Height	:	31.0 m	
Proposed No. Of Storey	:	10 STOREYS	
Proposed Gross Floor Area			
LG/F (ENTRANCE & CARPARK)	:	606.13m²	
UG/F (RCHE)	:	613.16 m²	
1/F-5/F (RCHE)	:	916.89m² x 5 storeys = 4584.45 m²	(45 no. of beds x 5 storey)
6/F (RCHE)	:	886.14 m²	(17 no. of suites)
7/F (RCHE)	:	759.44 m²	(11 no. of suites)
8/F (MANAGEMENT OFFICE)	:	764.44 m²	
R/F (SKY GARDEN)	:	110.07 m²	
TOTAL	**:**	**8323.83 m² (89597 ft²)** **(28 no. of suites & 225 no. of beds)**	

Parking Spaces :

No. of LGV (3.5m x 7m x 3.6m H.)	: 1 Nos.
No. of Minibus (3m x 8m x 3.6m H.)	: 1 Nos.
No. of Private Car Parking (2.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Accessible Private Car Parking (3.5m x 5m x 2.4m H.)	: 1 Nos.
No. of Motorcycle Parking (1m x 2.4m x 2.4m H.)	: 1 Nos.

BOUNDARY LINE



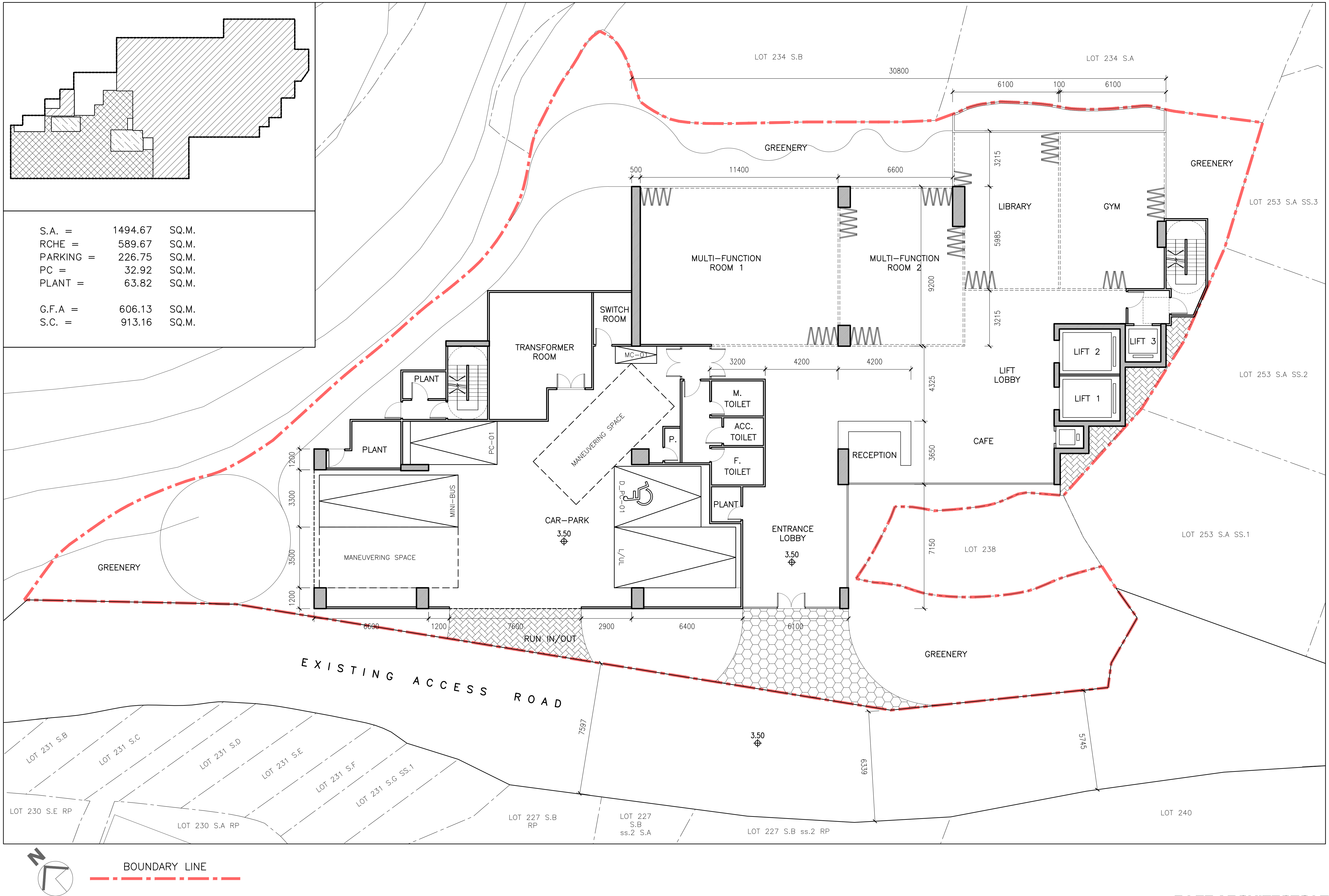
SECTION A-A

SCALE – 1:250

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	DEVELOPMENT SCHEDULE & SECTION	G-01	N.T.S. (A3)	D / C / B / A	JAN. 2025 / DEC. 2024 / OCT. 2024 / SEP. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "RLee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

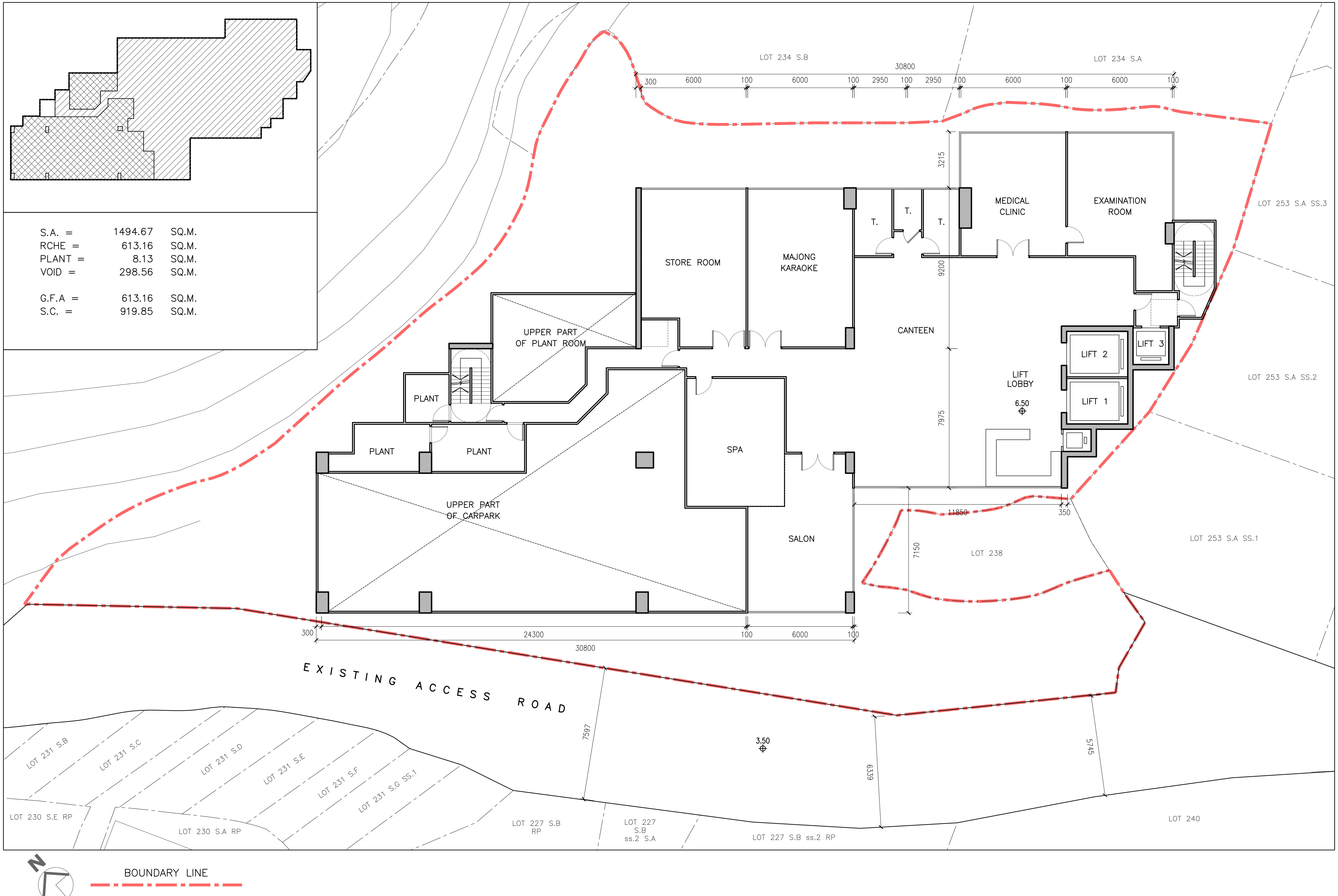


S.A. =	1494.67	SQ.M.
RCHE =	589.67	SQ.M.
PARKING =	226.75	SQ.M.
PC =	32.92	SQ.M.
PLANT =	63.82	SQ.M.
G.F.A =	606.13	SQ.M.
S.C. =	913.16	SQ.M.

BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	LG/F PLAN ENTRANCE & CARPARK	G–02	1:200 (A3)	C DEC. 2024 B OCT. 2024 A SEP. 2024 - SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	UG/F PLAN RCHE	G-03	1:200 (A3)	D JAN. 2025 C DEC. 2024 B OCT. 2024 A SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

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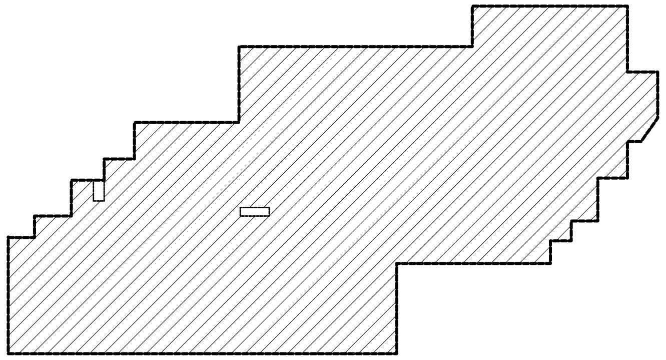
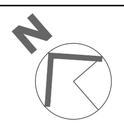


S.A. =	1494.67	SQ.M.
RCHE =	916.89	SQ.M.
PLANT =	2.96	SQ.M.
G.F.A =	916.89	SQ.M.
S.C. =	919.85	SQ.M.



BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	TYPICAL/F PLAN RCHE	G−04	1:200 (A3)	C B A -	DEC. 2024 OCT. 2024 SEP. 2024 SEP. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

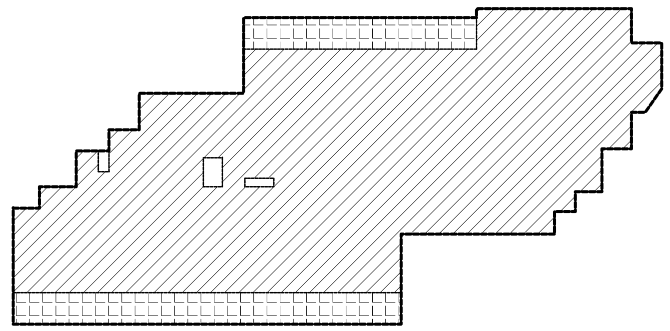
R LEE ARCHITECTS LTD

S.A. =	1494.67	SQ.M.
RCHE =	886.14	SQ.M.
PLANT =	2.96	SQ.M.
FLAT ROOF =	30.75	SQ.M.
G.F.A =	886.14	SQ.M.
S.C. =	919.85	SQ.M.

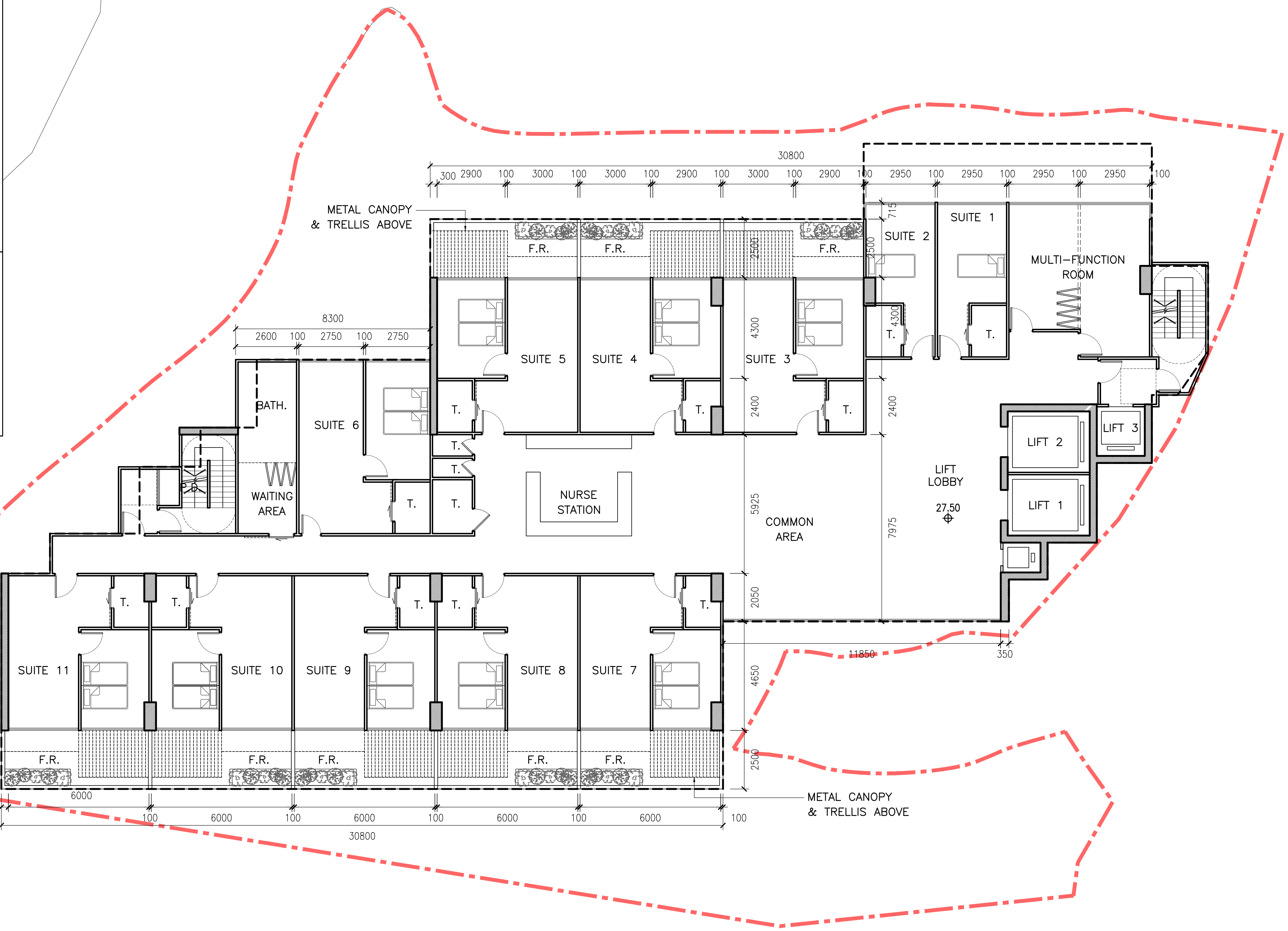
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	6/F PLAN RCHE	G-05	1:200 (A3)	C B A -	DEC. 2024 OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



S.A. =	1494.67	SQ.M.
RCHE =	759.44	SQ.M.
FLAT ROOF =	123.25	SQ.M.
PLANT =	6.41	SQ.M.
G.F.A =	759.44	SQ.M.
S.C. =	889.10	SQ.M.



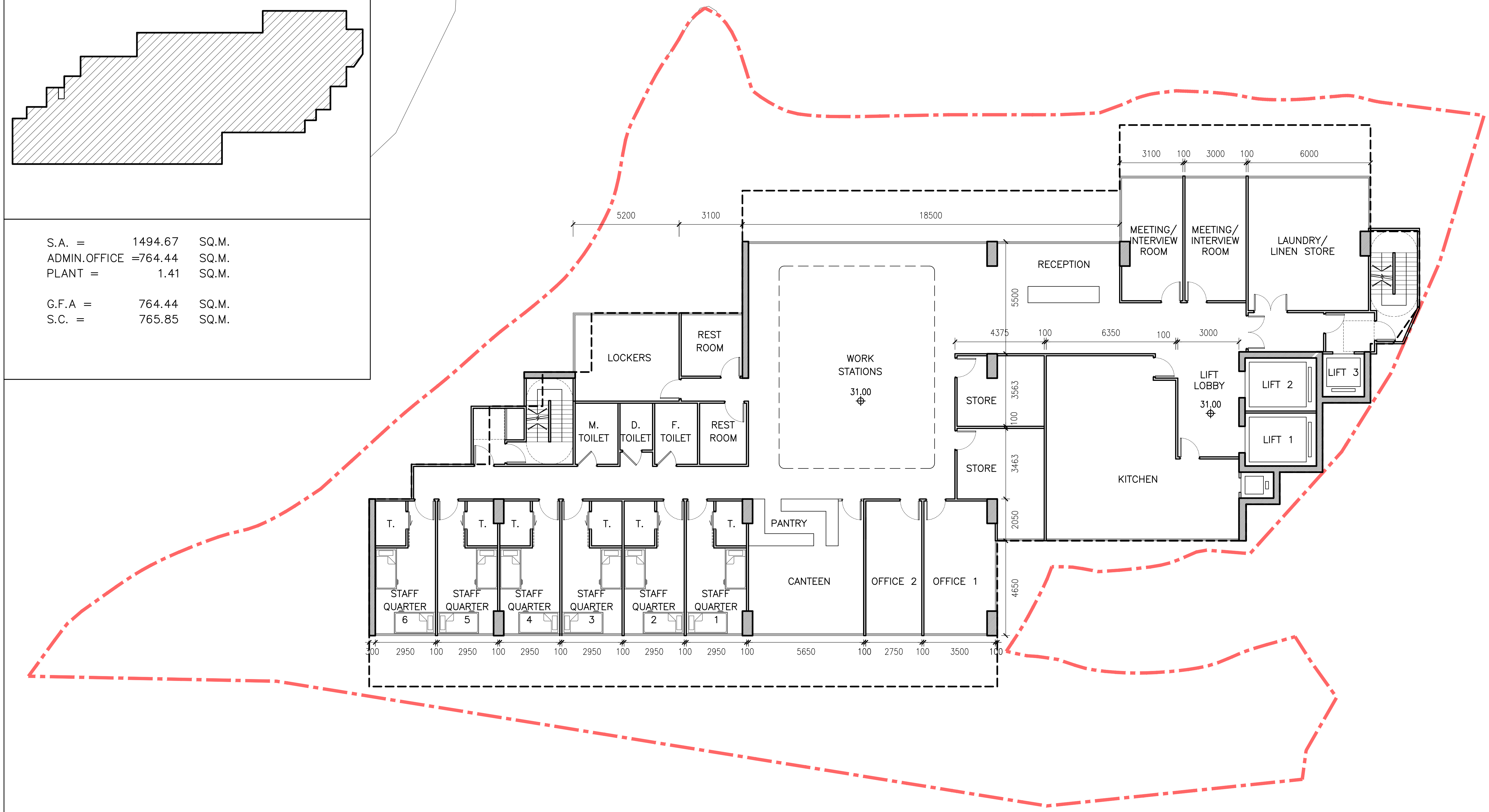
BOUNDARY LINE

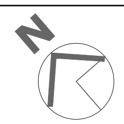
2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	7/F PLAN RCHE	G-06	1:200 (A3)	B OCT. 2024 A SEP. 2024 - SEP. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains the property of "R.Lee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD

S.A. =	1494.67	SQ.M.
ADMIN.OFFICE =	764.44	SQ.M.
PLANT =	1.41	SQ.M.
G.F.A =	764.44	SQ.M.
S.C. =	765.85	SQ.M.

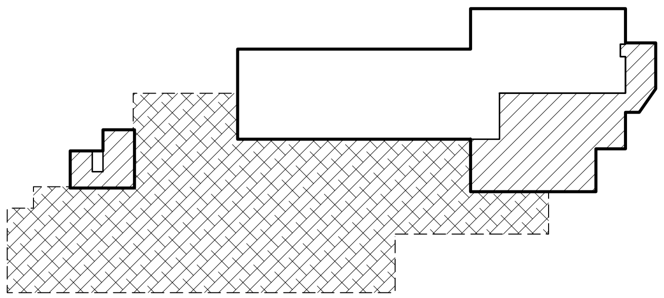




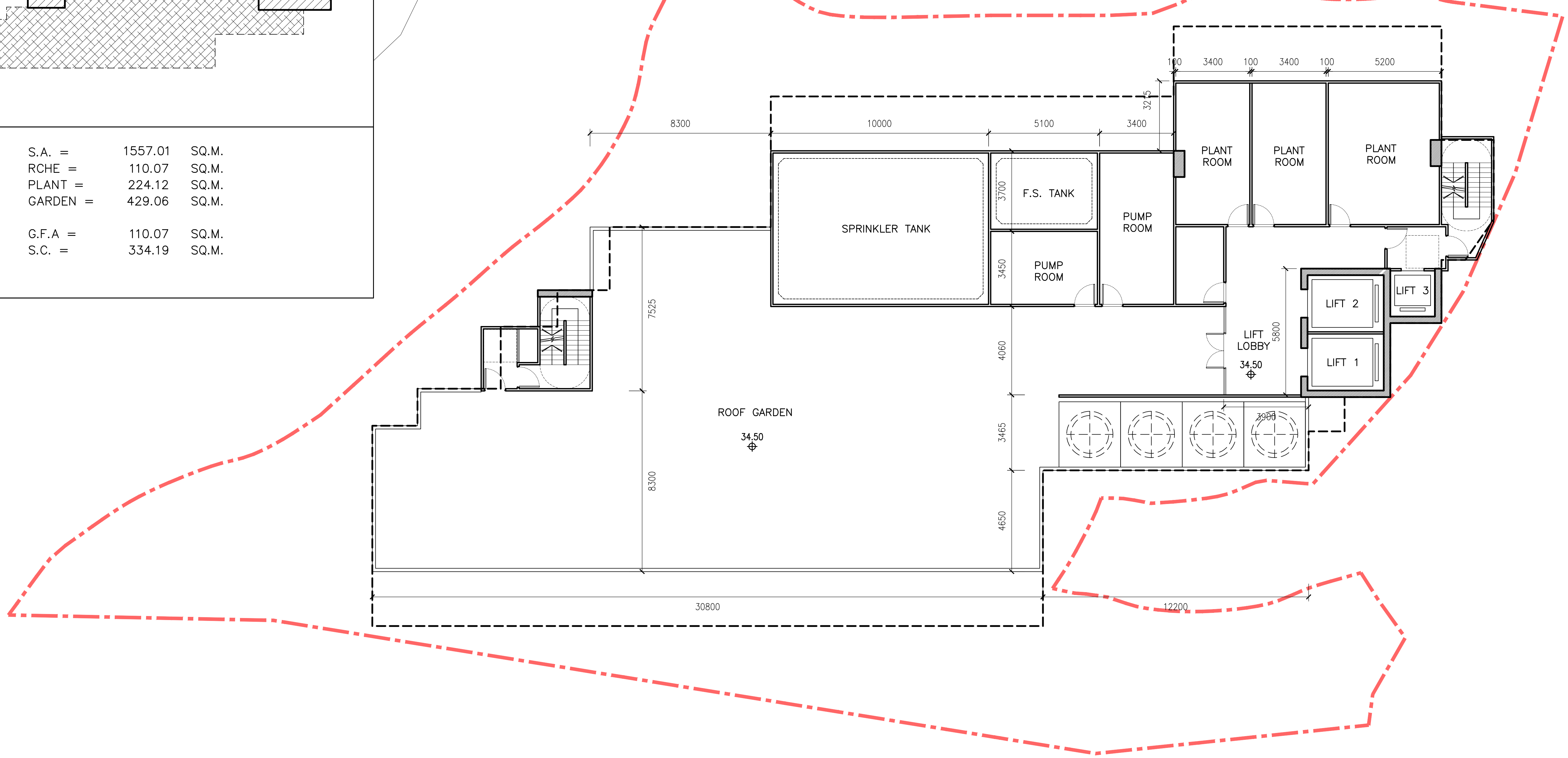
BOUNDARY LINE

R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	8/F PLAN RCHE	G-07	1:200 (A3)	B A -	OCT. 2024 SEP. 2024 SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



S.A. =	1557.01	SQ.M.
RCHE =	110.07	SQ.M.
PLANT =	224.12	SQ.M.
GARDEN =	429.06	SQ.M.
G.F.A =	110.07	SQ.M.
S.C. =	334.19	SQ.M.



N

BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	ROOF PLAN ROOF GARDEN	G-08	1:200 (A3)	B OCT. 2024 A SEP. 2024 - SEP. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

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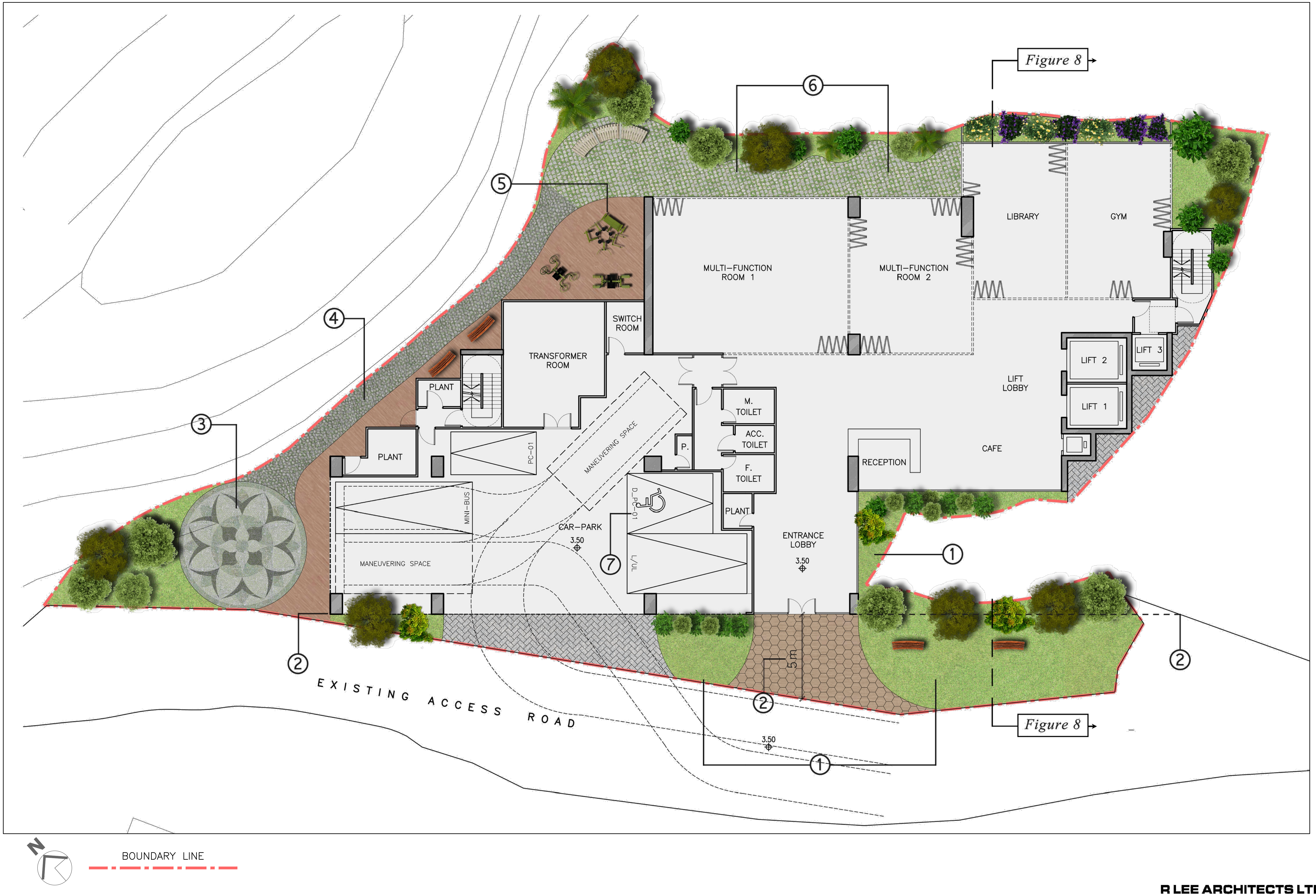
FIGURE 3 – FIGURE 12



R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	LG/F CONCEPTUAL LANDSCAPE PLAN	FIG.3	1:200 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.

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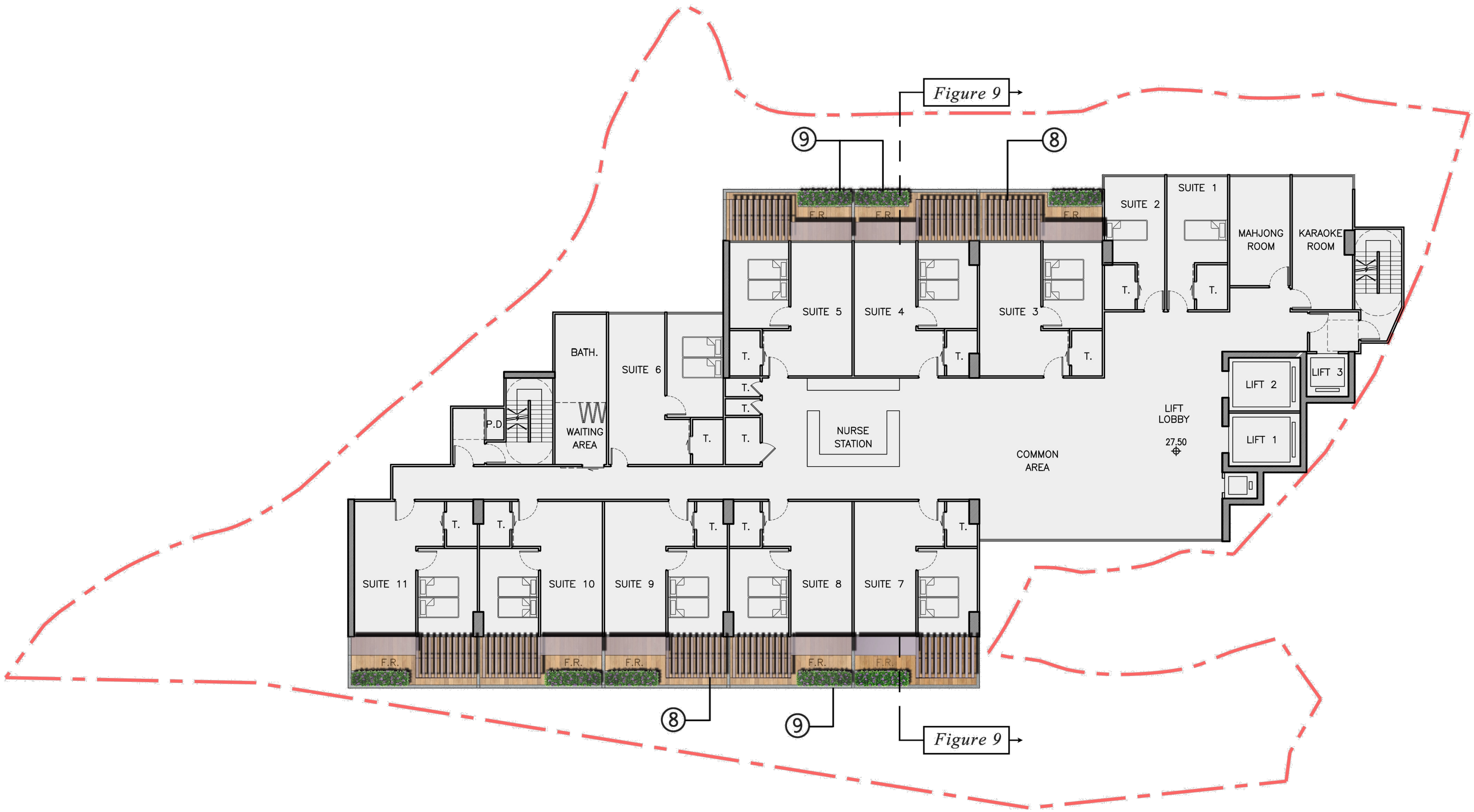
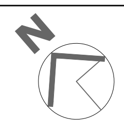
2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	6/F CONCEPTUAL LANDSCAPE PLAN	FIG.4	1:200 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



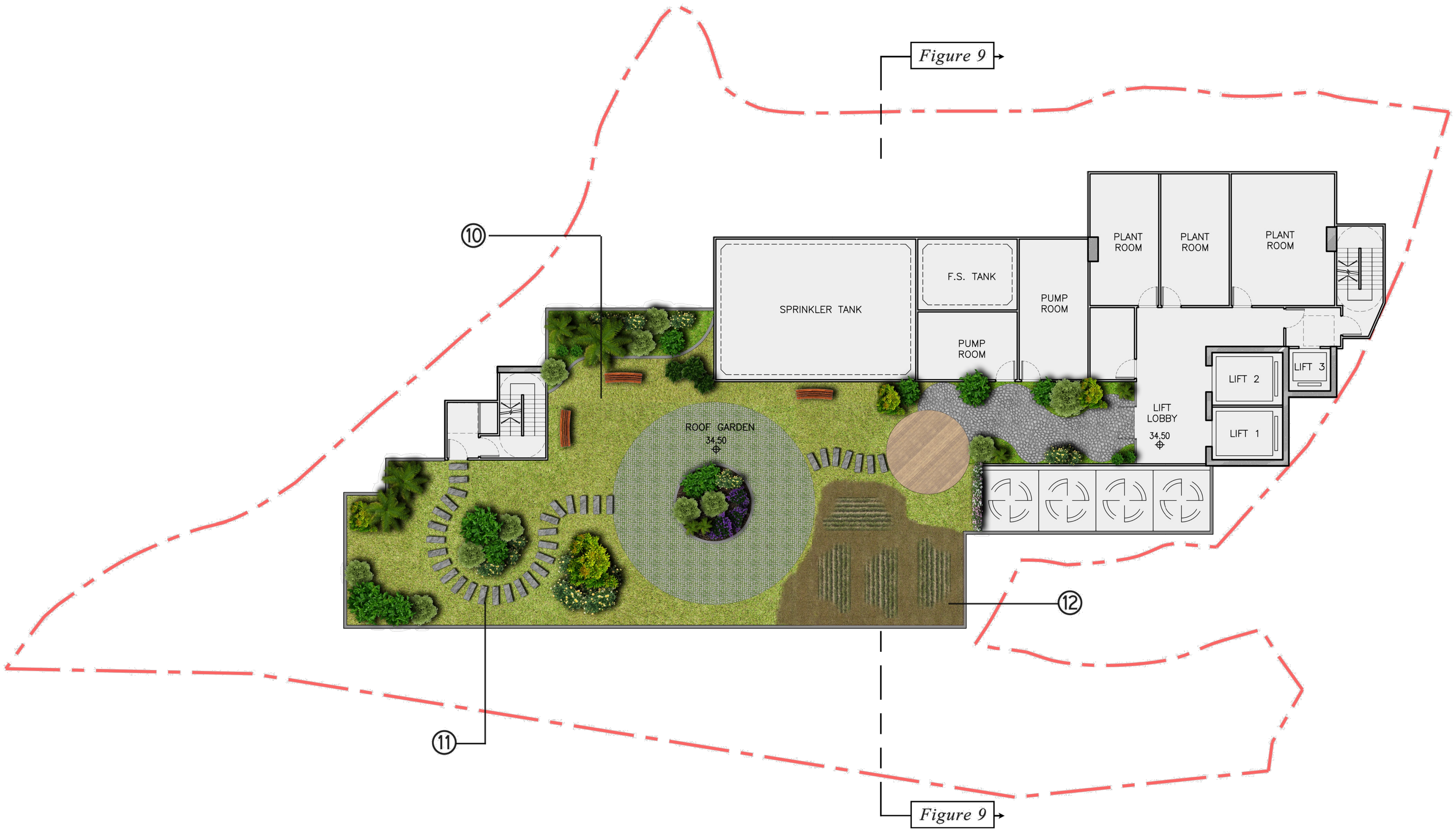


BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	7/F CONCEPTUAL LANDSCAPE PLAN	FIG.5	1:200 (A3)	-	NOV. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "RLee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

R LEE ARCHITECTS LTD

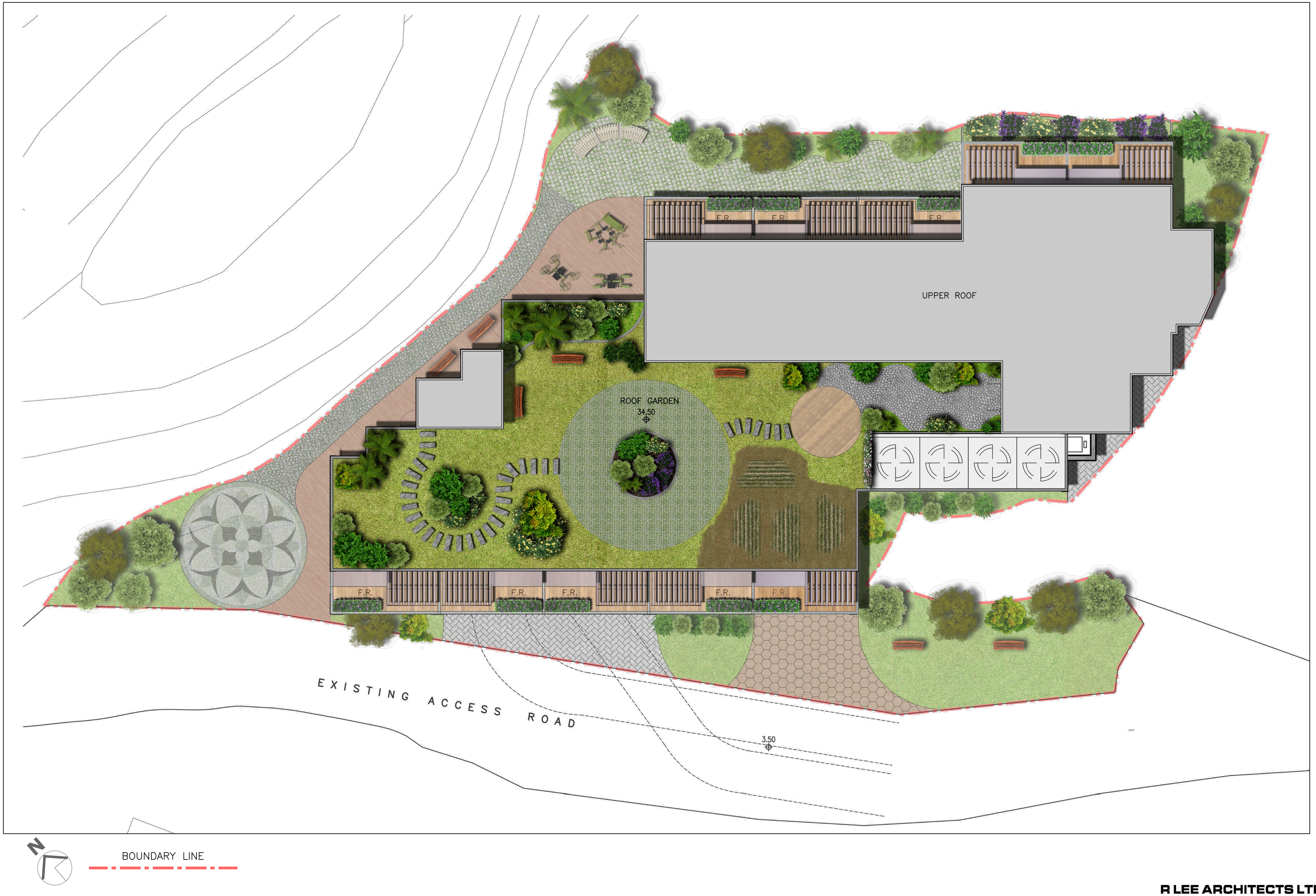


N

BOUNDARY LINE

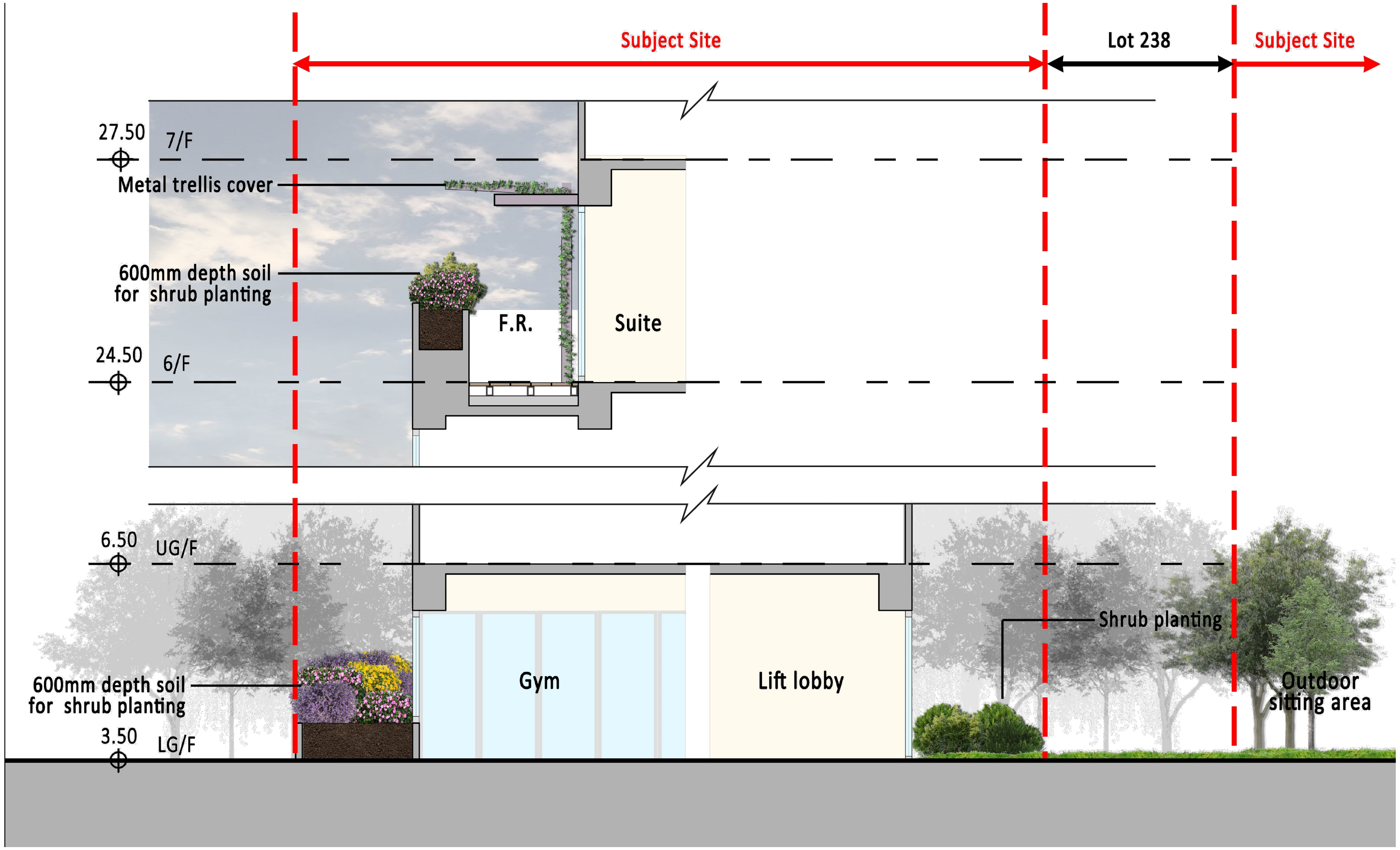
R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	R/F CONCEPTUAL LANDSCAPE PLAN	FIG.6	1:200 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



R LEE ARCHITECTS LTD

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	CONCEPTUAL LANDSCAPE MASTER PLAN	FIG.7	1:200 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



Section Line

Boundary Line

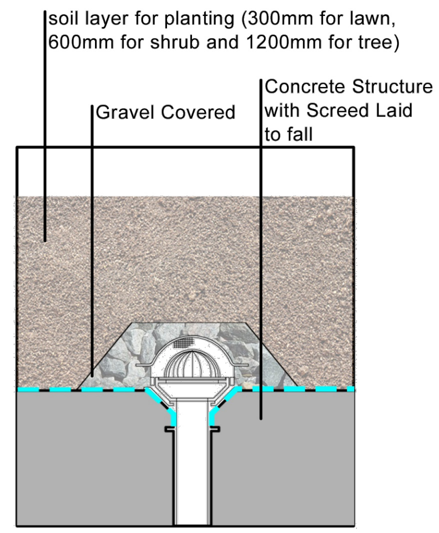
Level Mark

Planting Soil

Concrete Structure

Note:

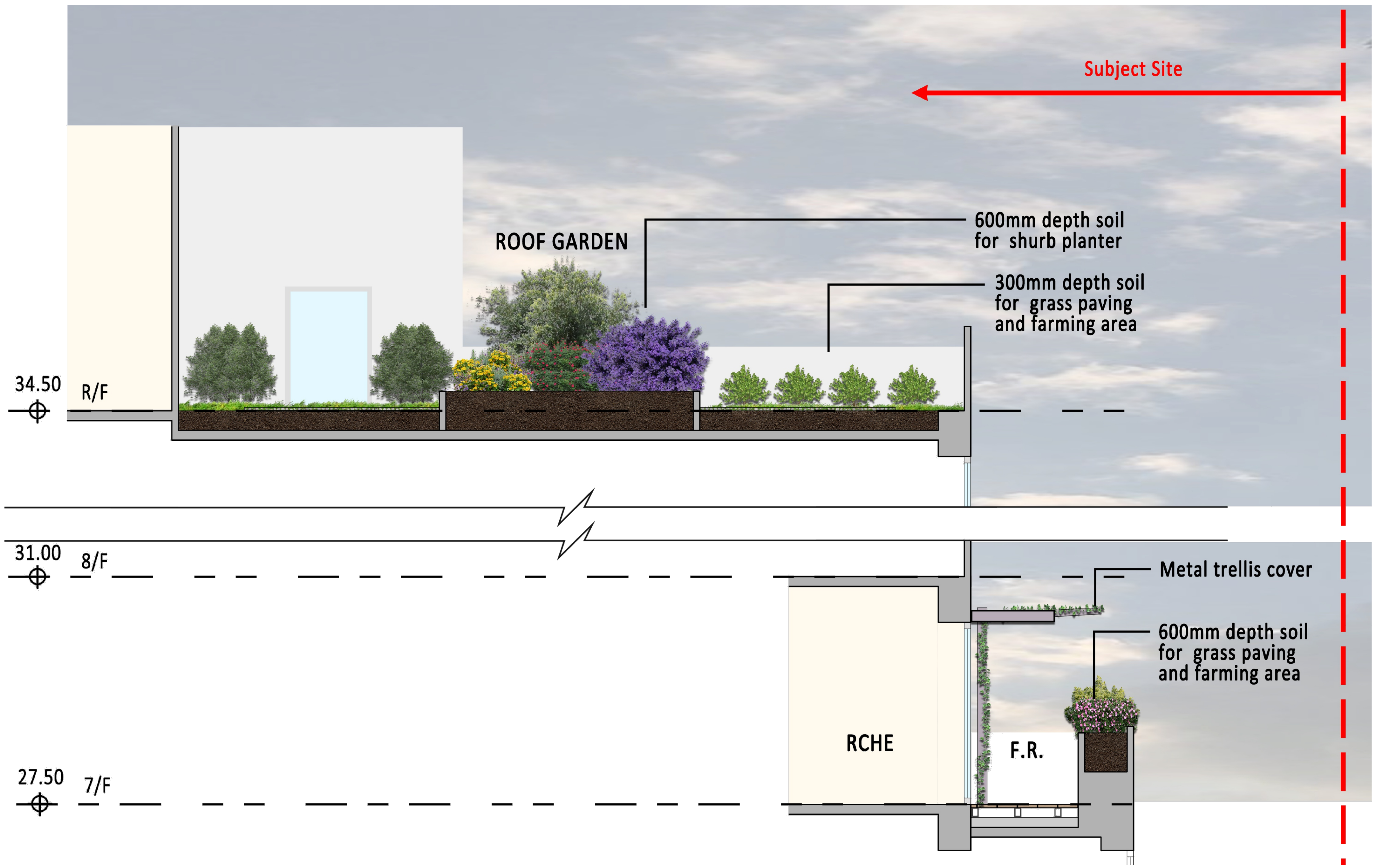
- All soil depths stated exclude drainage layer.
-Yellow Granite finished for the planter walls and coping



2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	SECTION A–A	FIG.8	1:75 (A3)	-	NOV. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "RLee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

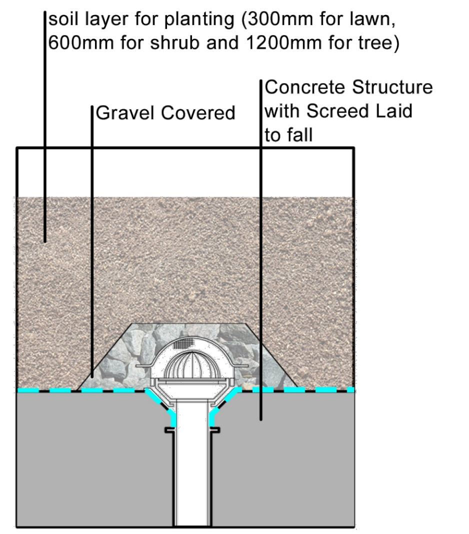
R LEE ARCHITECTS LTD



Section Line	A A
Boundary Line	
Level Mark	
Planting Soil	
Concrete Structure	

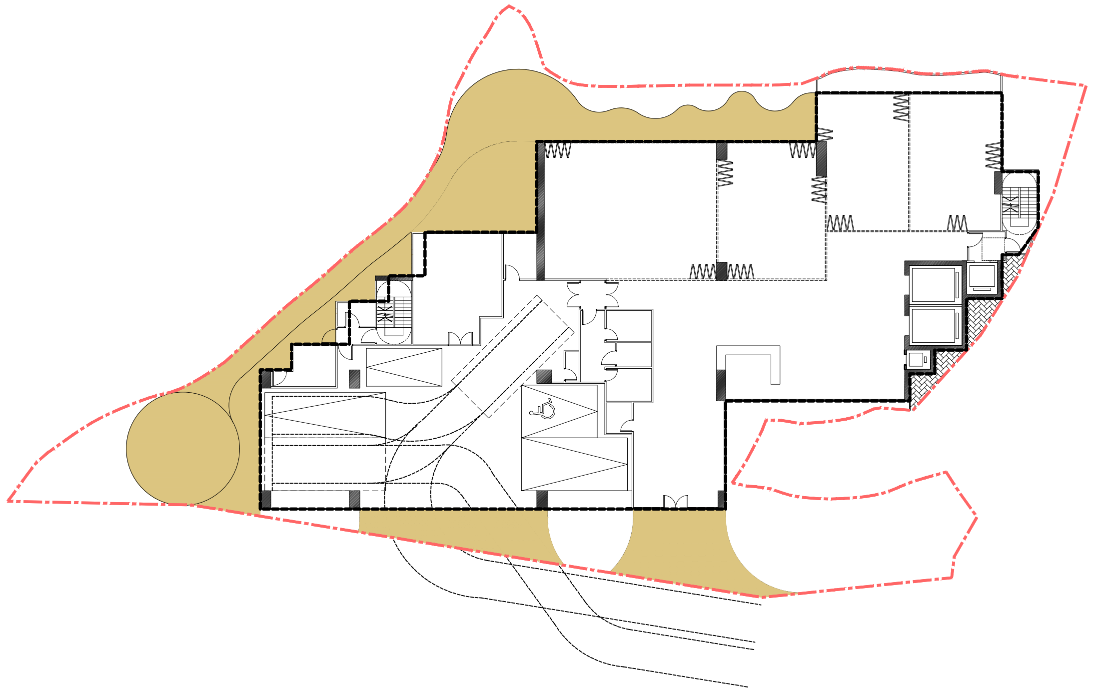
Note:

- All soil depths stated exclude drainage layer.
-Yellow Granite finished for the planter walls and coping



R LEE ARCHITECTS LTD

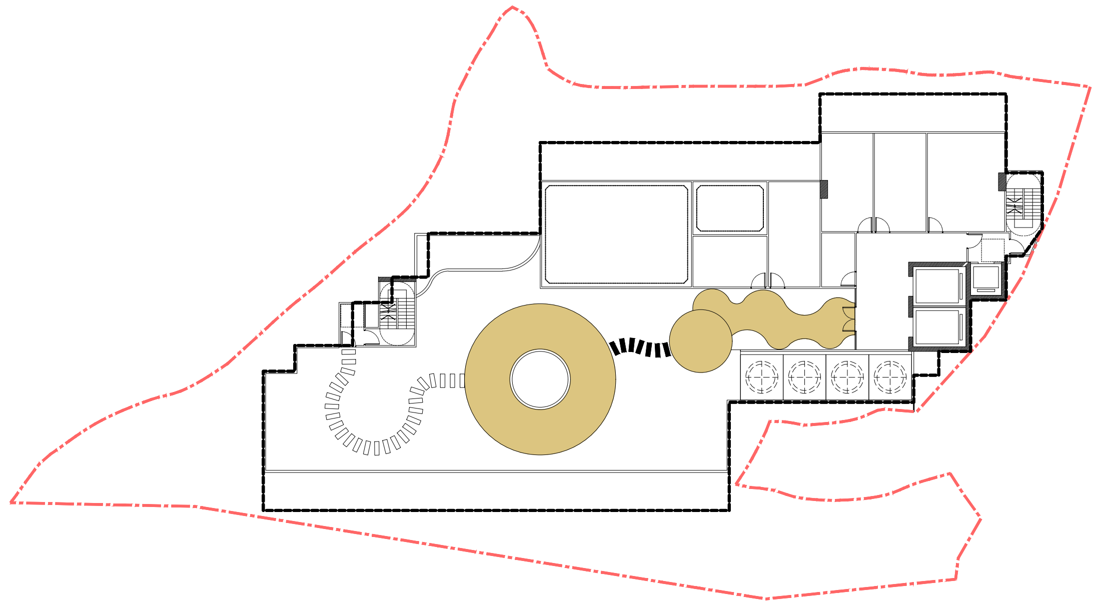
2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	SECTION B–B	FIG.9	1:75 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



1 FIG.10 LG/F PLAN
SCALE - 1:500

2 FIG.10 6/F PLAN
SCALE - 1:500

3 FIG.10 7/F PLAN
SCALE - 1:500



4 FIG.10 R/F PLAN
SCALE - 1:500

Open Space:

Primary Zone (15m above mean street level):

G/F Open Space Area = 396.36 m^2

R/F Open Space Area = 103.96 m^2

Total = 400.32 m^2

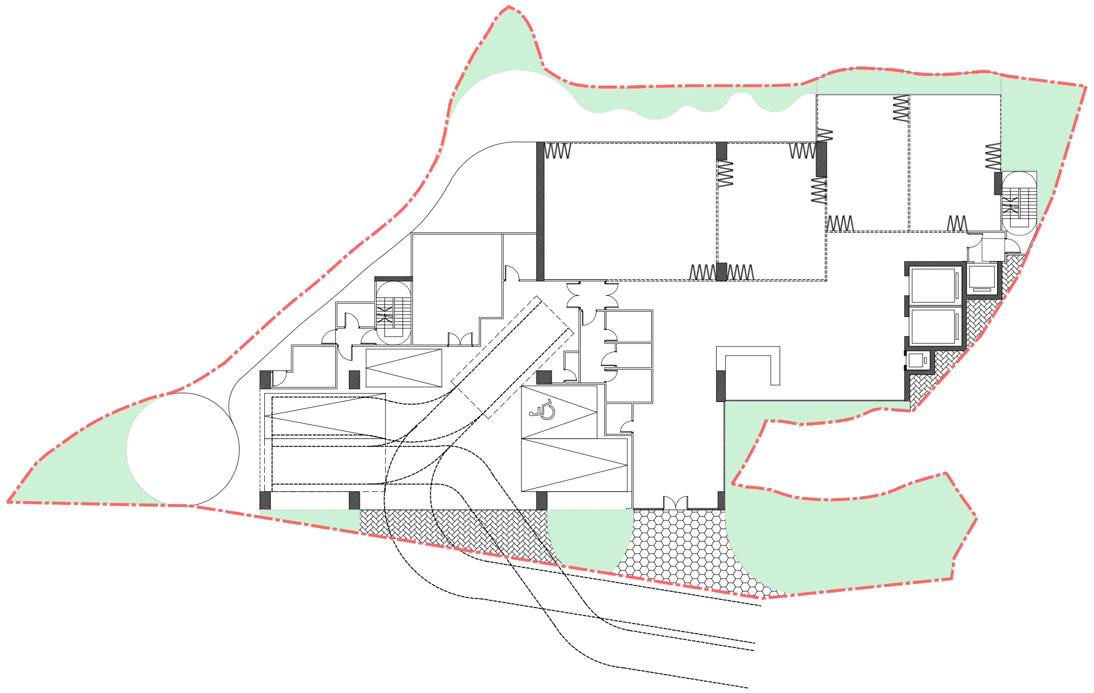
Coverage = 400.32 / 1494.67 = 26.78 %

N

BOUNDARY LINE

R LEE ARCHITECTS LTD

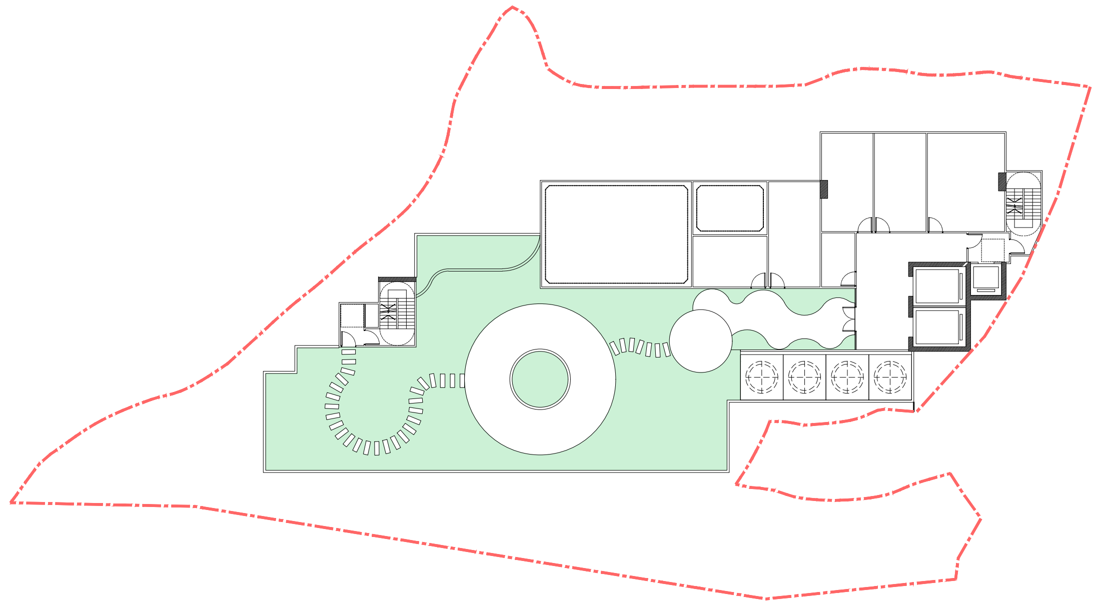
2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	OPEN SPACE CALCULATION	FIG.10	1:500 (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "RLee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.



1 FIG.11 LG/F PLAN
SCALE – 1:500

2 FIG.11 6/F PLAN
SCALE – 1:500

3 FIG.11 7/F PLAN
SCALE – 1:500



4 FIG.11 R/F PLAN
SCALE – 1:500

Green Coverage:

Primary Zone (15m above mean street level):

G/F Green Area = 259.87 m²

Coverage = 259.87 / 1494.67 = 17.39%

Non-primary Zone:

6/F Green Area = 4.59 m²

7/F Green Area = 18.28 m²

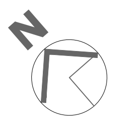
R/F Green Area = 274.86 m²

Total = 297.73 m²

Coverage = 297.73 / 1494.67 = 19.92%

Total Open Space Area

= 400.32 + 297.73 = 698.05 m²



BOUNDARY LINE

2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	GREEN COVERAGE CALCULATION	FIG.11	1:500 (A3)	-	NOV. 2024

Do not scale drawing.
Contractors are required to verify exact dimensions on site.
The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate.
The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified.
This drawing is not for construction purposes unless expressedly certified.

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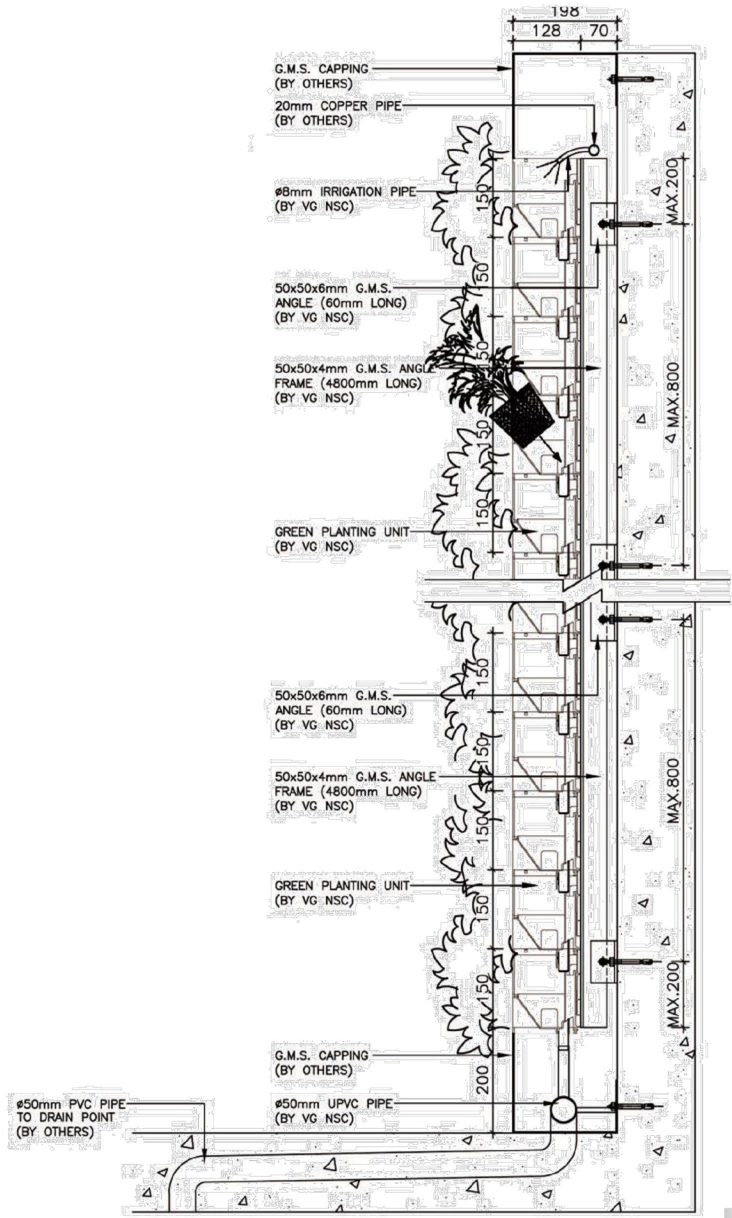
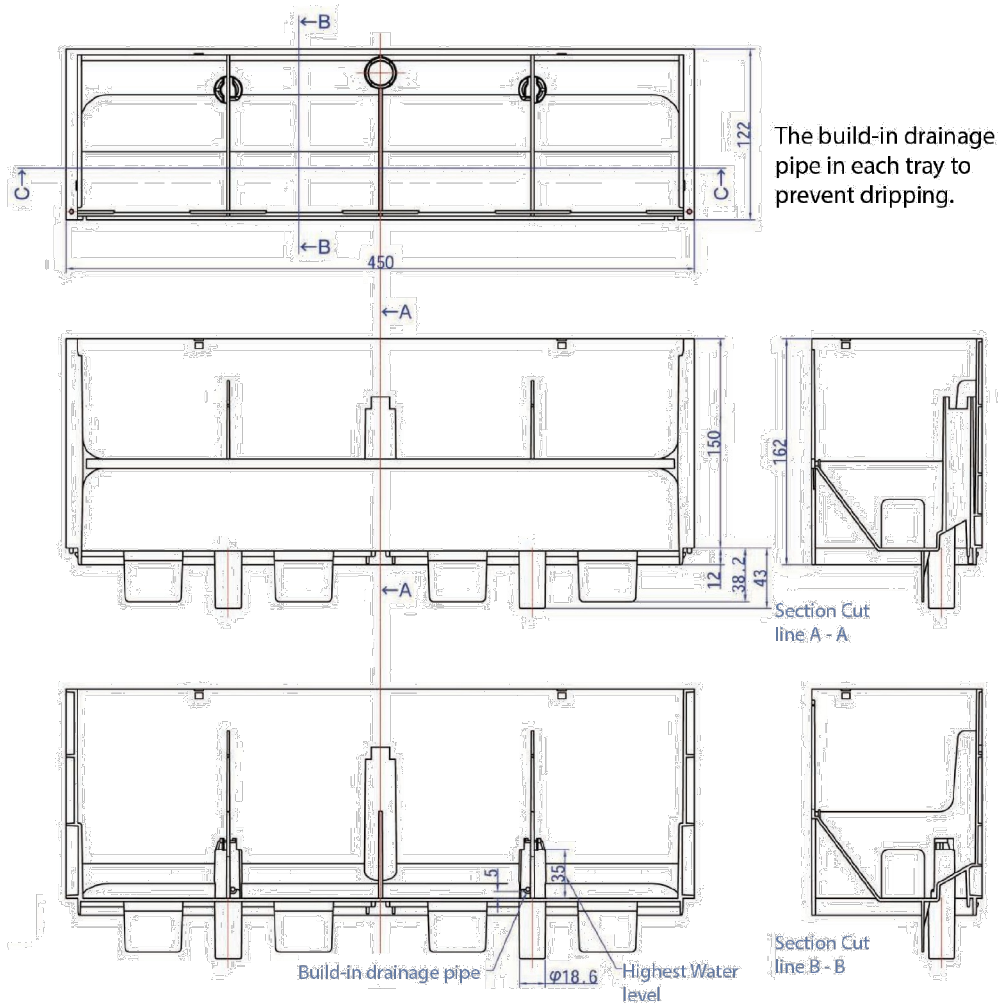
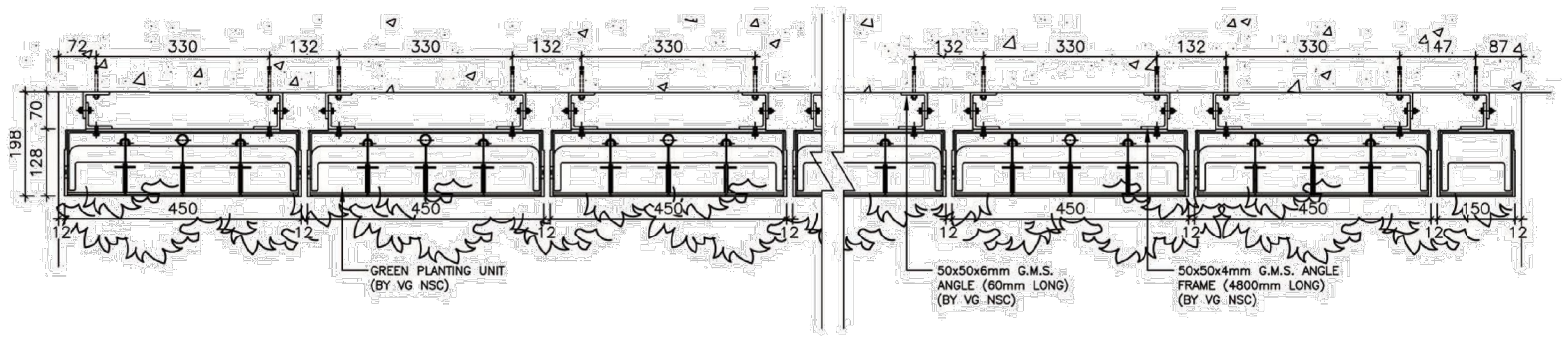
Example of Vertical Greenary

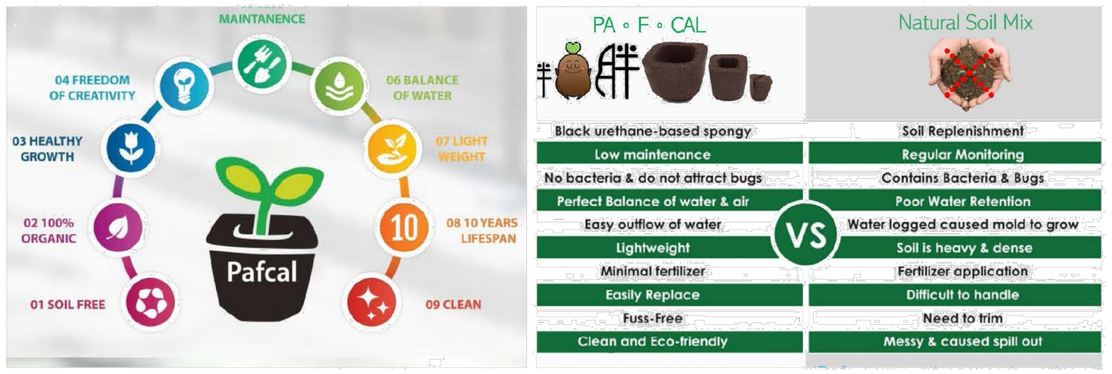


Section detail - 1:65



Modular design - 1:5





Filling material

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2483	PROPOSED RCHE DEVELOPMENT at TUNG TSZ, TAI PO, N.T.	VERTICAL GREENING – MODULAR SYSTEM	FIG.12	N.T.S. (A3)	-	NOV. 2024	Do not scale drawing. Contractors are required to verify exact dimensions on site. The drawings show the design intent of the architect only, contractors are required to submit shop drawings where appropriate. The design remains to be the property of "R.Lee Architects Ltd" unless otherwise specified. This drawing is not for construction purposes unless expressedly certified.