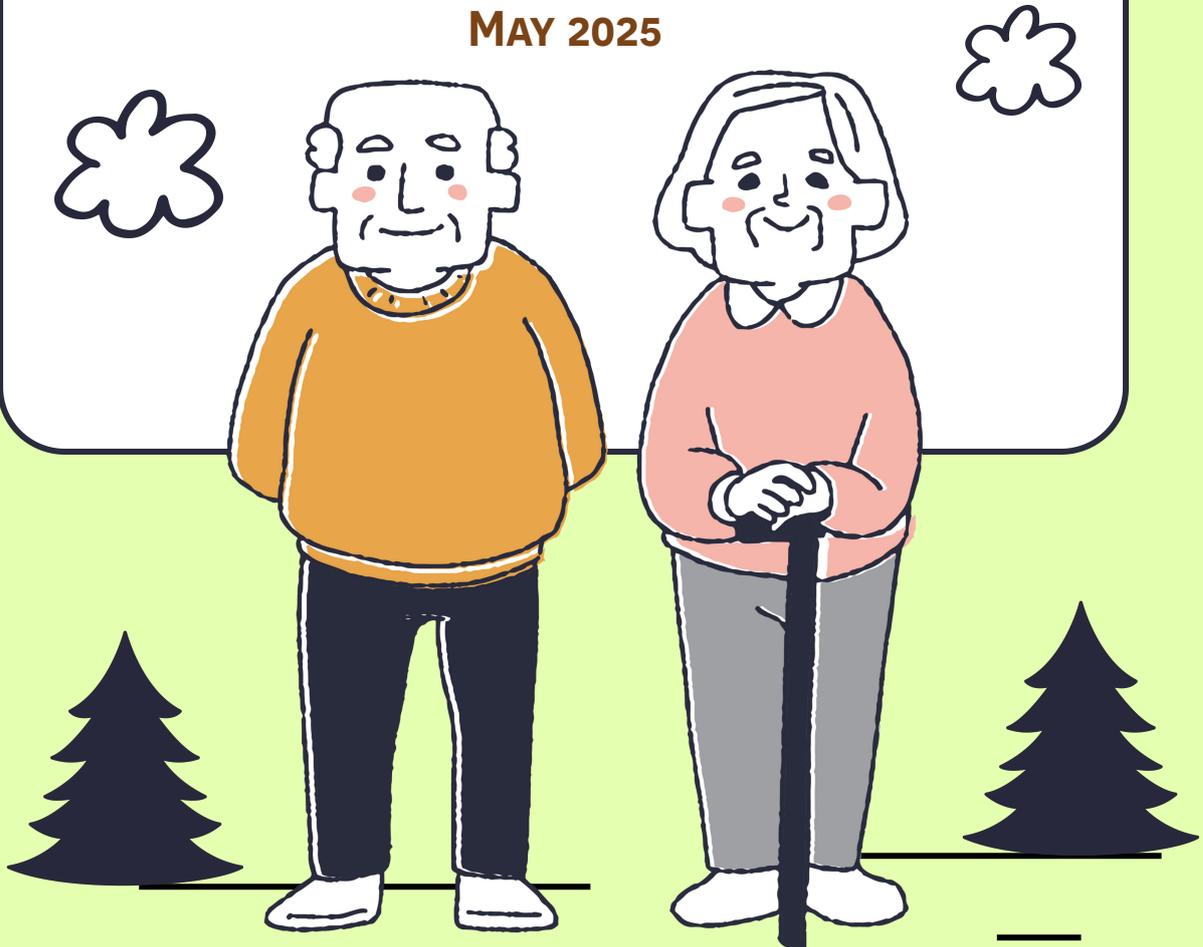


SUPPLEMENTARY PLANNING STATEMENT

SECTION 16 TOWN PLANNING APPLICATION

PROPOSED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) IN "VILLAGE TYPE DEVELOPMENT" ZONE ON APPROVED NAM SANG WAI OUTLINE ZONING PLAN No. S/YL-NSW/10 AT LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) IN D.D.104, NAM SANG WAI, YUEN LONG

MAY 2025



PLANNING CONSULTANT

DeSPACE (International) Limited

TRAFFIC CONSULTANT

CKM Asia Limited

ENVIRONMENTAL CONSULTANT

BeeXergy Consulting Limited

APPLICANT

Right Top Limited, Hill Win Development Limited, Parkview Investment Limited & City Top Investment Development Limited

ARCHITECT

Vessel International Limited
Syn Plus Design Limited

EXECUTIVE SUMMARY

The Applicant, the registered land owner of Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) in D.D.104, Nam Sang Wai, Yuen Long, now seeks a town planning permission from the Town Planning Board for a proposed Social Welfare Facility (Residential Care Home for the Elderly) (RCHE) at the aforementioned site and the adjoining government land.

According to the Approved Nam Sang Wai Outline Zoning Plan No. S/YL-NSW/10 (OZP), the Site is zoned as "Village Type Development". The proposed Social Welfare Facility (RCHE) is a Column 2 use which requires planning permission from the Town Planning Board. There is no development restriction on height, plot ratio and site coverage on the proposed RCHE.

In view of the growing demand for RCHE and the prevailing policy, the Applicant intends to respond to the pressing community need by providing 200-240 nos. of beds in the proposed 3-storey RCHE in Yuen Long.

With reference to the Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments (LAO Practice Note No. 4/2003) and its time-limited enhancements launched in 2023 (LAO Practice Note No. 4/2023) by Lands Department, the Applicant will request the Social Welfare Department for supporting the proposed RCHE under the Incentive Scheme which encourages private developers to self-finance to build quality RCHE premises on their own land, and design to comply with the statutory and licensing requirements of the participation in the Incentive Scheme.

In addition to planning merits to timely meet the soaring demand for RCHE by providing a quality RCHE premises, the proposed development adopts an "Ambient Environment Design" focused on creating a homelike setting that enhances residents' physical, emotional, and social well-being. Key features include:

- **Biophilic Design** with the adjacent wetland through the use of planters, lawns, skylights, and balconies;
- **"Evergreen Promenade"**, a ground-level walking trail offering outdoor activity space near the wetland;
- **"Vitality Garden"** at R/F, featuring planters to support horticultural activities and operate under a clubhouse model;
- **"LifeLink Pavilion"** at R/F, featuring "Active Recreation Area", "Bird Observatory", and "BBQ Spots".

The proposed development is fully justified in terms of prevailing elderly policy objectives, environmental, landscape, sewerage, visual and traffic aspects with the support of technical assessments. Given the aforementioned justifications, the Applicant respectfully requests the Town Planning Board to approve the subject application.

行政摘要

(以英文版本為準)

申請人為元朗南生圍丈量約份第 104 約地段第 3670 號餘段（部分）、第 3671 號餘段（部分）、第 3672 號餘段（部分）及第 3673 號餘段（部分）的註冊土地擁有人，現尋求城市規劃委員會的批准，擬議於上述地點連同毗連政府土地作社會福利設施（安老院舍）。

根據南生圍分區計劃大綱草圖編號 S/YL-NSW/10，申請地點劃作「鄉村式發展」地帶。擬議的社會福利設施（安老院舍）為第二欄用途，需要獲得城市規劃委員會的規劃許可。擬議安老院舍的高度，地積比率及上蓋面積均無發展限制。

鑑於對安老院舍的需求日益增加及現行的政策方針，申請人擬議的三層高安老院舍能提供 200-240 個床位以滿足元朗社區的迫切需求。

有關地政總署發出的「鼓勵在新的私人發展項目中提供安老院舍的獎勵計劃」（地政處作業備考編號 4/2003）以及其於 2023 年公佈的試行優化計劃（地政處作業備考編號 5/2023），申請人將向社會福利署爭取政策支持，在私人土地建設以自負盈虧方式發展高質素的安老院舍，而所有設計將符合獎勵計劃的法例及牌照要求。

除了具備切合規劃原意並能及時應對對安老院舍（RCHE）日益殷切需求的優勢，是項發展項目亦引入「環境感知設計」理念，致力營造一個具家庭感的生活環境，以提升院友在身體、情緒及社交方面的健康水平。主要設計特色包括：

- 利用花槽、草坪、天窗和露台實現與鄰近濕地的**生物共融設計**；
- 地面設有「**常青雅徑**」步行徑，提供鄰近濕地的戶外活動空間；
- 頂層設有「**活力園圃**」，配備花槽供長者進行園藝活動，並採用會所營運模式；
- 頂層設有「**連心閣**」，設施包括活動康樂區、觀鳥台及燒烤區，促進跨代互動；

是項發展在安老政策方向、環境、園境、排污、視覺及交通各方面均有充分理據，並獲相關技術評估支持。基於上述理據，申請人謹此懇請城市規劃委員會批准本申請。

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SECTION ONE | INTRODUCTION

1.1 Project Background

DeSPACE (International) Limited acts on behalf of the Applicant, namely, Right Top Limited, Hill Win Development Limited, Parkview Investment Limited and City Top Investment Development Limited (hereafter **“the Applicant”**), to submit a Section 16 Planning Application to the Town Planning Board (**“TPB”**).

Taking into account the acute demand for Residential Care Home for the Elderly (RCHE) in Hong Kong and in light of the development potential of Northern Metropolis, the Applicant intends to develop social welfare facilities including a RCHE at Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long (hereinafter referred to as **“the Site”**) (See **Figure 1** – Location Plan and **Figure 2** – Master Layout Plan). The Site falls within “Village Type Development” (**“V”**) zone under the Approved Nam Sang Wai Outline Zoning Plan (OZP) No. S/YL-NSW/10 (**“the OZP”**). According to the Notes of the OZP, “Social Welfare Facility” falls into Column 2 use which require planning permission from the TPB with or without conditions.

Against the backdrop of an ageing population, the Government launched the “Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments” (**“Incentive Scheme”**) in 2003 with a view to encouraging provision of quality RCHE premises in new private developments by exempting the GFA of eligible private RCHEs from premium payment. In June 2023, the Incentive Scheme was enhanced to further raise the GFA of RCHEs that can be exempted in each development project and exempt such GFA from the calculation of the maximum GFA of the relevant projects. The Applicant will request the Social Welfare Department (**“SWD”**) for supporting the proposed RCHE subject to compliance with all relevant statutory and licensing requirements and not implying any financial implication, both capital and recurrent by the Government. Please refer to the Proposed Development Scheme in **Appendix 1** for details.

Particularly, other than to respond to the pressing social need of residential care services for the elderly, the proposed development as a whole possesses design merits to bring about a quality RCHE to the community. Details will be discussed in Section 4 of this Planning Statement.

SECTION TWO | SITE CONTEXT AND HISTORY

2.1 Site Context and Surrounding Land uses

The Site with a site area of about 1,845 sq.m, including about 305 sq.m of government land (**Figure 2 – Master Layout Plan**) is fenced-off and hard-paved. The Site is currently accessible via a local access from Kam Pok Road East. It is situated at the fringe of “V” zone under the OZP and falls outside of the village environ (VE) of Pok Wai. The Site also falls outside of “Other Specified Uses” annotated “Comprehensive Development to include Wetland Restoration Area” (“OU(CDWRA)”) zone.

The surrounding areas have the following characteristics:

- i. predominately low-rise residential dwellings/developments, ponds and brownfield uses;
- ii. along the southeast boundary of the Site is an existing noise barrier;
- iii. to its immediate north are ponds, vacant land and residential dwelling under construction within the “Village Type Development” zone;
- iv. to the immediate northeast of the site is a pond situated within the “OU(CDWRA)” zone;
- v. to the further northeast are the open storage clusters;
- vi. to its south and southeast across Kam Pok Road East are open storage yards and ponds within the same “Village Type Development” zone;
- vii. to the southeast is a planned vehicle park (with a valid planning permission under application No. A/YL-NSW/318);
- viii. to the northwest is a planned low-rise residential development (with a valid planning permission under application No. A/YL-NSW/314); and
- ix. public transport servicing between the Site and Yuen Long town centre via Kam Pok Road is available;

2.2 Land Administration

2.2.1 Land status

With reference to preliminary land status check, Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) in D.D.104 comprise Old Scheduled Agricultural Lots held under the Block Government Lease which contains the restriction that no structures are allowed to be erected without the prior approval of the Government. The Applicant is well-noted that in the event of approval by the TPB and implementation of the project, it is required to apply to the Lands Department for a land exchange to facilitate the proposed development and inclusion of the portion of Government Land, if any.

2.2.2 Application at the Adjoining Site

In parallel, there is one other application for a Residential Care Homes for Persons with Disabilities (RCHD) at Lots 3670 RP (Part), 3669 SB RP (Part) and 3669 SA RP (Part) being submitted by the same applicant. While the two proposed developments under the two separated planning applications are self-contained, the subsequent land exchange could be completed individually without being processed in a bundle to ensure timely implementation of the two proposed developments.

Of a particular note, facilities including the light bus lay-by, light good vehicle (LGV) loading/unloading bay and transformer room are provided separately in the two proposed developments. Yet, to achieve a more efficient use of land resources, the Emergency Vehicular Access (EVA) will be shared by the two sites. This arrangement shall be incorporated into the land exchange application in due course.

SECTION THREE | PLANNING CONTEXT

3.1 Statutory Planning Context

The Site is currently zoned as “V” under the OZP and the Applicant proposes to develop the Site into an RCHE. Such use is subsumed under the “Social Welfare Facility” use in town planning terms. In accordance with the Notes of the OZP regarding “V” zone, “Social Welfare Facility” falls into Column 2 use that may be permitted with or without conditions on application to the TPB.

The planning intention of this zone is to reflect existing recognized villages and areas of land considered suitable for village expansion. It also intends to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. More importantly, other commercial, community and recreational uses may be permitted on application to the TPB.

According to the Notes of the OZP, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater. The maximum BH of 3 storeys (8.23m) is not applicable to ‘Social Welfare Facility’ use.

The Site falls within the Wetland Buffer Area (“WBA”) in which the development guidelines and criteria set out in the “Town Planning Board Guidelines for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance” (“**TPB PG-NO. 12C**”) should be taken into account during planning, construction and operation phases of the proposed development. The intention of the WBA is to

protect the ecological integrity of the fish ponds and wetland within the Wetland Conservation Area (“**WCA**”) and prevent development that would have a negative off-site disturbance impact on the ecological value of fish ponds. With reference to Appendix A of TPB PG-NO. 12C, the proposed development which is a 3-storey free-standing social welfare facility is exempted from the requirement of ecological impact assessment (EcolA) as part of the submission to the TPB.

3.2 Non-Statutory Planning Context

3.2.1 Surging Demand for RCHE in Hong Kong

It is an undoubted fact that Hong Kong has been encountering soaring demand for RCHE supply. The life expectancies at birth for both sexes have steadily increased during the past 52 years, from 67.8 years for males and 75.3 years for females in 1971 to 82.5 years and 88.1 years respectively in 2023¹. The life expectancy of both males and females at birth in Hong Kong remains among the highest in the world, despite the exceptionally high mortality rates in 2022 during the COVID-19 epidemic. According to the Census and Statistics Department's population projection, the percentage of elderly persons aged 65 and above in the total population will gradually increase from 20.8% in mid-2022 to 25.3% in 2028, and then to 35.1% in 2069. For elderly dependency ratio, it was estimated that 1,000 individuals supported 180 nos. of elderly in 2011 while in 2041, 1,000 individuals will be supporting nearly every 500 elderly (2 adults to 1 elderly).

According to “Elderly Services Programme Plan” completed by Working Group on Elderly Services Programme Plan Elderly Commission², the projected service demand for residential care for elderly would raise from 47,000 places in 2025 to 64 000 RCS places in 2030 and nearly 98 000 RCS places when the demand peaks in 2051. However, the total number of subsidised and non-subsidised RCHE places is only 79,147 as at 30 June 2024³. A huge deficit in demand is observed.

Furthermore, as at 28th February 2025, there were a total of 16,666 applicants being waitlisted for various types of subsidised residential care services (“**RCS**”) for the elderly in the Central Waiting List for subsidised long term care services. The average waiting time for (i) subvented homes and contract homes and (ii) private homes participating in the Enhanced Bought Place Scheme (“**EBPS**”) are 21 and 5 months respectively. The overall waiting time for subsidised RCS for the elderly is 16 months.⁴ The long waiting time drives those who have urgent needs to live in an elderly home to opt for private RCHEs, either for long or as a transitional measure before their chances for subvented ones come.

¹ Source: Centre for Health Protection

<https://www.chp.gov.hk/en/statistics/data/10/27/111.html#top>

² Source: Working Group on Elderly Services Programme Plan of Elderly Commission:

<https://www.elderlycommission.gov.hk/wp-content/uploads/2024/02/Full-Report-of-the-ESPP.pdf>

³ Source: Social Welfare Department (last revision date: 24 July 2024):

https://www.swd.gov.hk/en/index/site_pubsvc/page_elderly/sub_residentia/id_overviewon/

⁴ Source: Social Welfare Department (last revision date: 28 Feb 2025)

[https://www.swd.gov.hk/storage/asset/section/1022/en/CWL/LTC%20statistics_HP-EN\(202502\).pdf](https://www.swd.gov.hk/storage/asset/section/1022/en/CWL/LTC%20statistics_HP-EN(202502).pdf)

3.2.2 Ageing Population at District Level

With respect to the population profile of Yuen Long District stated in the Population and Household Statistics released by the Census and Statistics Department on 3 April 2023, the population in Yuen Long District was nearly 670,000 in 2022 whilst the population aged 65 or above accounted for about 17.3% (around 116,100 elders) of the district population⁵. This age group represents the second largest proportion among all population age groups in Yuen Long, reflecting the relatively high ratio of elderly in the area.

In addition, a sharp growth in Yuen Long's elderly population has been projected by the Planning Department, according to the Projection of Population Distribution, 2025 – 2031. The population aged over 65 or above in Yuen Long is estimated to have a drastic increase from 136,600 (20.1% of the district population of about 680,900) in 2025 to 189,000 (24.8% of the district population of about 760,600) in 2031. The median age is also projected to raise from 46 in 2025 to 47.4 in 2031.⁶ The ageing problem is therefore a cloud on the horizon at the district level, sounding the alarm bell about the pressing demand for elderly services in the area. Fast ageing population is a cross to bear for the planning in Yuen Long and the crux of the matter is sufficient and timely supply of quality RCHEs of various types and at convenient locations within the Yuen Long District.

3.2.3 Government's Prevailing Policies to Increase Supply of RCHE Places through Private Sector and Living Space of RCHE Residents

Leveraging Market Forces to Increase the Supply of RCHEs

The acute demand for RCHE has long been an issue the Government trying to address. To encourage developers to provide RCHEs in new private developments, in July 2003, the Government launched the Incentive Scheme to Encourage Provision of Residential Care Homes for the Elderly Premises in New Private Developments ("**Incentive Scheme**"), under which eligible RCHE premises would be exempted from payment of land premium in respect of land transactions relating to lease modifications, land exchanges and private treaty grants for residential/commercial developments, subject to meeting certain conditions for the delivery of the RCHE premises, such as a maximum limit of 5,400 sq.m for GFA.

The Chief Executive pointed out in the "2022 Policy Address" that the Development Bureau and the Labour and Welfare Bureau will put forward proposals and provide more incentives such as exempting total GFA to encourage developers to provide elderly service facilities in private development projects. The Financial Secretary has also indicated in the 2023-2024 Budget that it has decided to raise the GFA of RCHEs that can be exempted in each private development project, and has further proposed to exempt such GFA from the calculation of the maximum GFA of the relevant projects to increase the supply of quality private RCHEs.

⁵ Population and Household Statistics Analysed by District Council District 2023, Census and Statistics Department

⁶ Planning Department (Last revision date : 31 March 2024)

https://www.pland.gov.hk/pland_en/resources/population_data/pop_dist_proj/index.html

In this connection, time-limited enhancements were introduced to the Incentive Scheme launched by LandsD in 2023 under LAO Practice Note No. 4/2023. In addition to continue to exempt eligible RCHE premises from payment of land premium, (i) the number of RCHE premises eligible for premium payment exemption in each site will increase from one RCHE premises to no limit on the number of RCHE premises, and (ii) the maximum total GFA of not exceeding 5,400 sq.m to 12,000 sq.m or 10% of the total GFA permissible under lease, whichever is greater. (iii) When calculating the total GFA of the entire project, the total GFA of the eligible RCHE premises in the private development project will be exempted and will not be counted in the original total permissible GFA of the entire project, allowing the developers to use the original permissible GFA for other purposes.

Purchasing Additional Places under the Enhanced Bought Place Scheme (EBPS)

SWD has purchased places from private homes for the elderly under the EBPS since 1998 in an attempt to upgrade the service standard of the private homes and increase the supply of subsidised care-and-attention places. The Government is now taking forward various development projects and purchase additional places under the EBPS to increase the supply of subsidised residential care places for the elderly.

Expanding Service Coverage of the Residential Care Service Voucher for the Elderly (RCSV)

In March 2017, SWD launched the Pilot Scheme on Residential Care Service Voucher for the Elderly (“**RCSV**”) to provide an incentive for RCHEs to improve their services. The scheme, adopting the “money-following-the-user” principle, provides an additional choice for elderly persons in need of residential care services and waitlisted for care and attention (“**C&A**”) places or nursing home (“**NH**”) places on the Central Waiting List for Subsidized Long Term Care Services. The SWD has increased the number of beneficiaries under the RCSV from 3,000 to 4,000 in 2022-23, and regularised the RCSV Scheme in April 2023 as well.⁷ Starting from 11th June 2024, the coverage of RCSVs will be expanded from the existing C&A places to NH places. An extra 1,000 RCSVs will also be provided, bringing the total to 5,000, so as to benefit more elderly persons.

Requirement for Minimum Area per Resident for RCHE

The residential care services for the elderlies in Hong Kong in general have long been criticized for their low living standards as compared to the major cities internationally, especially with regards to the amount of living space. The Residential Care Homes Legislation (Miscellaneous Amendments) Ordinance 2023 (“**The Ordinance**”), which was gazetted on 16th June 2024, introduces an increase in minimum area per resident from the current 6.5 sq.m to 9.5 sq.m for high care level RCHs and 8 sq.m for medium care level and low care level RCHs. Similarly, grace periods are available for orderly and controlled compliance with the enhanced statutory requirements.

⁷ LCQ6: Measures to cope with an ageing population
<https://www.info.gov.hk/gia/general/202303/22/P2023032200177.htm>

3.3 Planning History

The Site is subject to a previous planning application under Section 16 of the Town Planning Ordinance (application No. A/YL-NSW/312) for a Temporary Open Storage of Construction Materials and Machinery with ancillary Site Office for a Period of 1 Year. It was rejected by the Committee on 22nd December 2023.

The Site was also subject to a planning enforcement action (No. E/YLNSW/283) against an unauthorized development (UD) involving storage use. An enforcement notice was issued on 13th January 2023 requiring discontinuation of the UD. The UD was discontinued on 27th February 2024 and a satisfactory notice was issued on 14th June 2024.

3.4 Similar Planning Application(s)

As shown in **Table 3.1**, those approved planning cases for RCHE and non-NTEH uses in “V” zone are mainly in compliance with a prevailing policy to achieve various good planning and policy objectives. Those cases are also considered to be related to social welfare facilities or educational uses.

Table 3.1 – Selected Successful Planning Applications for the Non-NTEHs use in “V” Zone		
Case No.	Applied Use	Planning Justifications
<i>Residential Care Home for the Elderly (RCHE)</i>		
A/SK-PK/195 (30/03/2012)	Residential Care Home for the Elderly in “Village Type Development” zone, G/F and 2/F, No. 5F to 5G Pak Kong Au, Po Lo Che, Sai Kung (Lots No. 1387 and 1388 in D.D. 222)	<ul style="list-style-type: none"> • The RCHE under application <u>would not affect the supply of land for Small House development within the “V” zone.</u> • The proposed conversion of the two NTEHs for RCHE was considered <u>not incompatible with the surrounding rural land uses.</u> • Given the <u>small scale and nature</u> of the proposal, it was also unlikely to generate adverse traffic, environmental, drainage, visual and infrastructural impacts on the locality. • No. of storeys: 3
A/YL-PH/715 (05/06/2015)	Social Welfare Facility (Residential Care Home for the Elderly) in Various Lots, D.D. 111 and adjoining Government Land, Wang Toi Shan Shan Tsuen, Pat Heung, Yuen Long	<ul style="list-style-type: none"> • The applied development could nevertheless <u>provide residential care home services to the elderly in the local community.</u> • <u>Not incompatible with the surrounding developments</u> which included mainly village houses. • No. of storeys: 3
A/FSS/270 (06/09/2019) & A/FSS/276 (06/11/2020)	Proposed House and Social Welfare Facility (Residential Care Home for the Elderly) and Minor Relaxation of Building Height Restriction in Various Lots in D.D. 51, Fanling	<ul style="list-style-type: none"> • The proposed RCHE were in low-rise and low-density character which were <u>not incompatible with the adjacent residential use.</u> • Based on the HKPSG, there was <u>a deficit of about 530 RCHE subsidized beds</u> in the Fanling/Sheung Shui area. • The proposed RCHE could <u>help address the shortfall for elderly facilities and meet the demand of ageing population in the community.</u> • The site fell within “V” zone but not covered by village ‘environ’ of any recognized village. • No. of storeys: 3
A/YL/263 (05/02/2021)	Proposed Social Welfare Facility (Residential Care Home for the Elderly) in “Village Type Development” Zone and an area shown as ‘Road’ in Various Lots in D.D. 120, Yuen Long	<ul style="list-style-type: none"> • There was <u>sufficient land in the concerned “V” zone</u> to meet the Small House demand. • The proposed development could nevertheless <u>help address the shortfall in elderly facilities and meet the demand of ageing population in the community.</u> • <u>The Director of Social Welfare also supported</u> the application from social welfare perspective. • The proposed development was <u>not incompatible with the surrounding area.</u> • No. of storeys: 6
A/FSS/279 (29/10/2021)	Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat and Minor Relaxation of Building Height (BH) Restriction in D.D. 52, Tin Ping Road, Sheung Shui	<ul style="list-style-type: none"> • While the application site was neither covered by ‘VE’ of any recognised village nor the VEA, and Small House application within the subject “V” zone would not be considered under the current Small House Policy, there was <u>still scope to utilise the land for other developments.</u> • The proposed RCHE could <u>help address the shortfall for elderly facilities and meet the demand of ageing population in the community</u> as there is a general deficit of residential care services for elderly in the Fanling/Sheung Shui area.

		<ul style="list-style-type: none"> • The proposed development would not cause significant visual impact on the surrounding environment. • No. of storeys: 4
A/SK-TMT/74 (01/04/2022)	Proposed Social Welfare Facility (Residential Care Home for the Elderly) in D.D. 257, Tsam Chuk Wan, Sai Kung	<ul style="list-style-type: none"> • Despite that the bulk of the 6-storey building for the proposed RCHE was relatively large in a rural context, it was considered <u>not entirely incompatible with the landscape character of the surrounding area.</u> • It is estimated that there are <u>deficits of 30 and 1,448 RCHE subsidised beds</u> for the planned population in the Tai Mong Tsai and Tsam Chuk Wan areas within the OZP and the Sai Kung District respectively according to the requirements under the HKPSG. • The proposed RCHE will provide about 110 beds which could <u>help address the shortfall for elderly facilities and meet the demand of ageing population in the community.</u> • <u>DSW has no objection</u> to the proposed development from social welfare perspective. • No. of storeys: 6
A/FSS/288 (23/12/2022)	Proposed Social Welfare Facility (Residential Care Home for the Elderly) and Flat with Minor Relaxation of Building Height Restriction in Lots 834 and 838 RP in D.D. 52, Tin Ping Road, Sheung Shui	<ul style="list-style-type: none"> • As advised by DLO/N, there is <u>no Small House application approved or currently being processed</u> in the Site or within the subject "V" zone. As such, approval of the current application would <u>not affect Small House development in the area.</u> • The proposed development with low to medium-rise (four to seven storeys) and medium-density (total PR of 2.38) character is considered <u>not incompatible with the adjacent existing residential and GIC uses</u> across Tin Pin Road. • No. of storeys: 7
A/ST/1008 (05/05/2023)	Proposed Public Vehicle Park (excluding container vehicle) cum Social Welfare Facility (Residential Care Home for Elderly) Development, and proposed minor relaxation of Building Height Restriction	<ul style="list-style-type: none"> • Based on the latest estimation by PlanD, about 0.68ha (equivalent to 27 Small House sites) of land is available within the subject "V" zone excluding the subject site. <u>The land available is sufficient to meet the outstanding Small House applications.</u> • DSW has indicated that in view of the ageing population and ongoing demand for residential care services for the elderly, she has <u>no in-principle objection</u> to the proposed RCHE development from the service perspective. • The proposed PVP cum RCHE development is considered <u>not incompatible</u> with the urban residential setting in the surroundings. • No. of storeys: 7
A/TW/538 (28/03/2025)	Proposed Social Welfare Facility (Residential Care Home for the Elderly)	<ul style="list-style-type: none"> • The proposed RCHE could serve to provide the elderly with <u>residential care needs in the district</u> with more choices in the market • The proposed development is considered <u>not incompatible</u> with the surroundings when viewed from a wider context in Tsuen Wan • <u>DSW has no objection</u> to the proposed development from social welfare perspective. • No of storeys: 8

Residential Care Homes for Persons with Disabilities (RCHD)		
A/YL-HT/975 (22/04/2016)	Proposed Social Welfare Facility (Rehabilitation Home for Persons with Mental Disabilities) in D.D. 124, Shek Po Tsuen, Ha Tsuen, Yuen Long	<ul style="list-style-type: none"> • While the development is not entirely in line with the planning intention of the “V” zone, it could provide RCHE services to persons with disabilities and may <u>warrant sympathetic consideration</u>. • Adverse environmental, traffic, drainage, hygiene and landscape impacts from the RCHD on the surrounding areas were not envisaged. • No. of storeys: 3
A/KTN/30 (11/11/2016)	Social Welfare Facility (Residential Care Home for Persons with Disabilities) in D.D. 95 and Adjoining Government Land, Ho Sheung Heung, Sheung Shui	<ul style="list-style-type: none"> • While the development was not entirely in line with the planning intention of the “Village Type Development” (“V”) zone and there was insufficient land within the “V” zone to meet the Small House demand in Ho Sheung Heung, the applied development could provide <u>residential care home services to person with disabilities</u> • The residential nature of RCHD was <u>not incompatible</u> with the surrounding developments which were mainly village houses • No. of storeys: 4
A/NE-KTS/446 (03/02/2017)	Social Welfare Facility (Residential Care Home for Persons with Disabilities) in D.D. 94, Hang Tau Village, Sheung Shui	<ul style="list-style-type: none"> • While the development was not entirely in line with the planning intention of the “Village Type Development” (“V”) zone and there was insufficient land within the “V” zone to meet the Small House demand in Hang Tau Village, the applied development could <u>provide residential care home services to person with disabilities</u>. • The residential nature of the RCHD within the subject New Territories Exempted Houses was <u>not incompatible with the surrounding developments which were mainly village houses</u>. • No. of storeys: 3
A/YL-TT/391 (03/02/2017)	Proposed Social Welfare Facility (Residential Home for Persons with Disabilities) in D.D. 118, Nam Hang Tsuen, Yuen Long	<ul style="list-style-type: none"> • Although the RCHD was not entirely in line with the planning intention of the “Village Type Development” zone, it could provide residential care home services to person with disabilities and might <u>warrant sympathetic consideration</u>. • The subject RCHD, involving conversion of 5 existing 3-storey New Territories Exempted Houses, was considered <u>not incompatible with the surrounding areas which were mainly village houses</u>. • No. of storeys: 3
A/KTN/32 (27/10/2017)	Social Welfare Facility (Residential Care Home for Persons with Disabilities) in in D.D. 95 and Adjoining Government Land, No. H75 and No. H76, Ho Sheung Heung, Sheung Shui, New Territories	<ul style="list-style-type: none"> • Although the applied use was not entirely in line with the planning intention of the “Village Type Development” zone, it could provide residential care home services to person with disabilities, • The applied development is considered <u>not incompatible</u> with the surrounding developments and would not cause significant adverse traffic, environmental, drainage, sewerage, fire safety and landscape impacts on the surrounding areas • No. of storeys: 3

A/TM/511 (26/01/2018)	Social Welfare Facility (Residential Home for People with Disabilities) in D.D. 132, Tsz Tin Tsuen, Tuen Mun, N.T.	<ul style="list-style-type: none"> The structure on the Lot 108 S.B ss.1 in D.D. 132 is a Small House which is covered by the Building Licence No. BL1481 for non-industrial use. Use for Residential Home for People with Disabilities does not contravene the permitted use under the Building Licence. The applied development is considered <u>not incompatible</u> with the existing uses in the surrounding areas and the planned use in the “V” zone No. of storeys: 3
A/KTN/73 (05/02/2021)	Social Welfare Facility (Residential Care Home for Disabled and Ex-mental Illness Persons) in “Village Type Development” Zone in Various Lots in D.D. 95, Sheung Shui	<ul style="list-style-type: none"> Although the applied use was not entirely in line with the planning intention of the “Village Type Development” (“V”) zone, there was <u>sufficient land within the “V” zone to meet the outstanding Small House applications</u> of Ho Sheung Heung and the applied use could provide residential care home services to person with disabilities. The applied use was <u>not incompatible with the surrounding developments</u>. No. of storeys: 3
Day Care Centre for Elderly, Early Education and Training Centre		
A/YL-PS/465 (19/06/2015)	Proposed Religious Institution (Church) and Social Welfare Facility (Day Care Centre for Elderly, Early Education and Training Centre, and Parents Resource Centre) in D.D. 124, Ping Shan	<ul style="list-style-type: none"> The applicant had applied for the Special Scheme on Privately Owned Sites for Welfare Uses and the Director of Social Welfare supported the provision of the social welfare facilities at the site in principle. <u>SWD supports the application</u> for the provision of the proposed day care centre for the elderly, early education and training centre and parents resource centre on the site in principle from the welfare point of view. No. of storeys: 5
School (Kindergarten)		
A/YL-MP/245 (22/01/2016)	Proposed School (Kindergarten) in Various Lots in D.D. 104, Yuen Long	<ul style="list-style-type: none"> The proposed kindergarten would help to <u>serve the need of the local community</u>. It was considered <u>not incompatible with the surrounding land uses</u> which comprised village houses, vehicle parks and repair workshop. No. of storey: 1
Seminary		
A/HSK/15 (17/08/2018)	Proposed Religious Institution (Redevelopment of Seminary) in Various lot in D.D. 121, 130 Hung Uk, Yuen Long	<ul style="list-style-type: none"> Although the planning intention of the “Village Type Development” (“V”) zone was for development of Small Houses by indigenous villagers, most of the site was owned by the applicant and had long been used for a seminary. The applicant had no intention to develop the site into New Territories Exempted Houses (NTEHs) and the owner of the remaining portion of the site had given consent to the applicant to use that portion of the site for the proposed use. <u>The land available in the “V” zone can accommodate the outstanding Small House application of 76 houses and the 10-Year Small House demand</u> of Kiu Tai Wai and Hung Uk Tsuen. No. of storey: 3

To summarize, key planning considerations on non-NTEH uses in “V” zone are observed as follows:

Key Planning Considerations	Proposed RCHE	
i. Land use compatibility	The proposed RCHE is residential in nature which is not incompatible with the adjacent residential use.	Satisfied ✓
ii. Development intensity	The proposed 3-storey RCHE with a BHR of 20 mPD is compatible with the surrounding development in the vicinity.	Satisfied ✓
iii. V zone demand and supply	While the proposed RCHE was not entirely in line with the planning intention of “V” zone, it could provide residential care home services to the elderly. The Applicant has no intention to develop the site into NTEHs.	Satisfied ✓
iv. No in-principle objection from SWD	The Applicant will request SWD for supporting the proposed RCHE under the Incentive Scheme which encourages private developers to self-finance to build quality RCHE premises on their own land, and design to comply with the statutory and licensing requirements of the participation in the Incentive Scheme.	To be Satisfied

SECTION FOUR | PROPOSED DEVELOPMENT

4.1 Development Objectives

Over recent years, population growth has been significant in particular the group of elders aged 65 or above. Service needs of elderly persons are a solid concern in society. In view of the growing demand for residential care services for the elderly, it is a good intention of the applicants to provide more social welfare facilities to the elderly in the Yuen Long district by converting the current spade-ready land into an RCHE, tallying with the intention as stated in the Policy Addresses. In view of that, the Applicant is applying for a town planning permission for the proposed RCHE on the Site to timely meet the need of the ageing population in “V” zones in the vicinity.

In 2003, the Government announced a scheme, namely the Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments (“**Incentive Scheme**”), to encourage provision of RCHE premises in new private developments with the exempted payment of premium under different types of land transactions. In 2023, the Incentive Scheme was further enhanced to leverage market forces to develop more quality RCHEs. To further strengthen the support for elderly persons as advocated by the Government, the Applicant is then encouraged to participate in the said scheme for the provision of RCHE spaces in their own proposed private development.

The applicant is well noted that the policy support of SWD has to be sought under the Incentive Scheme during the land exchange application.

4.2 Development Proposal

The key development parameters of the development scheme are summarized in **Table 4.1** below:

Table 4.1 – Major Development Parameters of the Proposal	
Major Development Parameters	Proposed Scheme
Site Area (about)	1,845 sq.m (including 305 sq.m of Government land)
Plot Ratio (PR) (about)	2.3
Site Coverage (about)	70%
Total Gross Floor Area (GFA) (about)	4,243.5 sq.m
Building Height	Not more than 20 mPD (or not more than 14m for absolute building height) (NB: Mean Street Level is +6mPD)
No. of Storeys	3 (excluding 1 basement)
Total No. of beds	208 beds (or within a range from 200 to 240 ^[1])
Green Coverage	Not less than 20%
Communal Open Space	Not less than 253 sq.m
Provision of parking facilities: Private car parking spaces Light good vehicle (LGV) loading & unloading bay Light bus lay-by	11 (including 1 disabled car parking space (3.5m x 5m)) 1 (3.5m x 7m) 1 (3m x 9m)
Proposed Floor use (floor-to-floor height)	B/F: Carpark/ E&M/ BOH (3.5m) G/F: Dormitory/ Multi-Purpose Area/ Rehab Zone/ Lobby/ Nursing Station/ Communal Area/ E&M/ Light Bus Lay-by/ EVA/ BOH/ TX Room/ Staff Facilities/ Entrance Lobby (4.5m) 1/F: Dormitory/ Multi-Purpose Area/ Rehab Zone/ Dining Area/ Nursing Station/ Communal Area/ E&M/ BOH/ TX Room/ Staff Facilities (4m) 2/F: Dormitory/ Nursing Station/ E&M/ BOH/ Staff Facilities (4m) R/F: Planter/ Skylight/ Lawn
Operator	One

^[1] A range is adopted for the total number of beds to allow more design flexibility.

The current site area is proposed at about 1,845 sq.m, including about 305 sq.m of government land situated between the private lot boundary and the existing noise barrier (see **Figure 2**). The included government land is proposed for landscaping and vehicular circulation only. Portions of Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) are excluded from the site boundary to avoid falling within OU(CDWRA) zone. PlanD is invited to review and advise on the zoning boundary alignment with reference to the coordinates marked in **Figure 2**.

The proposed development includes one block of 3-storey RCHE comprising 208 bed spaces with a total GFA of about 4,243.5 sq.m. A one-storey basement will be provided for carpark, BOH, and E&M. Please refer to the development scheme and section drawings in **Appendix 1** for details of the development proposal.

Pursuant to the Incentive Schemes (i.e. LAO PN 5/2023), one or more eligible RCHE premises being exempted from payment of land premium are subject to a cap of no more than 12,000 sq.m in total GFA. The proposed development will comply with all requirements as may be imposed by SWD and all applicable ordinances, by-laws or regulations.

It is noted that all the facilities accessible for elderly will be situated at a height of not more than 24m above the ground floor, measuring vertically from the ground of the building to the floor of the premises in which the RCHE is to be situated, as pursuant to the requirements as set out in para 5.3 of Code of Practice for Residential Care Homes (Elderly Persons) (updated in June 2024) ("CoP"). Ancillary facilities of the proposed RCHE to which the residents normally do not have access including staff facilities, office, laundry and storage are designed to be situated at a height more than 24m above the ground in the proposed development (see **Appendix 1**).

PlanD is invited to note that there is a separate planning application by the same applicant at the adjoining site for an RCHD. The Applicant is well-noted that the planning permission if granted would be scheme-based, thus the site boundary and parameters of the two proposed developments are required to be taken forward accordingly at the land exchange stage. A shared Emergency Vehicular Access (EVA) serving both sites is proposed to avoid duplication of essential facilities. Individual run-in/outs for the two proposed developments will be provided (see **Figure 2**).

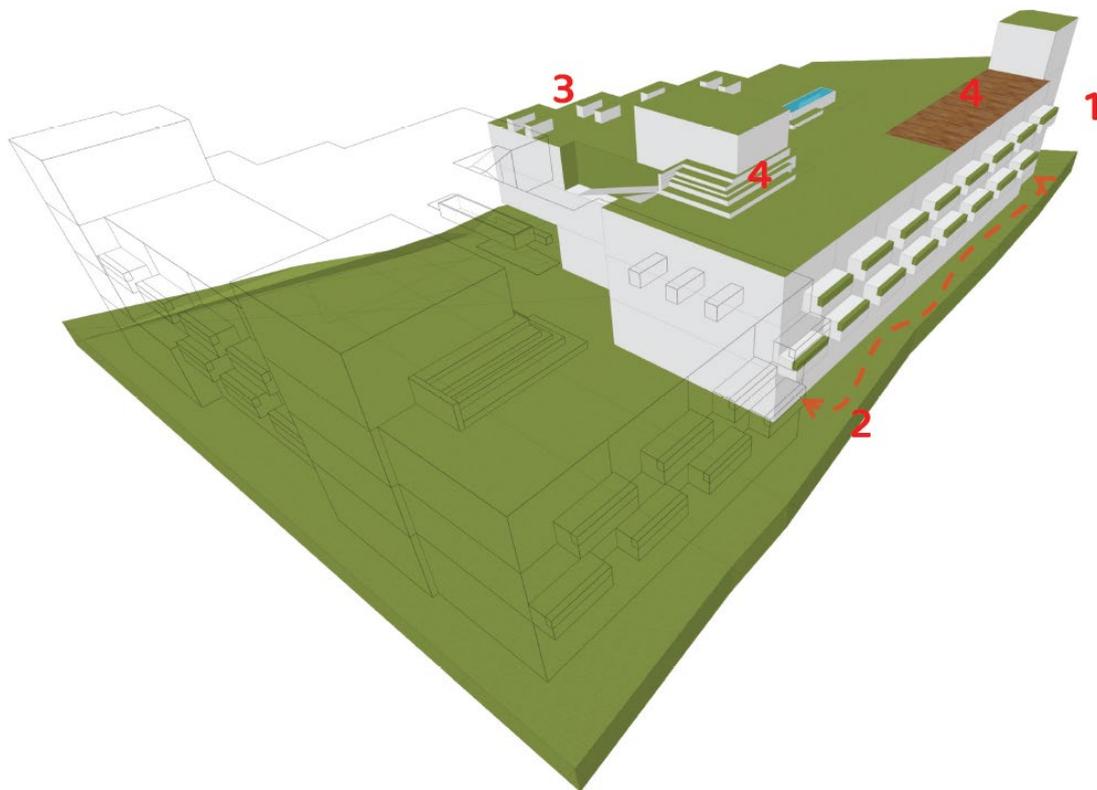
Portion of the existing noise barriers and related street furniture (planter) will be demolished for the proposed site access. Please refer to **Appendix 6** for the Modification Plans of Noise Barrier and Street Furniture. Any modification or deletion works proposed due to the application, if approved, are to be carried out by the applicant at its own cost. Regarding the relevant management and maintenance party of the concerned planter area, preliminary agreement from HyD and LCSD has been obtained regarding the proposal of planter amendment. Please refer to **Appendix 7** for the Email correspondence with HyD and LCSD.

4.3 Design Merits

“Ambient Environment Design” as a Design Merit

The Applicant is committed to enhancing the living environment for the elderly by implementing an innovative approach to ambient environment design. This strategy focuses on creating a homelike atmosphere rather than an institutional one, facilitating individual transformations that positively impact behavior, well-being, social abilities, and care outcomes. Such an environment is particularly beneficial for those with dementia, as it fosters less institutional care routines. The anticipated outcomes include an enhancement in the quality of life, and increased interaction among residents and staff. Non-institutional environments characterized by a homelike ambiance and are associated with improved intellectual and emotional well-being, enhanced social interaction, and improved functionality.

To achieve these objectives, the following action items are proposed:



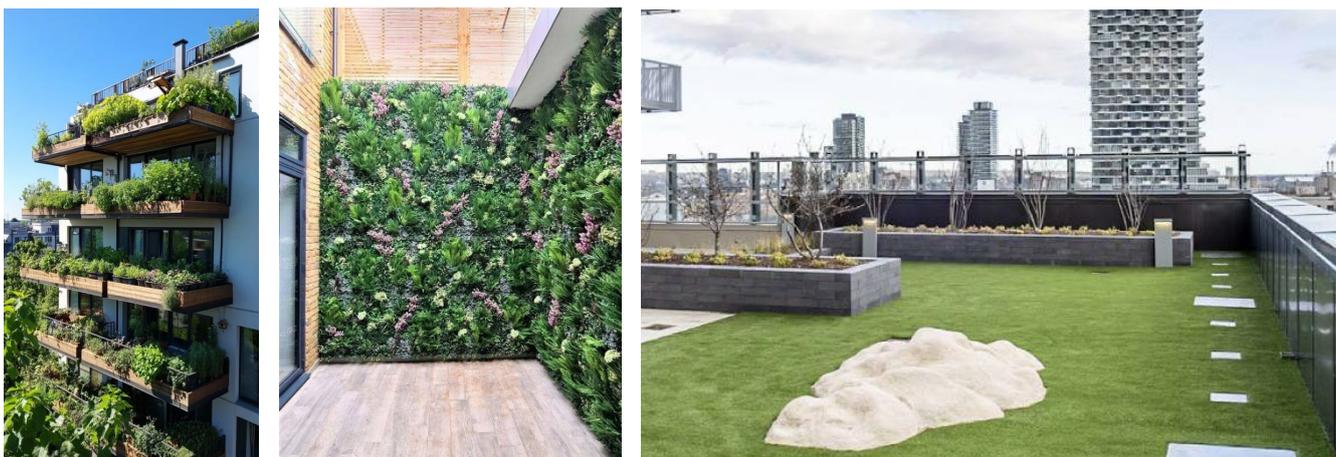
1. Biophilic Design

The proposed development incorporates a biophilic design that integrates the adjacent wetland as an extension of the RCHE environment. Most dormitory rooms are oriented to face northwest, allowing residents to enjoy views of the existing fish ponds. This orientation optimizes natural lighting and reduces energy consumption.

Moreover, the proposed development will seamlessly blend with its natural surroundings through greenery throughout along the building with planters on balconies and the roof and vertical greening at the

courtyard, creating a peaceful and restorative environment for residents. In detail, the biophilic design is comprised of edge planters, lawns, skylight and balconies. The functions are as follows:

- a. Planters - Shrubs and ornamental plantings are proposed in the middle and along the whole edge of R/F. This could further soften the building edge and enhance the streetscape amenity to the benefit of the general public.
- b. Lawns - are erected at R/F to further enhance greening elements. Visual amenity of the proposed development is expected to be enhanced.
- c. Skylight - erected at R/F to penetrate natural sunlight to every corner of the communal space underneath. Natural light improves visibility, reducing fall risks, and fosters a connection with nature.
- d. Balconies - Each floor of the proposed RCHE will incorporate multiple balconies, with one balcony allocated for every 8 beds. Positioned adjacent to the wetland, most of these balconies serve as vital extensions of indoor living spaces, providing residents with regular access to natural ventilation, daylight, and views of the surrounding environment. The balconies, which would act as a nice space for stretching out with natural ventilations will be so designed with additional measures like higher physical barriers to enhance the safety concern.



2. Evergreen Promenade

A barrier-free leisure walking trail, designated as Evergreen Promenade, is proposed along the northwestern boundary of the RCHE at G/F. The design of Evergreen Promenade has been carefully developed with suitable flooring materials and footpath dimensions to ensure comprehensive accessibility for wheelchair users. It is intended to function as a therapeutic and social intervention, encouraging residents to participate in light physical activities such as morning walks, thereby fostering regular exercise and facilitating social interaction among residents.

To further promote active ageing, pedal machines and rowing-style cycling equipment are planned for installation at key junctions along the trail. The design also prioritizes seamless connectivity between indoor and outdoor environments, enabling the trail to remain operational under diverse weather conditions. This

adaptive configuration aims to support residents in maintaining their exercise routines consistently, thereby enhancing both their physical health and social well-being.



3. Vitality Garden

The proposed Vitality Garden will be located in the eastern corner of R/F and will operate under a clubhouse model. It is envisioned as an interactive horticultural space, facilitating residents' independent cultivation of crops and providing a comprehensive sensory experience—encompassing observation, study, tactile interaction, and olfactory engagement with various plants. This active participation is intended to foster a strengthened sense of purpose among residents and to deepen their connection to the care home community.

To promote inclusivity, seven raised planters will be incorporated into the design of the Vitality Garden, specifically tailored to accommodate residents with diverse mobility needs, including those utilizing wheelchairs. In addition to its therapeutic benefits, the Well-being Garden will contribute to the visual appeal of the rooftop, creating a tranquil environment conducive to reflection and meaningful engagement with nature. This arrangement aims to deliver a positive and measurable impact on the overall physical and mental well-being of residents.

Necessary as required under Building Ordinances and additional measures as appropriate including the provision of non-slip tiles, handrails and higher physical barriers for the entire rooftop will be adopted; these would be further design in the detailed design stage and circulated for departmental comments during general building plan (GBP) submission.



4. LifeLink Pavilion

Holding In alignment with its authentic mission to deliver high-quality services for RCHE residents, the proposed development features a design element that facilitates intergenerational interactions through an activity area located on the top section of R/F, facing west. The LifeLink Pavilion offers considerable benefits, as the inclusion of shared open spaces encourages family gatherings, thereby promoting social interaction and alleviating feelings of isolation among residents. Moreover, this setting has the potential to foster intergenerational connections by creating a community where the elderly can share their life experiences with younger generations, while younger individuals can voluntarily engage with the elderly, infusing vitality and innovation into the community. The proposed functions are as follows:

- a. Bird Observatory – Situated adjacent to a wetland restoration area of high ecological value, the site presents valuable opportunities for nature-based engagement. To enhance residents' interaction with the surrounding environment, telescopes will be installed along the northwest side of the rooftop for birdwatching activities. The entire rooftop zone will be designed to ensure full accessibility, promoting inclusivity for residents with limited mobility.
- b. Active Recreation Area – Utilizing the spacious and well-ventilated rooftop environment, gentle sporting activities such as social dance and tai chi will be hosted to encourage active lifestyles and foster social interaction among residents. Residents will also be encouraged to invite family members to participate during visits, strengthening familial bonds and promoting intergenerational engagement.
- c. BBQ Spot – The existing BBQ areas with playground facilities will be adapted for family gatherings to encourage more frequent visits. This communal setting aims to foster a sense of belonging and facilitate residents' engagement with their loved ones, thereby enriching their quality of life.
- d. Viewing Deck – A stepped seating viewing deck will be constructed at the northwestern corner of the ground floor, providing a semi-social space for passive recreation and small group conversations. This area will also offer residents an unobstructed view of the natural scenery below, contributing to a sense of tranquility and relaxation.



4.4 Compliance with RCHE Licensing Requirements

The proposed RCHE will meet all the statutory requirements under the Residential Care Homes (Elderly Persons) Ordinance, Cap. 459 and its regulations, the Code of Practice for Residential Care Homes (Elderly Persons) as well as other related statutory requirements.

It is noted that all the facilities provided for elderly will be situated at a height of not more than 24m above the ground floor, measuring vertically from the ground of the building to the floor of the premises in which the RCHE is to be situated, as pursuant to the requirements as set out in para 5.3 of Code of Practice for Residential Care Homes (Elderly Persons) January 2020 (Revised Edition) (updated in March 2023) (“**CoP**”). (**Appendix 1** refers.)

Proposed facilities and services are provided with respect to the “Best Practices in Design and Operation of Residential Care Home for the Elderly” developed by the SWD. It is understood that the design details of the proposed RCHE are still subject to refinement at the General Building Plan (“**GBP**”) stage. Should a planning application be submitted and a town planning approval is obtained, the Applicant would review the details with the RCHE licensing requirements and update the relevant technical assessments and ancillary facilities required.

With reference to the Schedule of Accommodation (“**SoA**”) for a 200-place RCHE and the bed spacing requirement on the provision of functional areas of the proposed RCHE, various function areas will be well provided in the proposed RHCE. As shown in **Appendix 1**, the proposed development scheme can provide more than the required provision in the SoA, especially for the rehabilitation area for the enjoyment of the future residents.

The provision of natural lighting and ventilation has followed the requirements as stipulated in the cap123F Building (Planning) Regulation for all the habitable spaces/ rooms in the RCHE, including the minimum requirement of the prescribed windows and the maximum distance of the room from the prescribed window (i.e. 9m). The partition as shown inside the habitable spaces is designed as low partition to ensure

natural lighting and ventilation. Full height windows will be provided such that the natural lighting and ventilation will not be jeopardised by the low partitions within the habitable room.

From service perspective, the 11 private car parking spaces at basement are not regarded as the provision of RCHE and will not be included in the GFA of the RCHE. There is one lift in the RCHE which can accommodate a stretcher bed of the size as mentioned. No Dumb Waiter will be provided in the RCHE. Meal delivery from the kitchen to residents on different floors will be done using the lift and trolleys.

At least 1 accessible water closet will be provided on each floor with bedroom(s) or sitting/dining room. If the number of residents is more than 50 on that floor, an additional accessible water closet will be provided for every 50 residents (or less) (para. 4.5.2, CoP refers). Regarding the end-of-life room, isolation room and sick bay on 1st floor, it is noted that if there are more than 50 beds, an additional isolation room/facility shall be provided for every extra 50 beds (or less). For RCHEs providing 200 beds or above, 4 isolation rooms/facilities (including at least 1 designated isolation room) shall be provided (note 42 of para. 13.4.1, CoP refers). Detailed design will be considered and submitted at the licensing application stage.

4.5 Operation Model

As per the Enhanced Incentive Scheme (LandsD's Practice Note Issue No. 5/2023), the Applicant intends to apply and LandsD may grant the concessions, given the support of the Social Welfare Department (SWD), to exempt one or more eligible RCHE premises from payment of land premium in relevant land transaction application. It is mentioned that *"Based on the community's demand for different types of RCHE, SWD will support development proposals that provides Nursing Homes or Care and Attention Homes."* In this regard, it is clarified that the type of the proposed RCHE is a Care and Attention Home.

The RCHE premises shall be managed and operated as privately-operated RCHE(s) under the Residential Care Homes (Elderly Persons) Ordinance (Cap. 459) and its subsidiary legislation and to the satisfaction of SWD. Developers will be allowed to either lease or sell the completed RCHE premises or operate the required RCHE by themselves. The Applicant is committed to commencing the operation within the specified Building Covenant period.

SECTION FIVE | PLANNING AND TECHNICAL JUSTIFICATIONS

5.1 Limited Supply but Long Pressing Demand for RCHE Places in the Private Sector

With reference to the official statistics of SWD, as at the end of December 2024, the Government could only provide 32,673 subvented or contract RCHE places and those on the waiting list amounted to 16,666 applicants. There are concerns about the shortfall in RCHE places particularly in districts with a higher proportion of elderly people but relatively fewer available RCHE places. The Government's current

projections estimated a shortfall of approximately 5,000 to 10,000 services places were based on service statistics of SWD and the waitlisting situation of subsidized long-term care services from 2012 to 2015. While more updated projection data are lacking, a 10-year projection of demand for RCS places and different types of community care services has been requested by members of the Legislative Council.⁸

As at 31st December 2024, there were 1086 RCHEs and scheduled nursing homes in Hong Kong providing about 79,324 residential care places for the elderly, with around 58,500 residents. About half of the residents are recipients of subsidised residential care services, with about 90% of their accommodation and care expenses subsidised by the Government, while the other half are non-subsidised residents.⁹ Though the waiting time for different needy elderly would vary because of their different preferences or choice of homes, the average waiting time for a subvented or contract RCHE place is 27 months, whereas an EBPS (Enhanced Bought Place Scheme) placement does not come within short notice and the average waiting time is 3 months, which is still a long time for those who have urgent needs to live in an institution.¹⁰ In fact, the occupancy rate of subvented homes remains high all the time, as the expenditures basically are all shouldered by the Government. Thus, the only option for the elderly is to live in private RCHEs either for long or as a transitional measure before their chances for subvented or contract RCHEs come.

The private sector plays an important role in the supply of RCHE places in Hong Kong. As at end of June 2023, nearly 60% of the provision of residential care services for the elderly comes from private homes and self-financing homes and contract homes (non-subsidized places). After the implementation of the enhancement measures in June 2023, the number of applications under the Incentive Scheme has notably increased. Since June 2023, LandsD has received 10 applications. 6 of them are mixed-use development projects involving provision of RCHE premises, residential flats and/or other facilities, 3 are pure RCHE premises projects, and the remaining one has been withdrawn by the applicant.¹¹

Yet, the overall market response to the Incentive Scheme appears to be limited. In view of the pressing demand for residential care services for the elderly over the territory, especially for quality ones in the private sector, the Applicant's proposal for developing a purpose-built private RCHE could contribute to address the shortfall of RCHE places.

5.2 Prevailing Policy Support for Elderly Care Services

Apart from providing subsidised residential care services, the Government launched the Incentive Scheme with a view to leveraging market forces to develop quality RCHE premises in order to meet the community's diverse demand for residential care service places for the elderly. The Incentive Scheme allows concession

⁸ Source: LC Paper No. CB(2)535/2023(05)

⁹ Source: LC Paper No. CB(2)859/2022(02)

¹⁰ Source: Social Welfare Department (last revision date: 04 July 2023):

https://www.swd.gov.hk/en/index/site_pubsvc/page_elderly/sub_residentia/id_overviewon/

¹¹ Source: LC Paper No. CB(1)368/2025(05)

to exempt eligible RCHE premises from payment of land premium for land transactions relating to lease modifications, land exchanges or private treaty grants, on the condition that the developer should comply with certain lease conditions and obtain the support from SWD.

The Applicant is committed to building and providing a quality RCHE to the satisfaction of SWD under the Incentive Scheme. The Site is suitable for the development of private RCHE premises in terms of its suitable location and good transport accessibility. SWD is invited to note the commitment of the Applicant in the provision of quality RCHE services as follows: -

- i. The proposed RCHE will comply with all relevant statutory and licensing requirements and will not entail/imply any financial implication, both capital and recurrent by the Government.
- ii. The Applicant is determined to develop a quality RCHE premises under the "Incentive Scheme" which allows exemption from payment of premium under different types of land transactions, on the condition that the developers are willing to accept incorporation of certain lease conditions.
- iii. The Applicant is committed to lining up with an experienced RCHE operator to adopt high service quality standard.
- iv. The proposed development is a purpose-built RCHE premises in a standalone site.
- v. Upon town planning approval and lease modification execution, the Applicant has strong financial ability to pay for the cost of constructing the RCHE premises and to timely increase the supply of quality RCHE places.
- vi. The Applicant is committed to working closely with SWD to vigorously ensure full compliance of the "Incentive Scheme" in meeting relevant performance standards in terms of both quality and quantity.

5.3 Shortage of Quality Private RCHEs in Yuen Long

As at 31st March 2025, there are 43 private homes providing 1,018 and 3,109 subsidized and non-subsidized care-and-attention home places respectively in Yuen Long.¹² It is noteworthy that most of the private RCHEs (i.e. 31 out of 43) are clustered in Yuen Long town centre. 4 homes are located along Castle Peak Road at Ping Shan and Hung Shui Kiu while another 3 homes are at Kam Tin. As a matter of fact, most of the private RCHEs in Yuen Long are situated in shopping arcades, ground floor shops, podium floor of residential developments or village houses with very limited common areas or greenery open space, let alone purpose-built design for an RCHE.

There are 5 relatively-close private RCHEs located in Ngau Tam Mei along Castle Peak Road – Tam Mei. Though the 5 RCHEs cater for 432 elders (10% of the care-and-attention home places in Yuen Long) within the service catchment of the area, these private RCHEs situated within or converted from village houses do not belong to those with good quality.

¹² Source: Social Welfare Department (last revision date: 10 September 2024):

https://www.swd.gov.hk/en/pubsvc/elderly/elderly_info/elderly_ah_sps/elderlysp/rcse/

Worse still, most of the current private RCHEs in Yuen Long have been operating for years and the built environment is dilapidated. Some are unable to meet the changing service requirements in terms of staffing and space standard. Yet, large-scale renovation is not feasible because of the difficulty in relocating the live-in elderly, leaving them no choice but to stay at the low-quality homes. It is a hard fact that Yuen Long has limited supply of high-quality private RCHE at present.

The proposed RCHE, on the contrary, is a purpose-built premises with sufficient landscaping opportunities and user-friendly design. Having all licensing requirements and the “Best Practices in Design and Operation of Residential Care Home for the Elderly” developed by the SWD to be duly complied with, in addition to the fulfilment of the standard provision of individual facilities derived from the SoA as recommended by SWD, the proposed RCHE will have a better quality in terms of services, living space per residents and living environment, etc.

Moreover, the proposed RCHE could offer a specialized service in a niche market. Due to the statutory requirement of providing accommodation within shared rooms, subvented and contract homes could only provide 4 to 8-person rooms within the premises. For those who want privacy, the proposed RCHE would be a suitable option for them because all accommodation in the premises is designed as single cubicles with partitions to cater market needs.

5.4 Better Utilization of Land & Improving Degraded Environment with Gainful Uses

Despite that the Site currently falls within an area zoned “V” with the planning intention primarily for designation of both existing recognised villages and areas of land considered suitable for village expansion, the Site is not covered by ‘VE’ of any recognised village. Under the current Small House Policy, applications for Small House development may be considered in areas within VEs or in areas zoned “V” that surround or overlap with VE. Since the Site is not within and does not surround or overlap with the VE of any recognized village (including the Pok Wai), in the absence of any Village Expansion Areas (VEA), any application for Small House development in that area will generally not be considered under the current policy. The Site is currently left vacant and vegetated because the Applicant has no intention to release it for Small House development. Instead, to be in line with the Government policies to lift the supply of RCHE places, and to ensure the scarce land resource is better utilized, the Applicant intends to provide much-needed community facilities (i.e. RCHE) in a timely manner for the benefit of all parties concerned including the elderly with their family members in the local community and associated workers.

Besides, the existing living environment surrounding the Site is degraded. Predominantly rural residential in nature, there are intermixing of brownfield operations including open storage yards, warehouses and rural industrial uses. The Site was once used for an open storage yard of large-scale construction materials and machinery which may cause indirect disturbance impact to the cluster of wetlands to the west and north of the Site, e.g. water pollution, noise, human activities, etc. Since the discontinuation of the

unauthorised development in February 2024, the degraded site has been left vacant with overgrown vegetations. In this connection, the proposed development with sufficient landscaping will not bring about negative off-site disturbance impact but will improve the existing environment from undesirable uses, upgrade the degraded site, and create a sustainable and liveable neighbourhood. The proposed development which is situated near the residential dwellings will also act as important social welfare facility to serve the future community. Overall, the proposed development will improve the existing degraded living environment of the local community.

5.5 No Adverse Traffic Impact

Since the proposed RCHE is tentatively scheduled for the completion in 2030, a Traffic Impact Assessment (“TIA”) for the design year 2033 has been carried out to assess the possible traffic impacts to the local road networks. For the design year 2033, the junctions analysed are expected to operate with capacities during the peak hours for the case without and with the Proposed RCHE. Manual classified counts were conducted at junctions located in the vicinity of the proposed development in order to establish the peak hour traffic flows. Currently, these junctions operate with capacities during the AM and PM peak hours. Please refer to **Appendix 3** for the TIA.

There is no specific requirement in HKPSG for RCHE use. Still, since the proposed RCHE is located away from Yuen Long Town Centre, the applicant intends to provide more parking spaces to encourage more frequent visits of bona fide guests so as not to let the elderly feel isolated by the community.

References can be made to the similar approved planning applications below. The proposed 11 nos. of parking spaces are more than enough for visitors and staff and would not cause any traffic impact in the vicinity of Kam Pok Road East. The ambulance layby will share with the light goods vehicle layby (3.5m x 7m) near the emergency vehicular access on the G/F.

Case No.	No. of parking spaces	No. of beds
A/YL/276	4 (including 1 disabled)	197
A/YL/263	8 (including 1 disabled)	320-380
A/YL/302	2 (including 1 disabled)	241
A/YL-PS/702	16 (including 3 disabled)	about 400
A/TW/538	30 (including 2 disabled)	268

Besides, there is one vehicular run-in/ out point. It is located at the south of the development site. It mainly serves the vehicles directly to and from Kam Pok Road East. Vehicles are found to have no manoeuvring problems and all vehicles could enter and leave the spaces with ease. Swept path analysis has been carried out and shown in the TIA. The applicant will ensure the run-in/out at Kam Pok Road East is constructed in

accordance with the latest version of HyD Standard Drawings no. H1113 and H1114, or H5133, H5134 and H5135, whichever set is appropriate to match with the existing adjacent pavement.

The Site is having good accessibility. It is located close to public transport services with franchised bus and public light bus routes operating in the vicinity. The public transport services at 2 surveyed bus stops have capacity to accommodate the passenger demand generated by the proposed development.

All in all, no adverse traffic impact to the surrounding road network is anticipated and that the proposed development is considered as acceptable from traffic perspective.

5.6 No Adverse Visual Impact

The Applicant intends to develop one block of 3-storey (plus 1 basement floor for car park and ancillary utilities) RCHE development at the Site. With view of the surroundings with the overall visual context of primarily rural in nature, with ponds/dried ponds, residential dwellings, some open storage yards and a vehicle park in the locality, the proposed development is considered to be compatible and mild without leading to adverse visual impact on visual penetration of an open sky view, light penetration into the surrounding environment and visual openness. The proposed RCHE can largely blend into the local setting without influencing the overall visual unity and harmony. In fact, the identified public viewers in the vicinity are likely to be the surrounding local villagers, pedestrian and car drivers on Kam Pok Road East. Considering the overall building height restriction of a height of 8.23m within the subject "V" zone under the OZP, the proposed building height of three storeys is considered compatible with the surrounding context. Please refer to **Appendix 8** for the photomontages of the proposal in its surrounding context from different vantage points.

The biophilic design of the proposed development comprises edge treatment with planters on balconies from 1/F to 2/F and edge planters on R/F. With the landscaping opportunities being maximised, hard edges are softened and thus the building mass seamlessly blends in with the surrounding. The building echoes harmoniously with visual backdrop of the low-density and low-rise (2-3 storeys) buildings and village housing which enhance urban-rural integration.

Hence, there is no significant adverse visual impact arising from the proposed development. Instead of creating adverse visual impact, the proposed development will enhance the visual quality and add visual interests. The selection of materials and colour of the building can be further explored in the detail design stage to ensure the buildings can be perfectly blended in with the natural landscape. The applicant will also keep exploring the opportunities for further improvement in terms of visuality at the detailed design stage, such as innovative design of building form, quality outdoor spaces, sufficient landscape treatment, and outdoor greenery and furniture.

5.7 No Adverse Environmental Impact

The proposed RCHE will not be subject to any unacceptable or significant adverse environmental impact from air quality and noise aspects. Key environmental issues are summarized as follows:

5.7.1 No Adverse Air Quality Impact

Fugitive dust emission is the major source of air pollution during the construction phase of the proposed development. Through proper implementation of dust control measures as required under the Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations, construction dust and gaseous emissions can be controlled at source to acceptable levels. Therefore, air quality impact during construction phase is not anticipated to be adverse. Please refer to **Appendix 4** for the Environmental Assessment.

The Site is bounded by Kam Pok Road East and is subject to the air quality impact associated with the vehicular emission from existing open roads. In order to comply with the buffer distance requirements as stipulated in the HKPSG, the air-sensitive uses at the proposed development have been positioned away from Kam Pok Road East. No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones. The potential operation phase air quality impact due to vehicular emission from the surrounding roads and industrial chimney emission have been evaluated. Since the HKPSG buffer distance requirements could be complied, no adverse operation phase air quality impact on the proposed development is expected. Please refer to **Appendix 4** for the Environmental Assessment.

5.7.2 No Adverse Noise Impact

There is open storage located at the SW direction from the proposed development site. They are for storage of materials only. No noisy activities and noise generating equipment are expected in the area and therefore, not considered as noise source.

During the construction stage, noise mitigation measures such as good site management practices, use of quieter construction methods and equipment, and use of movable noise barriers and noise enclosures, will be adopted if necessary and no adverse noise impact to the surrounding area is anticipated.

During the operation stage, air conditioning will be provided for the project while openable window for ventilation is also provided for Dormitory. To ensure the fixed plant noise generated by the proposed development would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary.

According to the LC Paper No. CB(1)775/10-11(01) (see **Appendix 9**), the improvement and extension of Kam Pok Road including the ancillary noise barriers is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). There is no Environmental Permit (EP) issued in nearby developments that requires the erection of the concerned noise barriers. The alteration of the noise barrier is therefore not subject to any violation to EP nor long-term adverse environmental impacts.

In summary, no adverse noise impact is expected. Please refer to **Appendix 4** for the Environmental Assessment.

5.7.3 No Adverse Sewerage Impact

According to the Sewerage Impact Assessment conducted (**Appendix 5** refers), it is found that the existing sewerage system serving the area has sufficient capacity to cater for the sewage generation from the proposed development and the surrounding catchment areas. A new terminal manhole will be built to collect the sewage generated from the proposed development and connect to the existing sewer. Adverse sewerage impacts are not anticipated, and thus no upgrading or improvement works are required.

5.7.4 No Adverse Drainage Impact

Given that the site is next to existing fishponds at its west, the proposed development is unlikely to overstrain the capacity of the existing or planned drainage system along Kam Pok Road East. The stormwater runoff from the site and the surrounding catchment can be sufficiently catered and discharged to multiple outfalls. The Applicant will be liable for the implementation and maintenance of the proposed drainage at his/her cost. In view of the change in the surface characteristics being minimal with no significant change in the flow characteristics after development, adverse drainage impact is expected to be negligible.

5.7.5 No Adverse Ecological Impact

As stated in paragraph 3.1, the Site is located within the WBA, where the development guidelines and criteria outlined in TPB PG-No.12C shall be duly observed throughout the planning, construction, and operation stages of the proposed development. The proposed 3-storey free-standing social welfare facility is exempted from the requirement of submitting an EcolA to the TPB. The ecological integrity and functional value of the nearby fish ponds will be preserved. Given the proposed development's low height profile, it will not obstruct the flight paths of migratory birds. Accordingly, no adverse ecological impacts on the surrounding wetlands habitats are anticipated as a result of the proposed development.

5.8 No Adverse Landscape Impact

The Site is currently hard-paved and largely vacant. There is no significant landscape resources observed within the Site. No tree is identified within the Site. It is confirmed that no Old and Valuable Trees (“OVT”) and protected species can be identified as per the ETWB TCW No. 29/2004 – Registration of Old and Valuable Trees with Guidelines for their Preservation and the Forests and Countryside Ordinance. There is no tree preservation clause held under the lease of the Site.

Holding the intention to better integrate the proposed development with the surrounding, the Applicant proposes soft landscape measures at open spaces on R/F. Please refer to the development scheme and open space provision at **Appendix 1**.

On R/F, Vitality Garden and LifeLink Pavilion are purposefully designed to provide the elderly with raised planters located at the eastern and western ends. They can grow crops on their own and enjoy an all-round horticultural experience to see, study, touch and smell the plants. Moreover, shrubs and ornamental plantings are proposed along the whole edge of this floor plate. This could further soften the building edge and enhance the streetscape amenity to the benefit of the general public. There are also open lawns at the centre of the LifeLink Pavilion for active recreation such as tai chi, jogging and morning walk. The flooring materials and footpath dimensions are carefully designed to allow wheelchair users.

All in all, ornamental plantings, flowering shrubs, foliage plants and open lawns are to be planted where practicable. Visual amenity of the proposed development is expected to be enhanced. Landscaping provided along the site boundary could further form soft edges which could blend in well with the surrounding environment.

The greenery ratio achieved at the proposed development will be over 20% greenery requirement set out in PNAP APP-152 – Sustainable Building Design Guidelines. The proposed development will not alter the landscape character of the area but will enhance the current degraded environment by the provision of additional landscaping opportunities. Significant adverse impact on landscape resources arising from the applied use is not anticipated.

Future users and employees of the proposed RCHE will enjoy the open space with an area of 253 sq.m (**Appendix 1**). With the estimated number of 208 residents and 45 staff per shift, the required area of open space provision is 253 sq.m. Hence, the provision of the communal open space in the proposed development could meet the requirement under HKPSG (i.e. 1 sq.m per person). All planting will be maintained with due care by the management office of the proposed RCHE.

5.9 No Adverse Electricity Safety Impact

There are 400kV extra high voltage overhead lines running across the Site (see **Figure 2**), which is within the preferred working corridor of the concerned overhead lines as stipulated in Chapter 7 - Utility Services of the HKPSG. Minimum safety clearance of 5.5m and minimum vertical clearance of 7.6m are maintained at any time during and after construction. Necessary safety precautions will be carried out for any works near the concerned overhead lines to ensure no adverse electricity safety impact.

SECTION SIX | CONCLUSION

This section 16 planning application is submitted to seek support from Town Planning Board for the proposed development of a Social Welfare Facility (Residential Care Home for the Elderly) of 3 Storeys (plus 1 basement floor for car park and ancillary utilities) in "Village Type Development" zone at Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long.

This Planning Statement has demonstrated that the proposed development of RCHE would help meet the growing residential care service demand of the aging population in Yuen Long as well as other districts in echo with the prevailing government policy support for elderly care services. It could also help to shorten the waiting time for quality RCHE places. The proposed development is fully justified on the following grounds: -

- A design merit of biophilic design with planters, lawns, skylight, and balconies to enhance the overall well-being of residents by integrating natural surroundings and fostering a sense of community and connection to nature;
- The unique design merits of "Evergreen Promenade", "Vitality Garden" and "LifeLink Pavilion" further enhance the service quality;
- Not incompatible in terms of land use nature, development scale and intensity; and
- No adverse environmental, landscape, sewerage, visual and traffic impacts.

To conclude, the proposed development is fully justified in terms of planning, visual and traffic considerations and various planning and design merits. In view of the above, members of the TPB are respectfully requested to favourably consider the present application in support of the additional social welfare facility in form of RCHE by the Applicant in Hong Kong.

NOTES:

LEGEND:

- THE SITE
- WETLAND BUFFER AREA
- WETLAND CONSERVATION AREA
- VILLAGE ENVIRON

REV	DATE	DESCRIPTION	BY	CHKD
1	9.5.2025	CONCEPT DESIGN	KC	PC

Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

CLIENT

TOWN PLANNER

DeSPACE (International) Limited



ARCHITECT

Vessel International Limited
Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

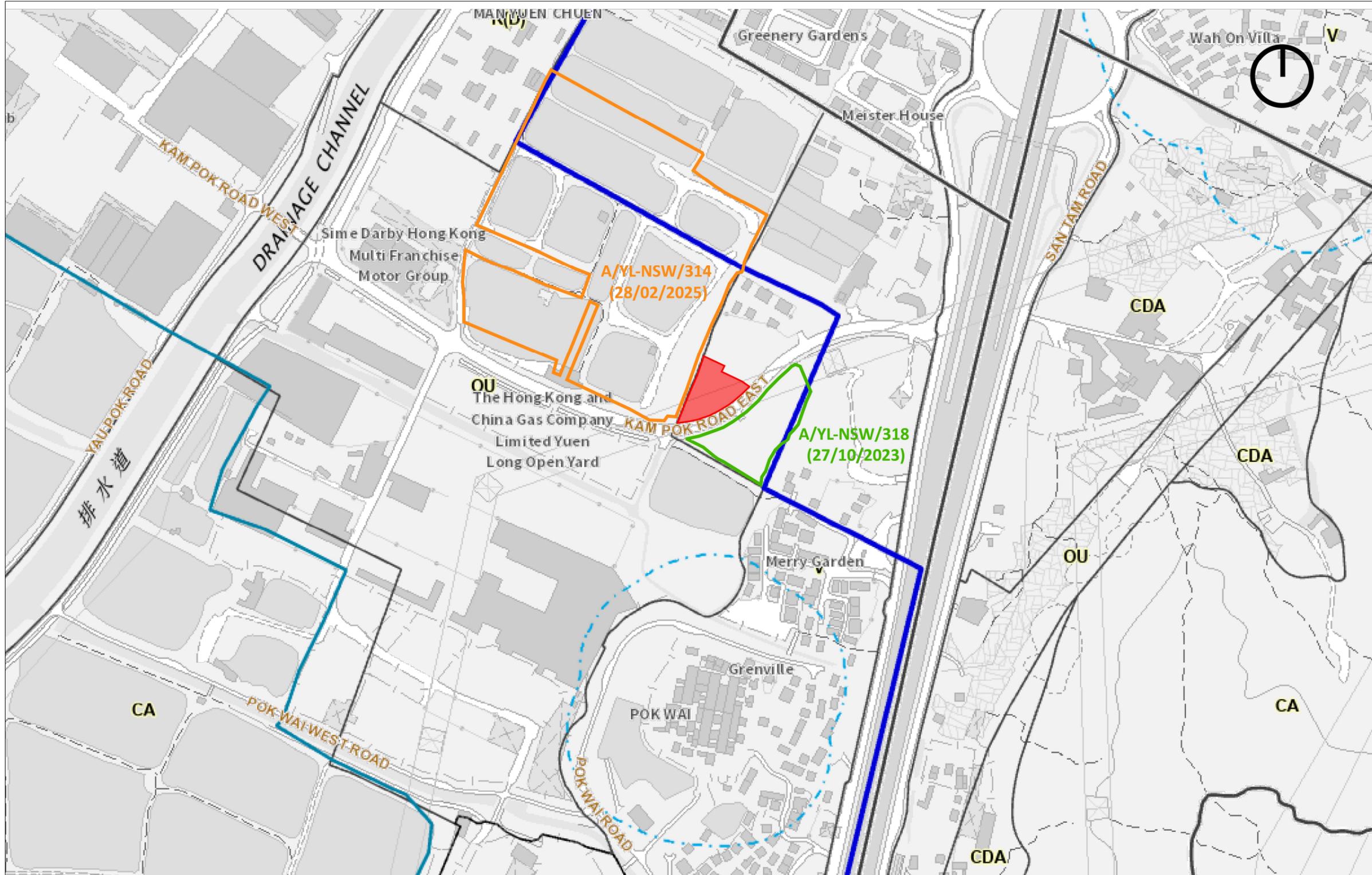
DRAWING : LOCATION PLAN

SCALE : NTS Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

FIGURE 1 MAY 2025



NOTES:

LEGEND:

-  THE SITE
-  SHARED EVA
-  GOVERNMENT LAND
-  OVERHEAD LINES
-  EXISTING NOISE BARRIER

REV	DATE	DESCRIPTION	BY	CHKD
5.5.2025		CONCEPT DESIGN	KC	PC

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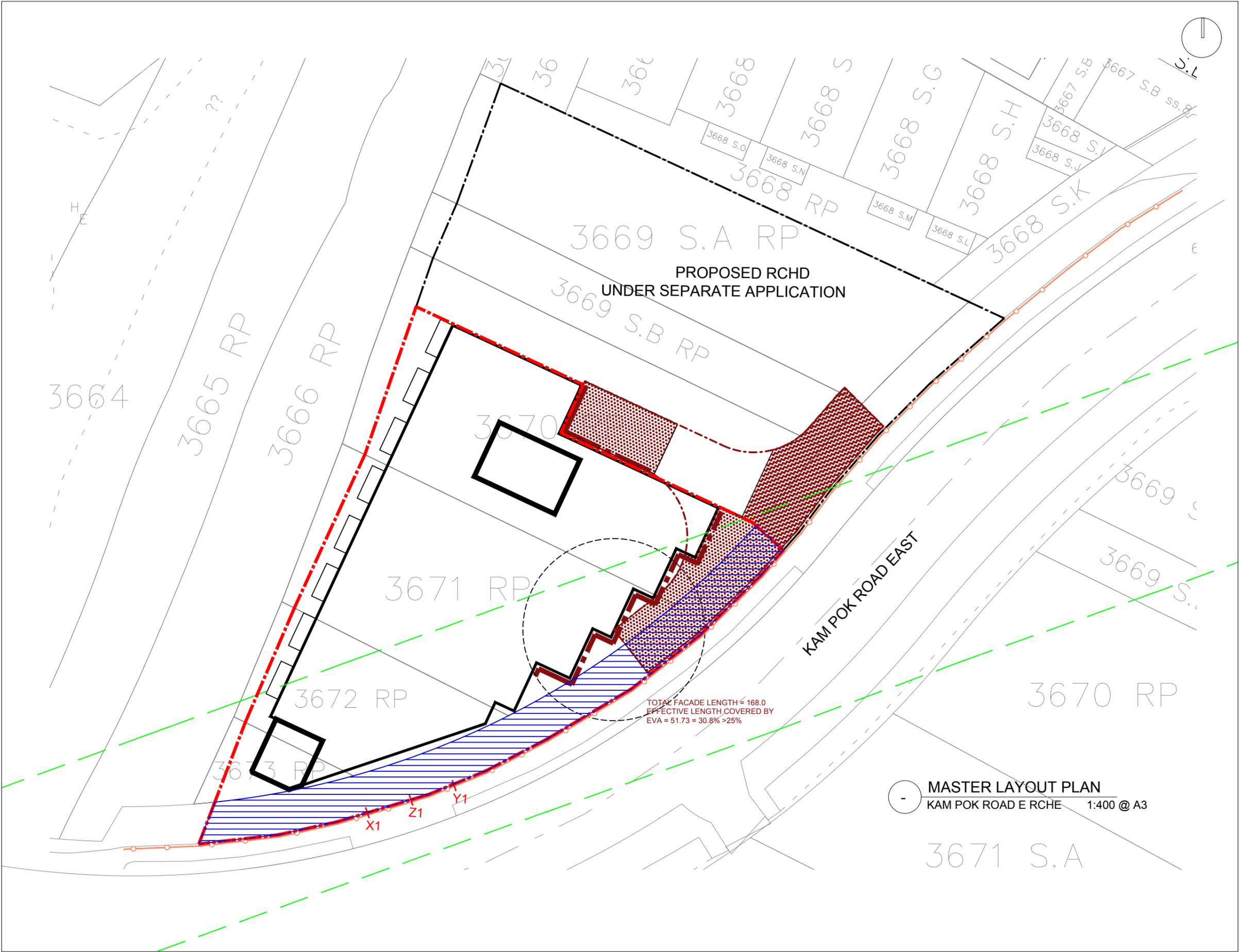
DRAWING : MASTER LAYOUT PLAN

SCALE : 1:400 @A3

PROJECT NO: 25001_KPR

Drawing No. : Date:

FIGURE 2 MAY 2025



Appendix 1

Proposed Development Scheme



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

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DeSPACE (International) Limited



ARCHITECT

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Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

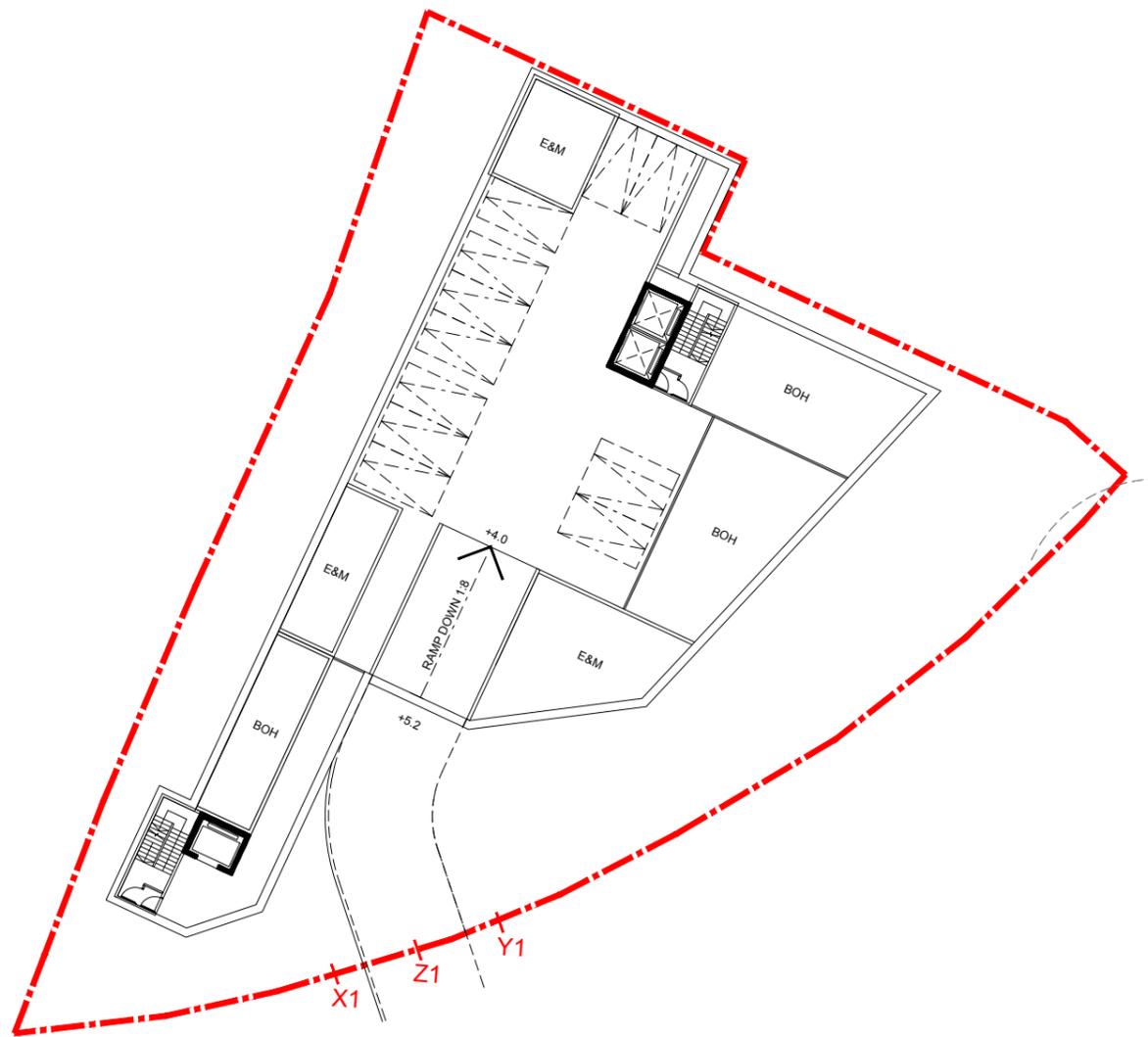
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B102 MAY 2025



BASEMENT FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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CLIENT

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Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

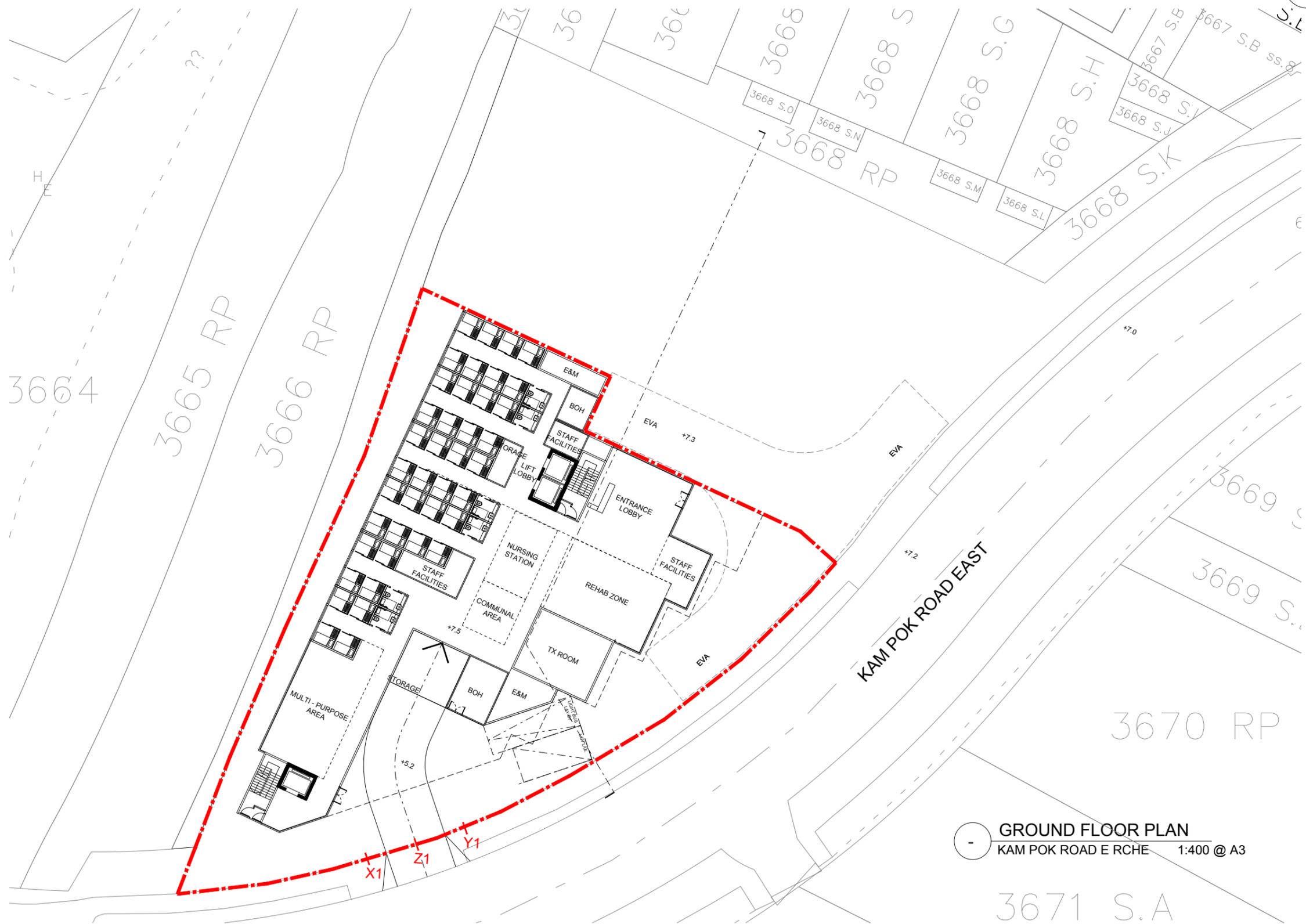
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

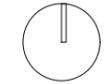
Drawing No. : Date:

CP-B103 MAY 2025



GROUND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

3671 S.A



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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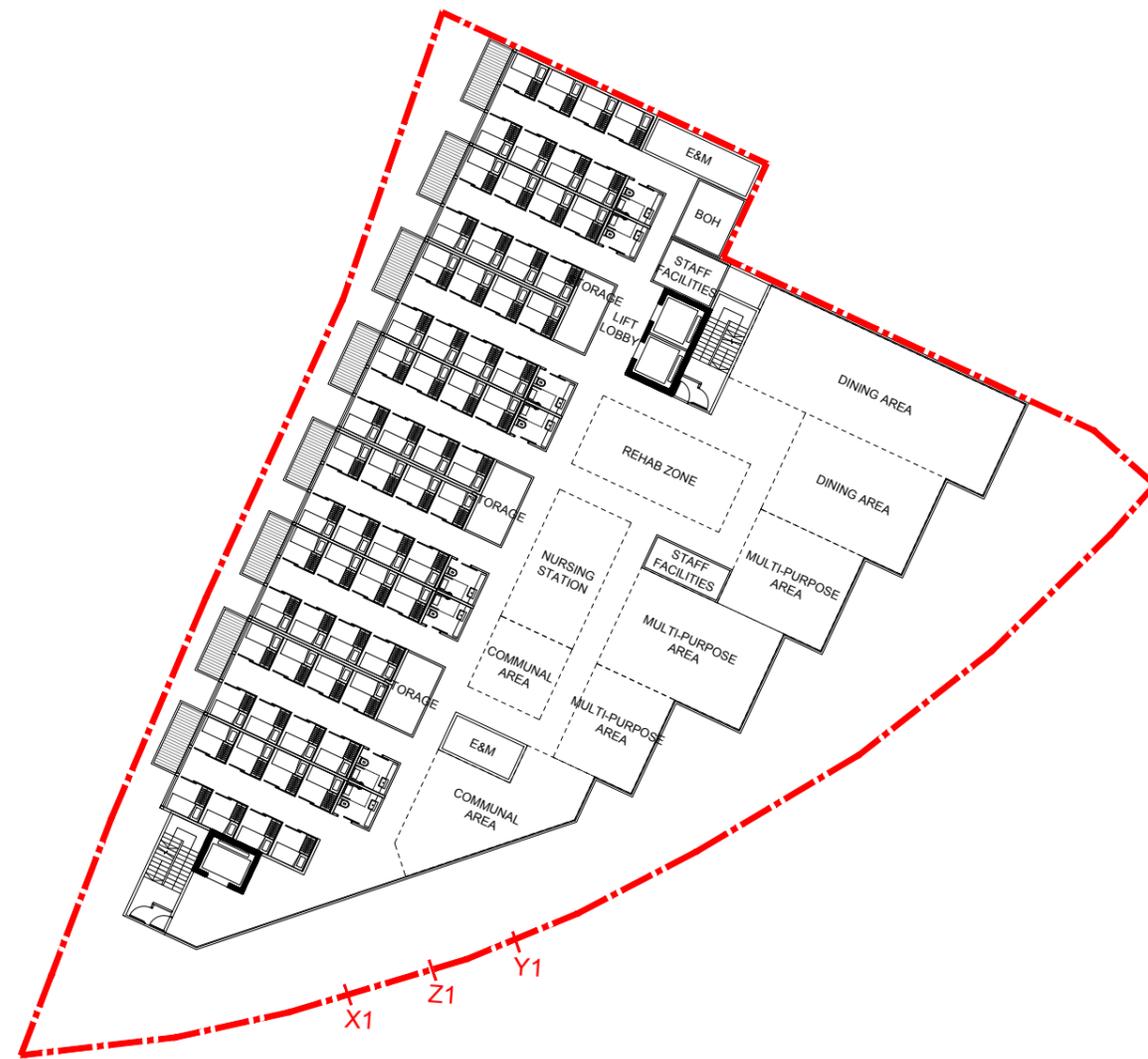
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B104 MAY 2025



1ST FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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CLIENT

TOWN PLANNER

DeSPACE (International) Limited



ARCHITECT

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Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

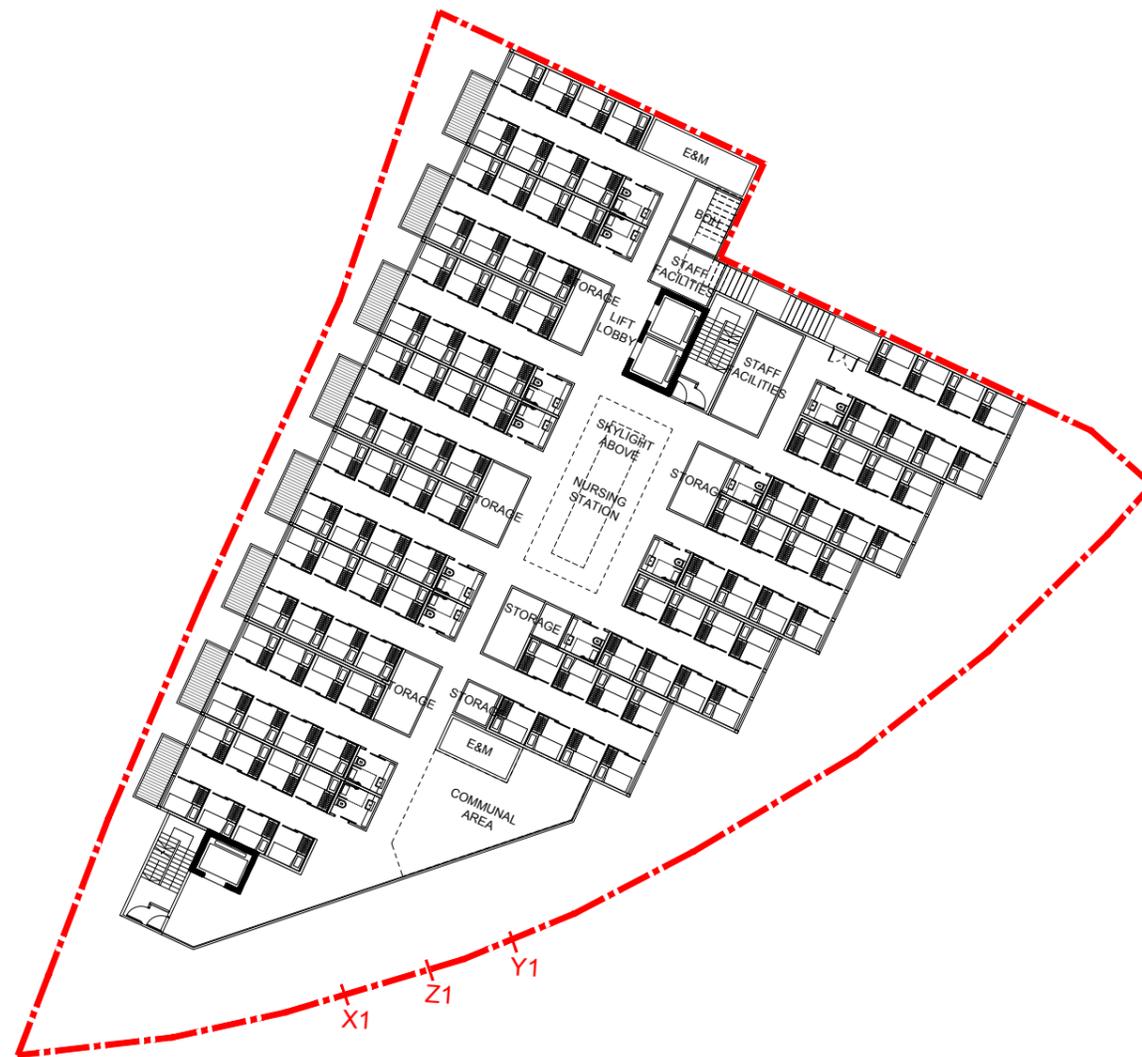
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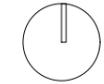
PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B105 MAY 2025



2ND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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CLIENT

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DeSPACE (International) Limited



ARCHITECT

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Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

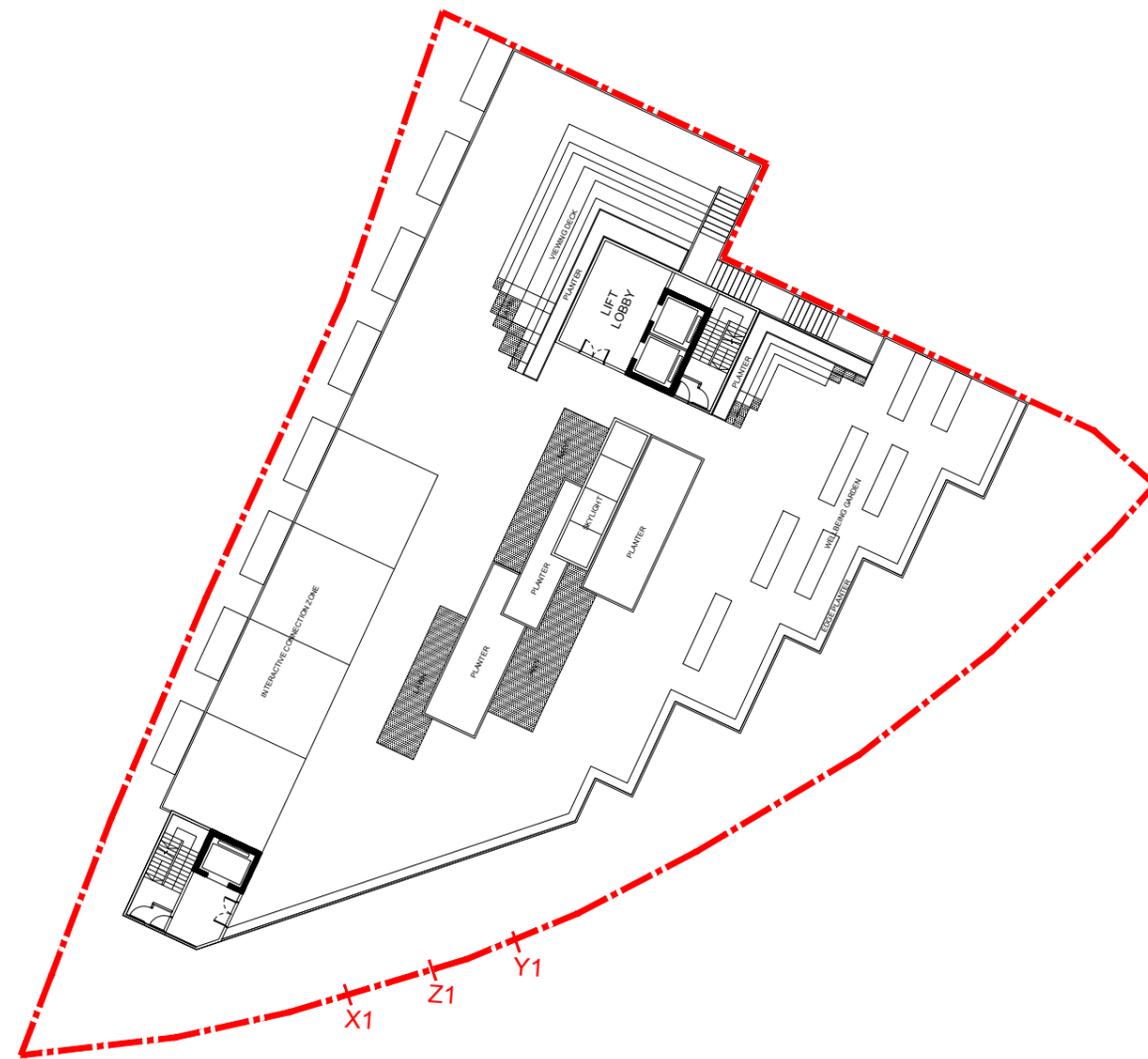
DRAWING : ROOF PLAN

SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B106 MAY 2025



ROOF PLAN
KAM POK ROAD E RCHE 1:400 @ A3

NOTES:

LEGEND:

OPEN SPACE : 253 SQ. M.

REV	DATE	DESCRIPTION	BY	CHKD
-	14.5.2025	CONCEPT DESIGN	KC	PC

Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

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DeSPACE (International) Limited



ARCHITECT

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Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

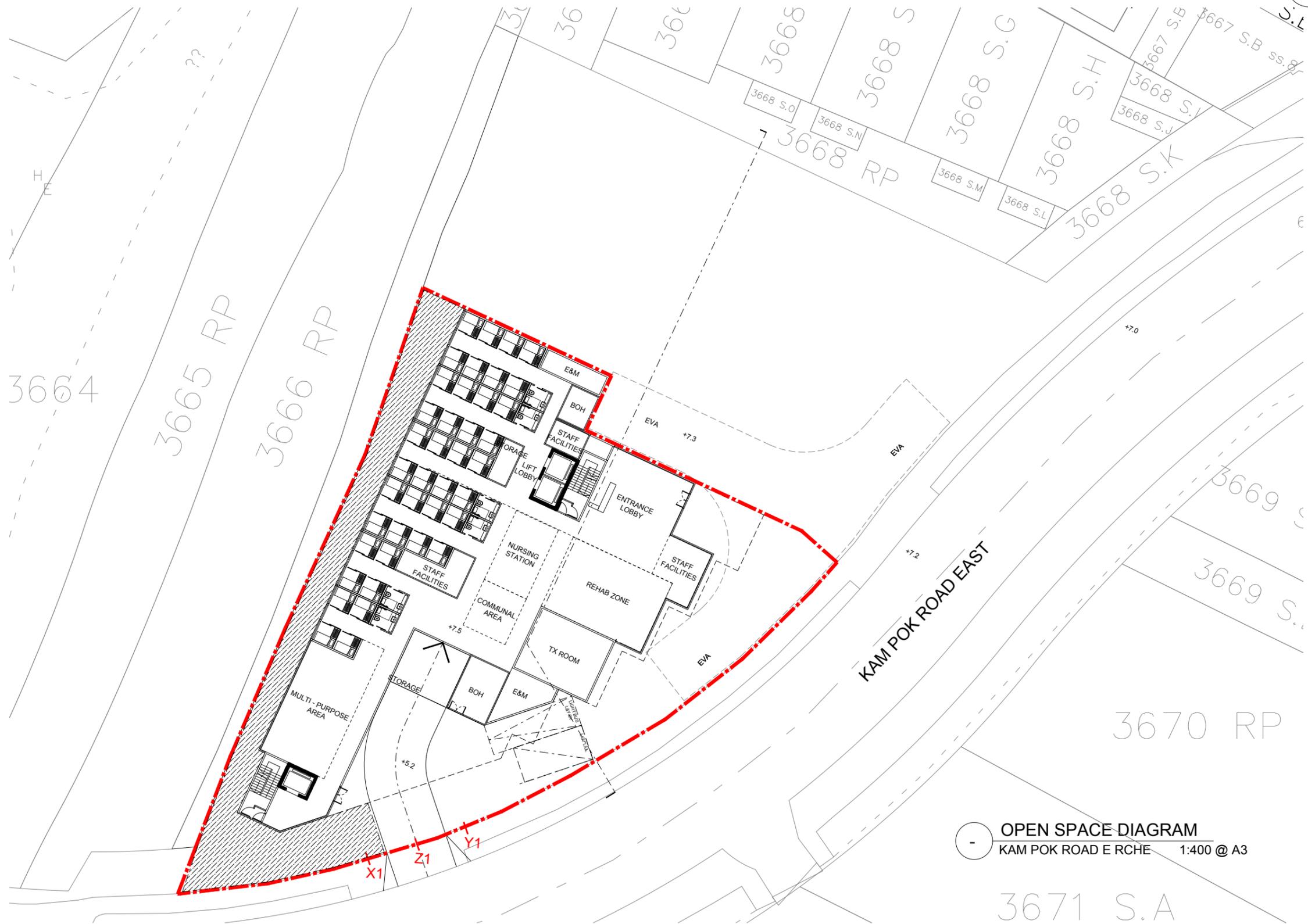
DRAWING : OPEN SPACE DIAGRAM

SCALE : 1:400 @A3 Rev: —

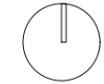
PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B108 MAY 2025



OPEN SPACE DIAGRAM
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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CLIENT

TOWN PLANNER

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PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

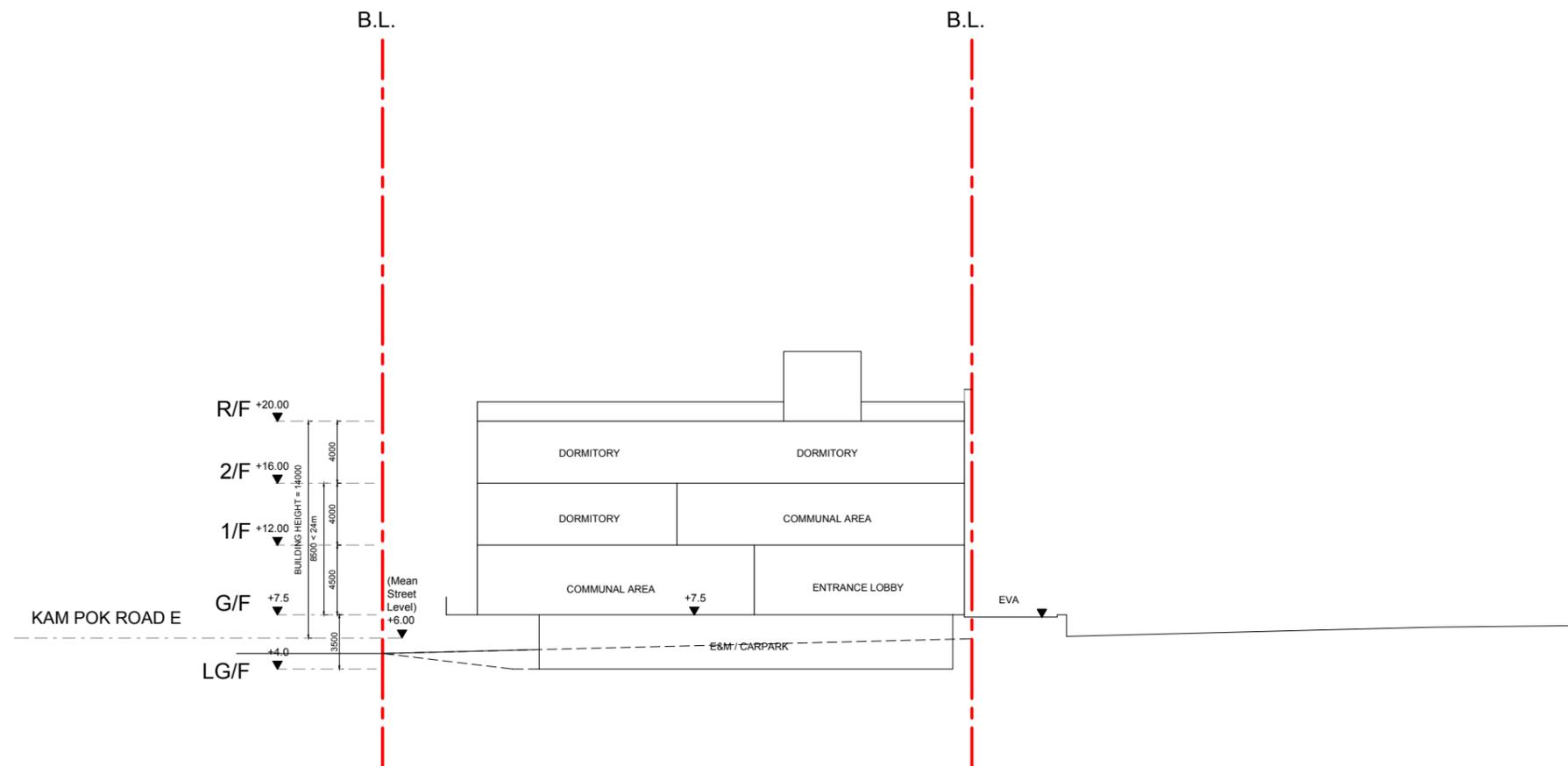
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SCALE : 1: 400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B201 MAY 2025



SCHEMATIC SECTION
KAM POK ROAD E RCHE 1:400 @ A3

Appendix 2

Schedule of Accommodation (SoA)

Proposed SoA of a 208-place Residential Care Home for the Elderly (RCHE)

Item No.	Description	Standard Provision(A) SOARCHE250(09/17)		Provision on pro rata basis (B)*	Proposed provision (C)	Difference in provision (D)		Justification for deviation from standard provision	Floor Distribution
		capacity: 250		208	208	(D=C-B)	(by %)		
		No. of Occupants	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)			
Residential Section									
1	Dormitory	250	1790.0	1489.3	1,489.3	0.0	0%		
2	Attached Bathroom/shower room to Dormitory Room	As appro		As appro	As appro				
3	Dining/ Multi-purpose room	250	550.0	457.6	457.6	0.0	0%		
4	Pantry for residents	As appro		As appro	As appro				
5	Small group Activity room	14	30.0	25.0	25.0	0.0	0%		
6	Nursing Station cum Medical	10	58.0	48.3	48.3	0.0	0%		
7	Sick / Isolation/ Quiet Room	5	40.0	33.3	33.3	0.0	0%		
8	Accessible Toilet/Shower attached to Sick room	As appro		As appro	As appro				
9	Rehabilitation Area	18-24	110.0	91.5	91.5	0.0	0%		
10	Store for Rehabilitation Area	-	10.0	10.0	10.0	0.0	0%		
11	End-of-life care room	1	8.0	8.0	8.0	0.0	0%		
12	Soiled Utility Room	-	20.0	16.6	16.6	0.0	0%		
13	Cleaner's room	As appro		As appro	As appro				
14	Laundry	-	55.5	46.2	46.2	0.0	0%		
15	Kitchen cum store	-	70.0	58.2	58.2	0.0	0%		
16	Dumb Waiter	As appro		As appro	As appro				
17	General store	-	80.0	66.6	66.6	0.0	0%		
18	Clean Utility Room	-	25.0	20.8	20.8	0.0	0%		
19	Interview room /Family Room	11	20.0	16.6	16.6	0.0	0%		
20	Refuse Room	As appro		As appro	As appro				
Administration Section									
21	Superintendent's Office	1	7.9	7.9	7.9	0.0	0%		
22	Assistant Superintendent's Office	1	6.9	6.9	6.9	0.0	0%		
23	General Office	7	43.1	35.9	35.9	0.0	0%		
24	Reception Area	-	10.0	8.3	8.3	0.0	0%		
25	Conference room	16	27.0	22.5	22.5	0.0	0%		
Staff Dormitory									
26	Female /Male Staff Changing room and Rest Room cum	-	71.0	59.1	59.1	0.0	0%		
27	Staff Toilet/ Bath room	As appro		As appro	As appro				

Proposed SoA of a 208-place Residential Care Home for the Elderly (RCHE)

Item No.	Description	Standard Provision(A) SOARCHE250(09/17)		Provision on pro rata basis (B)*	Proposed provision (C)	Difference in provision (D)		Justification for deviation from standard provision	Floor Distribution
		capacity: 250		208	208	(D=C-B)	(by %)		
		No. of Occupants	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)	Area(m ²) (in NOFA)			
Communal Toilet									
28	Toilet for communal use	As appro		As appro	As appro				
Total NOFA:		3032.4	2528.5	2528.5	0.0	0%			

* The standard provision of individual facilities of a 250-p RCHE is derived from the pro-rata basis of standard provision of SoA for 250-p RCHE, except facilities of EOL Care Room, Store for Reh Area, Supt's Aoom and Assist. Supt's Room.

Appendix 3

Traffic Impact Assessment (TIA)

Proposed Social Welfare Facilities
(Residential Care Home for the Elderly (RCHE))
in "Village Type Development" Zone,
Lots 3670 RP (Part), 3671 RP (Part),
3672 RP (Part), 3673 RP (Part)
and adjoining Government Land in D.D.104,
Nam Sang Wai, Yuen Long

Traffic Impact Assessment
Final Report
May 2025

Prepared by: CKM Asia Limited

Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in “Village Type Development” Zone, Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long

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Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in “Village Type Development” Zone, Lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long

FIGURES

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- 1.1 Location of Subject Site
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1.0 INTRODUCTION

Background

- 1.1 The Subject Site is located at lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long. The location of the Subject Site is shown in Figure 1.1.
- 1.2 The owner has the intention to develop the Subject Site into a Residential Care Home for the Elderly with no more than 240 beds (the "Proposed RCHE").
- 1.3 Against this background, CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned to conduct a Traffic Impact Assessment ("TIA") in support of the Proposed RCHE. The report presents the findings and recommendations of the TIA for the Proposed RCHE.

Scope of the Assessment

- 1.4 The main objectives of this TIA are as follows:
- To assess the existing traffic issues in the vicinity of the Subject Site;
 - To quantify the amount of traffic generated by the Proposed RCHE; and
 - To examine the traffic impact on the local road network in the vicinity of the Subject Site.

Contents of the Report

- 1.5 After this introduction, the remaining chapters contain the following:

- | | |
|---------------|---|
| Chapter Two | - describes the existing situation; |
| Chapter Three | - outlines the development proposal; |
| Chapter Four | - presents the traffic impact analysis; and |
| Chapter Five | - summarises the overall conclusion |

2.0 THE EXISTING SITUATION

The Subject Site

2.1 The Subject Site is located to the immediate north of Kam Pok Road East. At present, the Subject Site has no vehicular access.

Existing Road Network

2.2 Kam Pok Road East is a local distributor, and it is of single carriageway 2-lane standard. It connects with Kam Pok Road to the west and Castle Peak Road – Tam Mi to the east.

2.3 Castle Peak Road – Tam Mi is a rural road, and it is of single carriageway 2-lane standard. It connects with The Fairview Park Roundabout to the north and Kam Pok Road East to the south.

Traffic Survey

2.4 To quantify the traffic flows at the junctions chosen for the capacity analysis, manual classified counts were conducted on Friday, 7th March 2025 during the AM and PM peak periods. The locations of the surveyed junctions are presented in Figure 2.1 and their layouts are shown in Figures 2.2 to 2.4.

2.5 The surveyed junctions include the following:

- J1: Kam Pok Road / Kam Pok Road East;
- J2: Castle Peak Road – Tam Mi / Kam Pok Road; and
- J3: The Fairview Park Roundabout

2.6 The counts were classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. From the survey, the AM and PM peak hours were found to be between 0800 – 0900 and 1700 – 1800 hours respectively, and the existing AM and PM peak hour traffic flows are presented in Figure 2.5.

Operational Performance of the Surveyed Junctions

2.7 The existing operational performance of the surveyed junctions is calculated based on the observed traffic counts and the analysis is undertaken using the methods outlined in Volume 2 of Transport Planning and Design Manual ("TPDM"). The existing operational performance of the junctions are summarised in Table 2.1 and the detailed calculations are found in Appendix 1.

TABLE 2.1 EXISTING JUNCTION OPERATIONAL PERFORMANCE

Ref.	Junction	Type of Junction	Parameter ⁽¹⁾	AM Peak Hour	PM Peak Hour
J1	Kam Pok Road / Kam Pok Road East	Priority	RFC	0.31	0.22
J2	Castle Peak Road – Tam Mi / Kam Pok Road	Signal	RC	24%	38%
J3	The Fairview Roundabout	Roundabout	RFC	0.45	0.45

Notes: ⁽¹⁾ RC – reserve capacity RFC – Ratio of Flow to Capacity

2.8 Table 2.1 shows that the junctions now operate with capacity.

Public Transport Facilities

- 2.9 The Subject Site is located close to public transport services with franchised bus and public light bus routes operating in the vicinity. Details of the franchised bus and green minibus ("GMB") routes operating in the vicinity of the Subject Site are presented in Figure 2.6 and Table 2.2.

TABLE 2.2 FRANCHISED BUS AND GMB SERVICES OPERATING CLOSE TO THE SUBJECT SITE

Route	Routing	Frequency (minutes)
KMB 76K	Long Ping Estate – Ching Ho Estate	20 – 30
KMB 268	Sham Tseng – Kwun Tong (Tsui Ping North Estate)	30 – 35
CTB 976	Sai Wan Ho – Lok Ma Chau (San Tin)	6 per day
CTB 976A	Siu Sai Wan (Island Resort) – Lok Ma Chau (San Tin)	2 per day
GMB 36	Yuen Long (Fook Hong Street) – Tai Sang Wai Rural Office	10 – 15
GMB 37	Yuen Long (Fook Hong Street) – Yau Tan Mei Village Office	12 – 15
GMB 38	Yuen Long (Fook Hong Street) – Yau Tam Mei West	10 – 15
GMB 75	Yuen Long (Fook Hong Street) – Lok Ma Chau Spur Line Public Transport Interchange	7 – 9
GMB 76	Yuen Long (Fook Hong Street) – Siu Hum Tsuen	15 – 20
GMB 78	Pat Heung Road (near Tai Lam Bus-Bus Interchange) – Lok Ma Chau (San Tin) Public Transport Interchange	20 – 25

Note: KMB – Kowloon Motor Bus CTB – Citybus GMB – Green Minibus

Trip Generation Rates for RCHE

- 2.10 In view that the TPDM does not have trip generation rates for RCHE, trip generation surveys were conducted at 3 RCHEs. Details of these RCHEs are found in Table 2.3, and survey results are presented in Table 2.4.

TABLE 2.3 DETAILS OF THE SURVEYED RCHEs

Ref.	RCHE	Address	No. of beds	Distance from nearest MTR Station
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	60 - 62 Tin Wan Street, Tin Wan	392	2.8 km (Wong Chuk Hang Station)
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	16 Wah Fat Street, Tuen Mun	260	2.2 km (Tuen Mun Station)
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	5 Sha Wan Drive, Pok Fu Lam, Hong Kong	175	3.5km (Kennedy Town Station)

TABLE 2.4 TRIP RATES OF THE SURVEYED RCHEs

Ref.	RCHE	AM Peak Hour		PM Peak Hour	
		IN	OUT	IN	OUT
Traffic Generation (pcu/hr)					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	6	3	4	6
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	9	6	7	13
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	6	2	3	7
Trip Rates (pcu/hour/ bed)					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	0.0153	0.0077	0.0102	0.0153
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	0.0346	0.0231	0.0269	0.0500
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	0.0343	0.0114	0.0171	0.0400
Adopted (maximum rates) =		0.0346	0.0231	0.0269	0.0500

Pedestrian Generation Rates for RCHE

- 2.11 In view that the TPDM does not have pedestrian generation rates for RCHE, pedestrian generation surveys were also conducted at the 3 RCHEs found in Table 2.3. The survey results are presented in Table 2.5.

TABLE 2.5 PEDESTRIAN TRIP RATES OF THE SURVEYED RCHEs

Ref.	RCHE	AM Peak Hour		PM Peak Hour	
		IN	OUT	IN	OUT
Pedestrian Generation (pedestrian/15 min)					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	16	7	5	18
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	16	5	3	17
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	9	2	1	7
Pedestrian Generation Rates (pedestrian/15 min/bed)					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	0.0408	0.0179	0.0128	0.0459
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	0.0615	0.0192	0.0115	0.0654
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	0.0514	0.0114	0.0057	0.0400
Adopted (maximum rates) =		0.0615	0.0192	0.0128	0.0654

Utilisation of Surveyed Bus Stops

- 2.12 An utilisation survey was conducted during the AM and PM peak periods at Tai Sang Wai (towards San Tin) and Long Ha (towards Yuen Long) bus stops and the results are presented in Tables 2.6 and 2.7 respectively.

TABLE 2.6 RESULTS OF THE UTILISATION SURVEY AT TAI SANG WAI (TOWARDS SAN TIN) BUS STOP

Route ⁽¹⁾	No. of Vehicle	No. of Passengers on-board ⁽²⁾ [a]	Capacity ⁽³⁾ [b]	Vacancy [b] – [a]	Occupancy [a] / [b]
AM Peak					
KMB 76K	3	146	384	238	38.0%
KMB 268	2	14	124	110	11.3%
GMB 37	5	65	86	21	75.6%
GMB 38	6	77	102	25	75.5%
GMB 75	3	27	51	24	52.9%
GMB 76	2	15	32	17	46.9%
GMB 78	2	12	38	26	31.6%
Total	23	356	817	461	43.6%
PM Peak					
KMB 76K	3	154	384	230	40.1%
KMB 268	2	14	124	110	11.3%
GMB 37	7	93	118	25	78.8%
GMB 38	9	95	147	52	64.6%
GMB 75	3	36	48	12	75.0%
GMB 76	1	10	19	9	52.6%
GMB 78	2	12	38	26	31.6%
Total	27	414	878	464	47.2%

Note: ⁽¹⁾ KMB – Kowloon Motor Bus GMB – Green Minibus

⁽²⁾ Passengers counted the moment before the vehicles departed from the bus stop

⁽³⁾ Assumed capacities: Double-decker = 128, Single-decker = 62

TABLE 2.7 RESULTS OF THE UTILISATION SURVEY AT LONG HA (TOWARDS YUEN LONG) BUS STOP

Route ⁽¹⁾	No. of Vehicle	No. of Passengers on-board ⁽²⁾ [a]	Capacity ⁽³⁾ [b]	Vacancy [b] – [a]	Occupancy [a] / [b]
AM Peak					
KMB 76K	3	89	384	295	23.2%
KMB 268	2	14	124	110	11.3%
GMB 37	6	71	99	28	71.7%
GMB 38	2	22	32	10	68.8%
GMB 75	2	83	102	19	81.4%
GMB 76	2	16	32	16	50.0%
Total	17	295	773	478	38.2%
PM Peak					
KMB 76K	2	70	256	186	27.3%
KMB 268	3	21	186	165	11.3%
GMB 37	5	46	86	40	53.5%
GMB 38	4	40	67	27	59.7%
GMB 75	3	38	48	10	79.2%
GMB 76	2	33	51	18	64.7%
Total	19	248	694	446	35.7%

Note: ⁽¹⁾ KMB – Kowloon Motor Bus GMB – Green Minibus

⁽²⁾ Passengers counted the moment before the vehicles departed from the bus stop

⁽³⁾ Assumed capacities: Double-decker = 128, Single-decker = 62

2.13 Table 2.6 shows that the utilisation of the franchised buses at Tai Sang Wai (towards San Tin) bus stop is 43.6% during the AM Peak Hour and 47.2% during the PM Peak Hour. Whilst, Table 2.7 shows that the utilisation of the franchised buses at Long Ha (towards Yuen Long) bus stop is 38.2% during the AM Peak Hour and 35.7% during the PM Peak Hour.

3.0 THE PROPOSED RCHE

Proposed RCHE

- 3.1 The Proposed RCHE consists of 1 building block with no more than 240 beds and is targeted for completion by 2030. The vehicular assess of Proposed RCHE is provided at Kam Pok Road East.

Provision of Internal Transport Facilities

- 3.2 The HKPSG has no recommendation on the provision of internal transport facilities for RCHE, hence, reference is made to the 3 RCHEs listed in Table 2.3. The internal transport facilities provision rate derived from the 3 RCHEs are found in Table 3.1.

TABLE 3.1 INTERNAL TRANSPORT FACILITIES PROVIDED IN SURVEYED RCHEs

Ref.	RCHE	No. of beds	Internal Transport Facilities		
			Car	Light Bus / Ambulance	LGV
Parking Provision					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	392	8	0	1
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	260	5	1	0
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	175	8	0	0
Provision rate (space / bed)					
1	The Hong Kong Society for the Aged Bradbury Home for the Elderly and Quan Chuen Home for the Elderly	392	0.020	0.000	0.003
2	Caritas Li Ka Shing Care and Attention Home, Tuen Mun	260	0.019	0.004	0.000
3	Chuk Lam Ming Tong Care and Attention Home for the Aged	175	0.045	0.000	0.000
Adopted provision rate =			0.045	0.004	0.003

- 3.3 Based on the adopted provision rate in Table 3.1, the calculated internal transport facilities for the Proposed RCHE are presented in Table 3.2.

TABLE 3.2 PROVISION OF INTERNAL TRANSPORT FACILITIES THE FOR PROPOSED RCHE

Use	No. of beds	Internal Transport facilities	Provision	Dimensions
RCHE	240	Car Parking Space	11	10 @ 5m (L) x 2.5m (W) x 2.4m (H) 1 @ 5m (L) x 3.5m (W) x 2.4m (H) for persons with disabilities
		LGV loading / unloading bay	1	1 @ 7m (L) x 3.5m (W) x 3.6m (H)
		Light Bus / Ambulance Parking Space	1	1 @ 9m (L) x 3.0m (W) x 3.3m (H)

- 3.4 The carpark layout plans for G/F and B/F are shown in Figures 3.1 – 3.2.

Swept Path Analysis

- 3.5 The CAD-based swept path analysis program, Autodesk Vehicle Tracking, was used to check the ease of vehicle manoeuvring. Vehicles are found to have no manoeuvring problems and all vehicles could enter and leave the spaces with ease. The swept path analysis drawings for critical movements are found in Appendix 2.

4.0 TRAFFIC IMPACT

Design Year

- 4.1 The Proposed RCHE is expected to be completed by 2030, and the design year adopted for the capacity analysis is 2033, i.e. 3 years after the completion of the Proposed RCHE.

Traffic Forecasting

- 4.2 The 2033 traffic flows used for the junction analysis are produced with reference to the following:

- (i) 2031 traffic flows derived based on the NTW1 Base District Traffic Model ("BDTM");
- (ii) estimated traffic growth from 2031 to 2033 based on the higher of: (a) Hong Kong Population Projections 2022 – 2046, published by Census and Statistics Department, or (b) historic Annual Average Daily Traffic ("AADT") produced by Transport Department;
- (iii) the other developments in the vicinity of the Proposed RCHE; and
- (iv) Traffic generated by the Proposed RCHE.

- 4.3 The (ii) estimated traffic growth from 2031 to 2033, (iii) the other development in the vicinity of the Proposed RCHE and (iv) traffic generated by the Proposed RCHE are presented in the paragraphs below.

Estimated Growth Rate from 2031 to 2033

- 4.4 The (a) Hong Kong Population Projections 2022 – 2046, and (b) historic AADT are summarised in Tables 4.1 – 4.2 respectively.

TABLE 4.1 HONG KONG POPULATION PROJECTIONS 2022 – 2046

Whole Territory Population		Annual Growth Rate
Year 2031	Year 2033	2031 to 2033
7,820,200	7,903,600	0.53%

TABLE 4.2 AADT OF THE STATION IN THE VICINITY OF THE SUBJECT SITE

Year \ Station	5016	5019	5257	5297	5505	5508	5496	Overall
2013	90,610	34,530	12,620	8,220	9,030	68,040	35,980	259,030
2014	88,800	36,490	10,600	6,200	11,990	72,580	30,750	257,410
2015	86,180	34,380	10,510	6,140	12,090	85,910	27,750	262,960
2016	92,230	31,990	10,940	6,400	12,590	90,760	28,900	273,810
2017	90,650	30,040	10,770	6,300	12,390	90,110	28,450	268,710
2018	86,230	29,300	11,980	8,540	12,700	92,980	29,150	270,880
2019	90,860	30,160	11,910	7,530	13,330	80,460	26,970	261,220
2020	81,870	27,640	11,420	7,220	13,420	82,010	13,100	236,680
2021	86,620	29,600	11,880	7,510	13,960	86,000	13,630	249,200
2022	82,820	28,180	11,520	7,280	13,540	82,190	13,210	238,740
2023	88,760	55,700	10,740	10,960	13,860	87,340	13,520	280,880
Average Annual Growth								0.81%

Note: 5016 – San Tin Highway, Castle Peak Road & San Tam Road (From Kam Tin Road to Fairview Park Boulevard)
 5019 – Castle Peak Road – Yuen Long (From Yuen Long On Lok Road to Kam Tin Road)
 5257 – Castle Peak Road – Tam Mi, Mai Po & San Tin (From Fairview Park Boulevard to Lok Ma Chau Road)
 5297 – San Tam Road (From Castle Peak Road – Mai Po to Fairview Park Boulevard Roundabout)
 5505 – Sam Tam Road (From Fairview Park Boulevard RA to End)
 5508 – San Tin Highway (From Fairview Park Boulevard to Lok Ma Chau Road)
 5496 – San Sham Road (From San Tin Interchange to End of San Sham Road)

4.5 Table 4.1 shows that the annual growth rate from 2031 to 2033 is +0.53%. Table 4.2 shows that in the historic AADT of the stations between 2013 and 2023 in the vicinity has average annual growth rate of +0.81% per annum. To be conservative, the growth rate of +1.00% per annum is adopted for the traffic growth between 2031 and 2033.

Other Developments in the Vicinity of the Proposed RCHE

4.6 The major planned developments in the vicinity of the Proposed RCHE are summarized in Table 4.3, and are included in the traffic forecast.

TABLE 4.3 DETAILS OF MAJOR PLANNED DEVELOPMENTS

Site	Address	Use	Development Parameter (Approx.)
1	TPB ref.: A/YL-KTN/663-1: Lots 1783 (Part), 1784 RP, 1788 RP, 1789 RP, 1790 RP (Part), 1791 RP, 1795 (Part), 1796 (Part), 1797 (Part), 1836 (Part), 1927 S.A and 1927 RP (Part) in D.D. 107 and Adjoining Government Land, Kam Tin, Yuen Long	Residential	Around 1,154 flats
2	TPB ref.: A/YL-MP/205-1: Lots 3054 S.A RP, 3098 RP (Part), 3108 (Part), 3109 (Part), 3100 (Part), 3110, 3111, 3112, 3113, 3114, 3115 RP, 3119 RP, 3122 RP, 3123, 3124, 3126, 3131 S.A, 3131 S.B, 3131 S.C, 3131 S.D, 3131 RP, 3132, 3138, 3146, 3147 RP (Part), 3148, 3150 RP, 3156 RP, 3158 RP, 3162, 3163, 3164 S.A, 3164 RP, 3167, 3168, 3171, 3173, 3176, 3177, 3178, 3179, 3180 RP, 3181 RP, 3182 RP, 3189 RP, 3190, 3191, 3192 RP, 3193RP and 3194 RP in D.D. 104 and Adjoining Government Land, Mai Po, Yuen Long, New Territories	Residential	Around 71 flats
3	TPB ref.: A/YL-MP/344: Lots 50 S.A and 77 in D.D.101, Wo Shang Wai, Mai	Residential	Around 789 flats

Site	Address	Use	Development Parameter (Approx.)
	Po, Yuen Long		
4	TPB ref.: A/YL-NTM/178: Lots 435(Part), 436(Part), 438, 439, 442-444, 445(Part), 446-454, 456(Part), 457(Part), 459, 460, 461(Part), 462(Part), 463(Part), 464(Part), 465-474, 476, 478-483, 484(Part), 485, 486(Part), 492495(Part), 516-518, 520, 521(Part), 522(Part), 541(Part), 542(Part), 543-545, 547-552, 555, 556, 559, 560, 562, 563(Part), 564(Part), 572(Part), 573, 574, 575(Part), 576(Part) and Adjoining Government Land in DD 105, Shek Wu Wai, Ngau Tam Mei, Yuen Long	Residential	Around 322 flats
5	TPB ref.: A/YL-MP/341: Various Lots in D.D. 104 and Adjoining Government Land, Yau Pok Road, Mai Po, Yuen Long	Residential	Around 2150 flats
6	TPB ref.: A/YL-MP/247: Lots 3054 S.B RP and 3055 in D.D.104, near Yau Mei San Tsuen, Yuen Long	Residential	Around 105 flats
7	TPB ref.: A/YL-MP/287: Lots 3207 RP, 3209 RP, 3220 RP, 3221 RP, 3224 RP, 3225 S.A RP, 3225 S.C RP, 3225 RP, 3226 S.A RP, 3226 RP, 3228, 3229, 3230 RP, 3250 S.B ss.21 RP, 3250 S.B ss.33 S.B, 3250 S.B ss.40 S.A RP, 3250 S.B ss.40 RP and 4658 RP in D.D. 104 and Adjoining Government Land, Mai Po, Yuen Long, New Territories	Residential	Around 65 flats
8	TPB ref.: Y/YL-NSW/4: Lots 594, 595 (Part), 600 (Part) , 1288 S.B RP (Part), 1289 S.B RP (Part) and 1292 S.B RP (Part) in D.D. 115, Nam Sang Wai, Yuen Long	Residential	Around 57 flats
9	TPB ref.: A/YL-NSW/274: Lots 592 S.C ss.1 S.A, 592 S.C ss.4 and 1252 S.C in D.D. 115, Tung Shing Lei, Yuen Long	Residential, Office and RCHE	Around 1518 flats, office with 1800m ² GFA and RCHE with no more than 10 beds
10	TPB ref.: A/YL-NSW/314: Various lots in D.D.104, North of Kam Pok Road East, Pok Wai, Yuen Long, New Territories	Residential	Around 90 flats

Traffic Generated by the Proposed RCHE

4.7 Traffic generation associated with the Proposed RCHE is calculated based on results presented in Table 2.4, and the calculation is presented in Table 4.4.

TABLE 4.4 TRAFFIC GENERATION OF THE PROPOSED RCHE

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Trip Generation Rates for RCHE (pcu/hour/bed) in Table 2.4						
RCHE	0.0346	0.0231	NA	0.0269	0.0500	NA
Traffic Generation of Proposed RCHE (pcu/hour)						
RCHE: 240 beds	<u>9</u>	<u>6</u>	<u>15</u>	<u>7</u>	<u>12</u>	<u>19</u>

4.8 Table 4.4 shows that the total 2-way traffic generated by the Proposed Development is only 14 and 17 pcu/hour (2-way) during the AM and PM peak hours respectively.

2033 Traffic Flows

4.9 Year 2033 traffic flows for the following cases are derived:

2033 without the Proposed RCHE [A] = (i) 2031 traffic flows derived with reference to BDTM + (ii) estimated total growth from 2031 to 2033 + (iii) Other Developments in the Vicinity of the Proposed RCHE

2033 with the Proposed RCHE [B] = [A] + (iv) traffic generated by the Proposed RCHE (Table 4.4)

4.10 The 2033 peak hour traffic flows for the cases without and with the Proposed RCHE, are shown in Figures 4.1 - 4.2, respectively.

2033 Junction Operational Performance

4.11 Year 2033 capacity analysis for the cases without and with the Proposed RCHE are summarised in Table 4.5 and detailed calculations are found in the Appendix 1.

TABLE 4.5 2033 JUNCTION OPERATIONAL PERFORMANCE

Ref.	Junction	Type of Junction / Parameter ⁽¹⁾	Without the Proposed RCHE		With the Proposed RCHE	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Kam Pok Road / Kam Pok Road East	Priority / RFC	0.34	0.24	0.34	0.24
J2 ⁽²⁾	Castle Peak Road – Tam Mi / Kam Pok Road	Signal / RC	26%	34%	25%	33%
J3	The Fairview Roundabout	Roundabout / RFC	0.66	0.71	0.66	0.72

Notes: ⁽¹⁾ RC – reserve capacity RFC – Ratio of Flow to Capacity

⁽²⁾ Cycle time increased from 94s to 120s as proposed by the approved A/YL-NSW/314

4.12 Table 4.5 shows that the junctions operate with capacities during the AM and PM peak hours for the cases without and with the Proposed RCHE.

Impact on Utilisation of Surveyed bus stops

4.13 To be conservative, it is assumed that all pedestrians generated by the Proposed RCHE will use public transport services. The number of public transport passengers generated by the Proposed RCHE is calculated based on the pedestrian generation of the Proposed RCHE, as presented in Table 2.5, and the calculation is found in Table 4.6.

TABLE 4.6 PUBLIC TRANSPORT PASSENGERS GENERATED BY THE PROPOSED RCHE

Item	AM Peak Hour			PM Peak Hour		
	In	Out	2-way	In	Out	2-way
Pedestrian Generation Rates for RCHE (pedestrian/15 min/bed) in Table 2.5						
RCHE	0.0615	0.0192	NA	0.0128	0.0654	NA
Pedestrian Generation of Proposed RCHE (pedestrian/15 min)						
RCHE: 240 beds	15	5	20	4	16	20
Pedestrian Generation of Proposed RCHE (pedestrian/1 hour)						
RCHE: 240 beds	60	20	80	16	64	80

4.14 The public transport utilisation analysis is presented in Table 4.7.

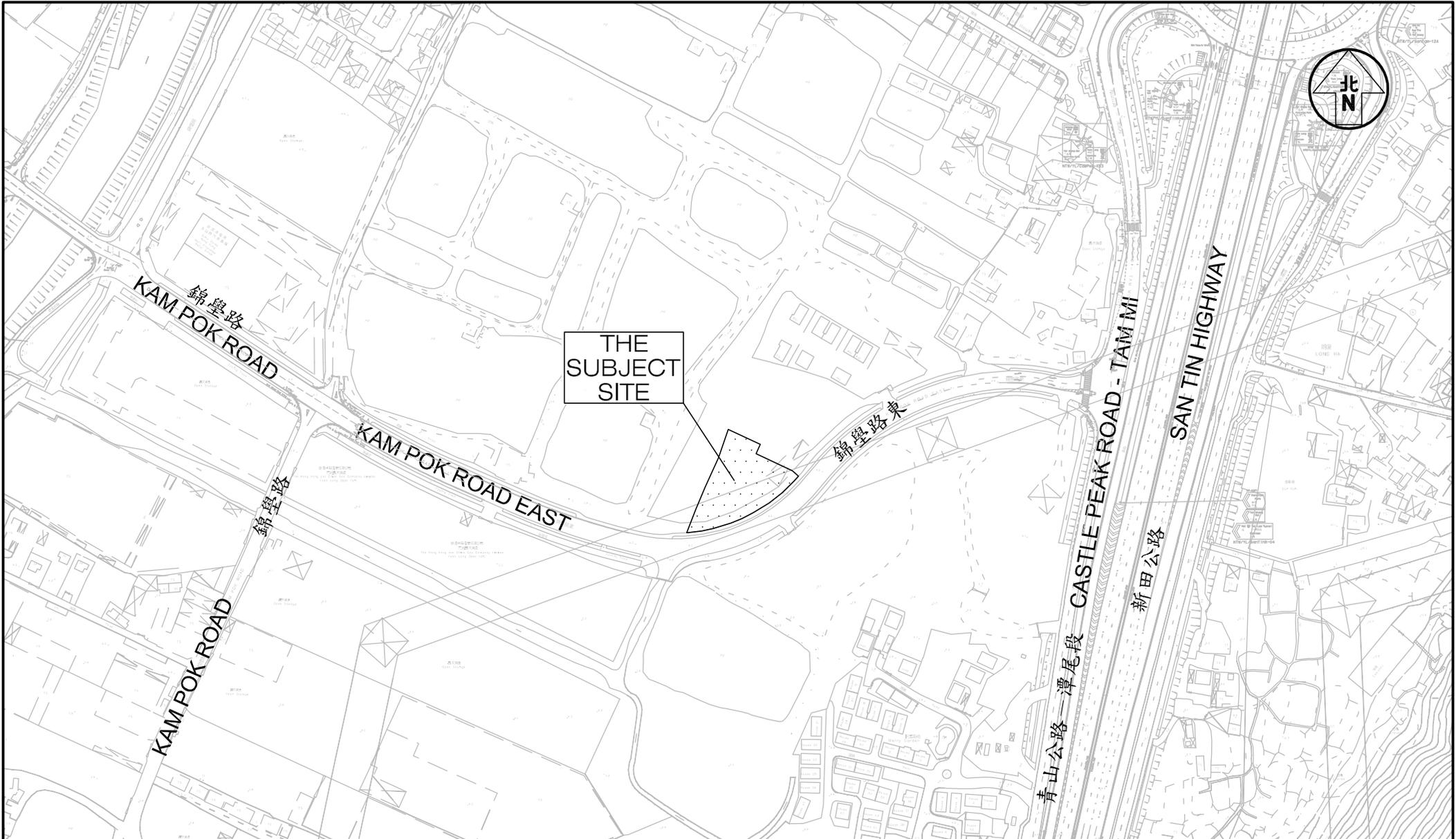
TABLE 4.7 THE UTILISATION OF THE PUBLIC TRANSPORT SERVICES FOR THE CASE WITH THE PROPOSED RCHE

No.	Location	Occupancy of Public Transport Service	
		AM Peak	PM Peak
1	Tai Sang Wai (towards San Tin) Bus Stop	48.5%	51.7%
2	Long Ha (towards Yuen Long) Bus Stop	43.3%	41.5%

4.15 Table 4.7 shows that the public transport service have capacity to accommodate the passenger demand generated by the Proposed RCHE.

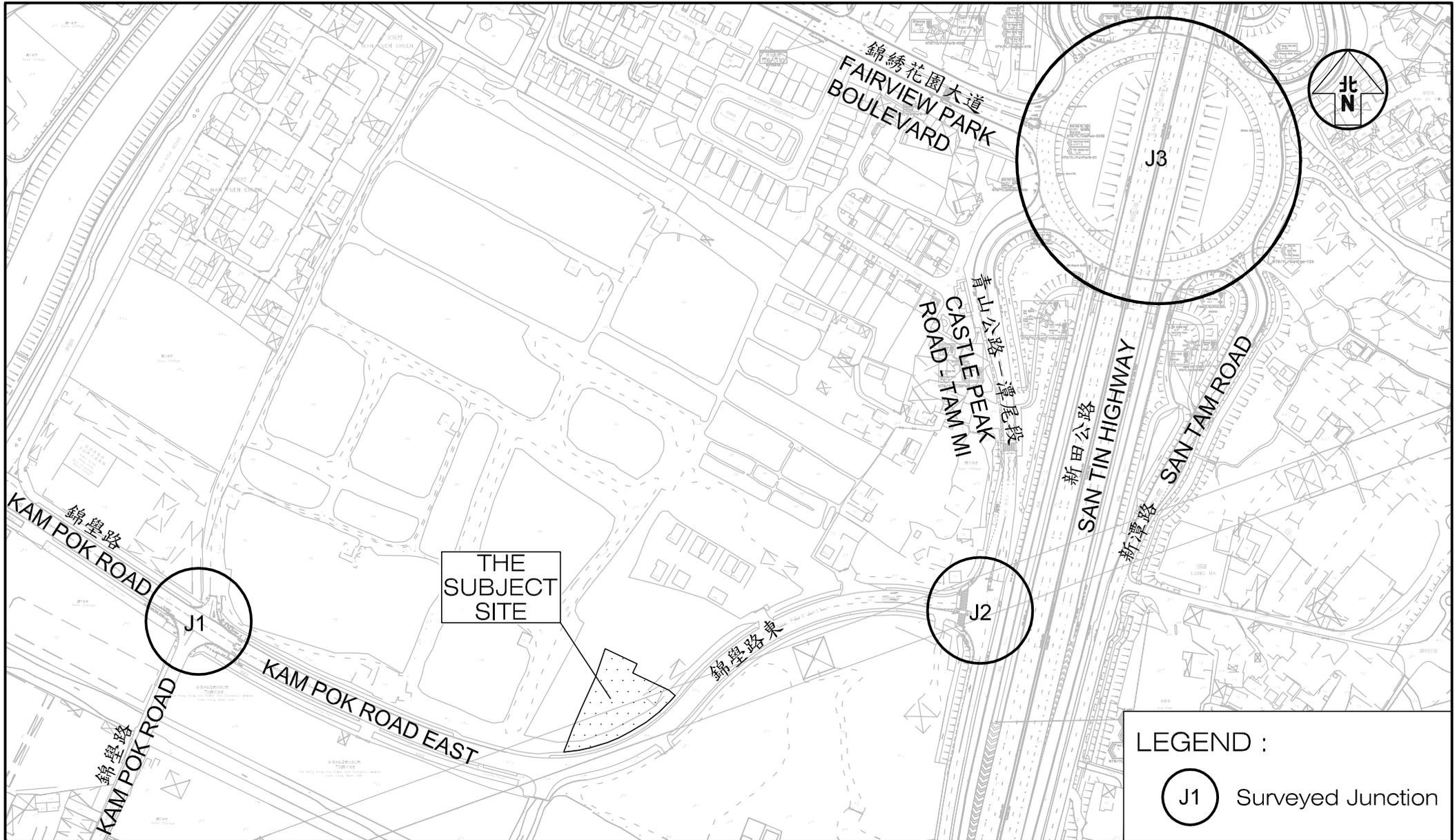
5.0 CONCLUSION

- 5.1 The Subject Site is located at lots 3670 RP (Part), 3671 RP (Part), 3672 RP (Part), 3673 RP (Part) and adjoining Government Land in D.D.104, Nam Sang Wai, Yuen Long. The owner has the intention to develop the Subject Site into a RCHE with no more than 240 beds.
- 5.2 Manual classified counts were conducted at junctions located in the vicinity of the Proposed RCHE in order to establish the peak hour traffic flows. Currently, these junctions operate with capacities during the AM and PM peak hours.
- 5.3 The internal transport facilities for the Proposed RCHE are provided based on the operational needs with the reference to 3 surveyed RCHEs.
- 5.4 The Proposed RCHE is expected to be completed by 2030, and the junction capacity analysis is undertaken for year 2033. For the design year 2033, the junctions analysed are expected to operate with capacities during the peak hours for the case without and with the Proposed RCHE.
- 5.5 The public transport services at 2 surveyed bus stops have capacity to accommodate the passenger demand generated by the Proposed RCHE.
- 5.6 It is concluded that the Proposed RCHE will result in no adverse traffic impact to the surrounding road network. From traffic engineering grounds, the Proposed RCHE is acceptable.



Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG	Figure No. 1.1	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk	
Figure Title LOCATION OF SUBJECT SITE	Designed by L C H	Drawn by N C M		Checked by K C
	Scale in A4 1 : 3000	Date 26 MAY 2025		

T:\JOB\J7400-J7449\J7401\2025 05\Fig 1.1 RevA.dwg

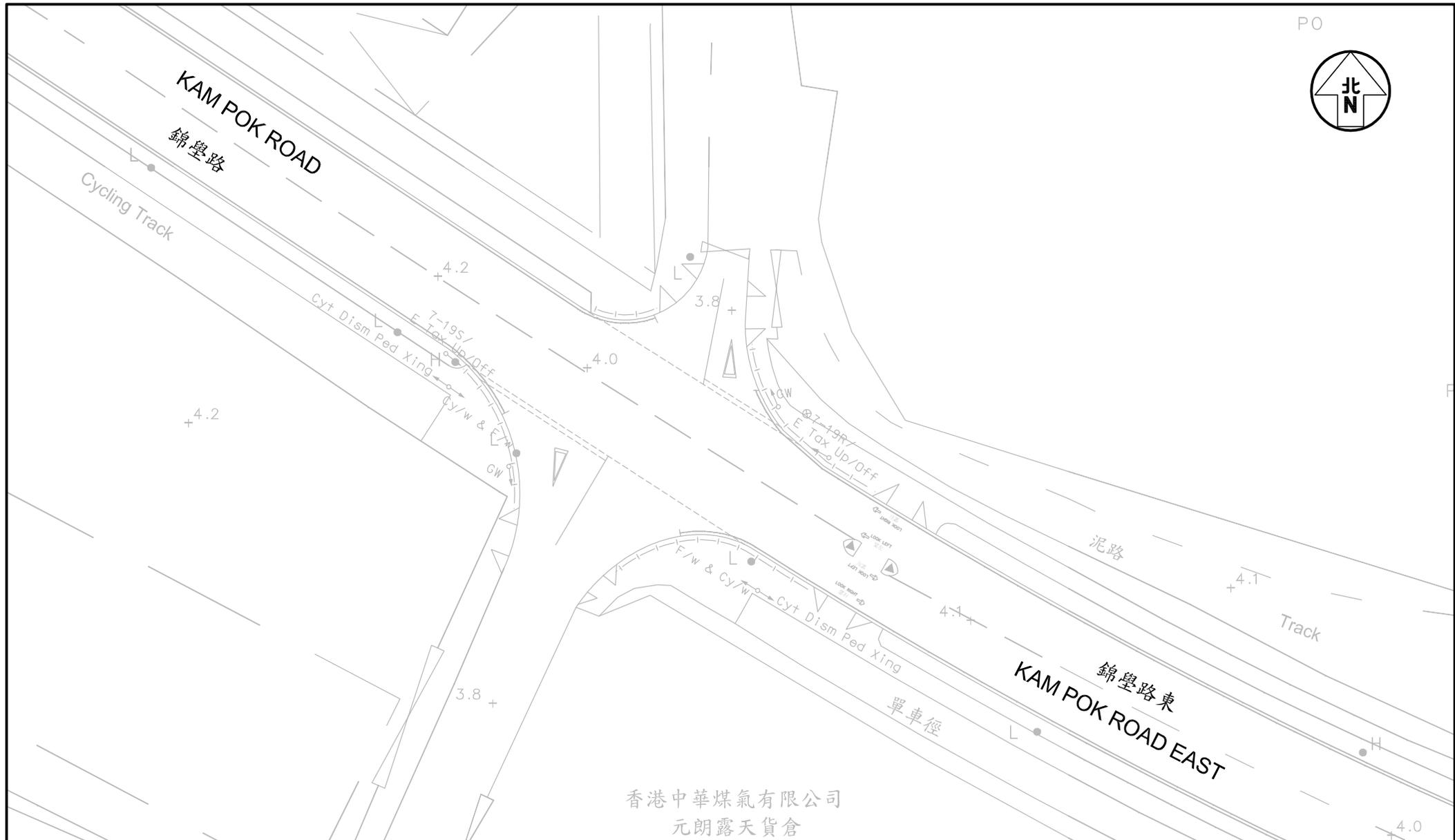


LEGEND :

(J1) Surveyed Junction

Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG	Figure No. 2.1 J7401	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants
Figure Title LOCATION OF SURVEYED JUNCTIONS	Designed by L C H	Drawn by N C M	Checked by K C
	Scale in A4 1 : 3000	Date 26 MAY 2025	

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Project Title **PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG**

Figure No. **2.2**

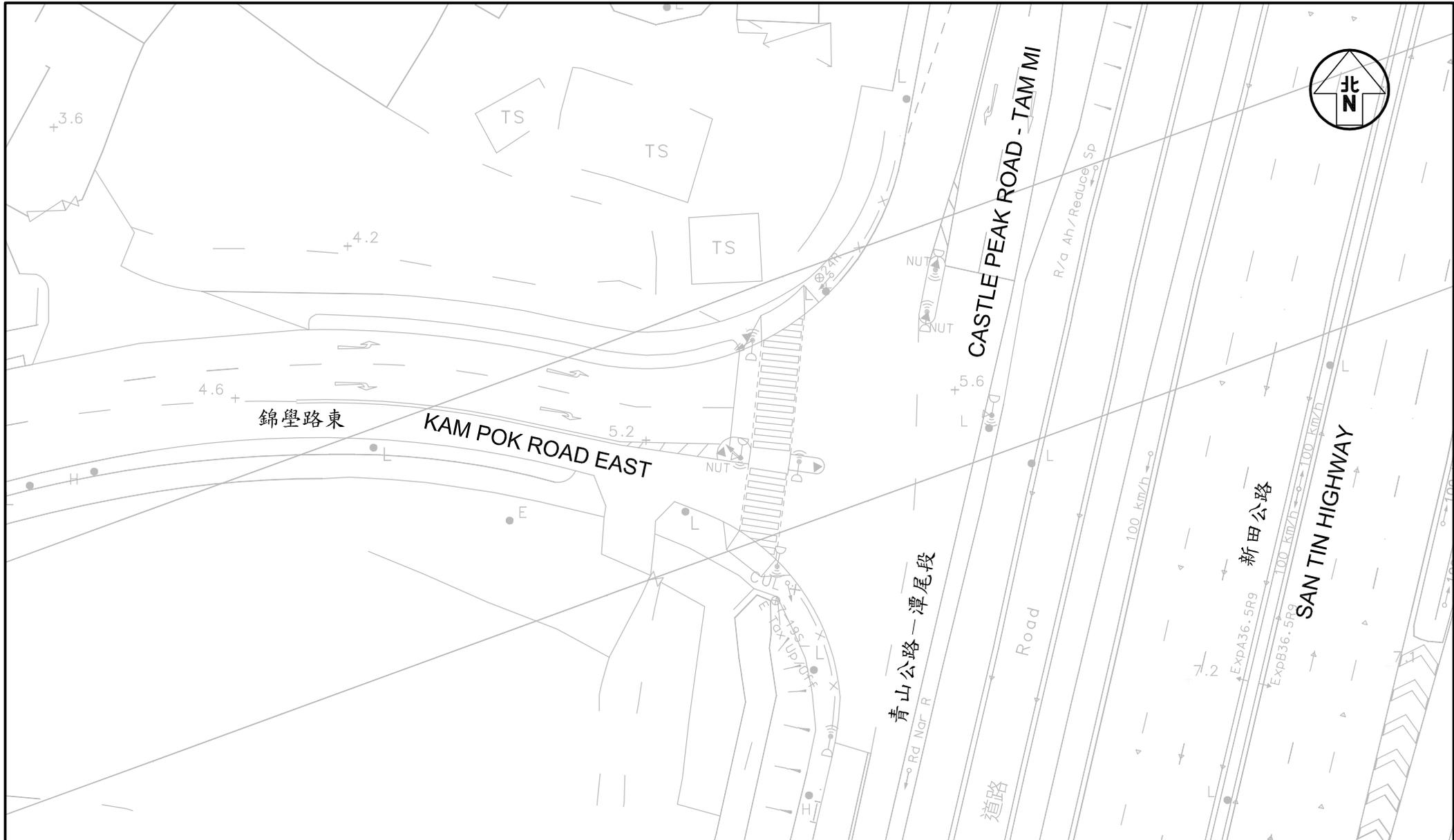
Revision **A**

Figure Title **EXISTING JUNCTION LAYOUT OF KAM POK ROAD / KAM POK ROAD EAST**

Designed by **L C H**
 Drawn by **N C M**
 Checked by **K C**
 Scale in A4 **1 : 500**
 Date **26 MAY 2025**

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 Traffic and Transportation Planning Consultants
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 Wan Chai, Hong Kong
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 Email : mail@ckmasia.com.hk

T:\JOB\J7400-J7449\J7401\2025 05\Fig 2.2 - 2.4 RevA.dwg



Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG J7401

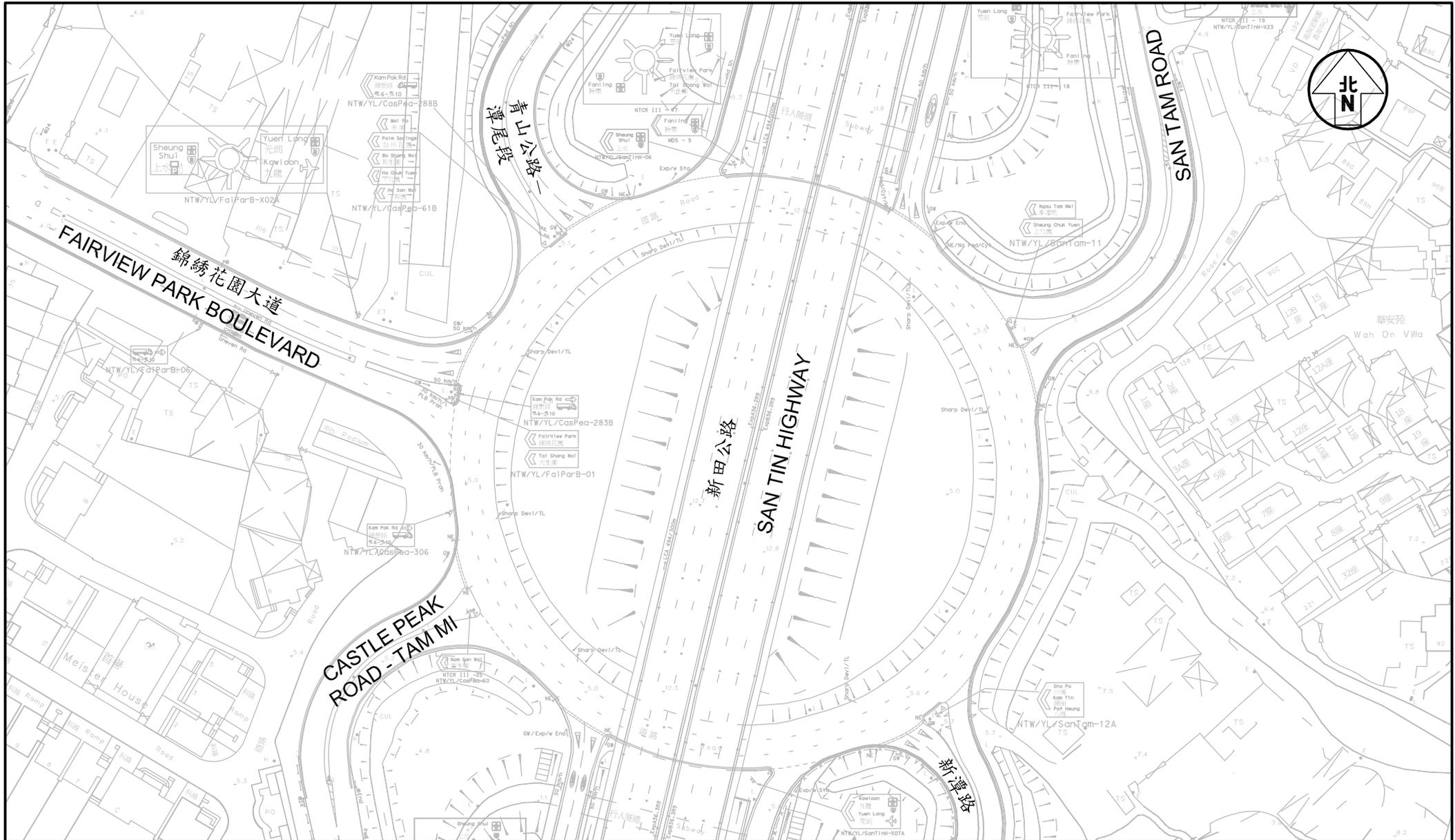
Figure No. 2.3 Revision A

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Figure Title EXISTING JUNCTION LAYOUT OF CASTLE PEAK ROAD - TAM MI / KAM POK ROAD

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Scale in A4 1 : 500	Date 26 MAY 2025	

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Email : mail@ckmasia.com.hk



Project Title **PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG**

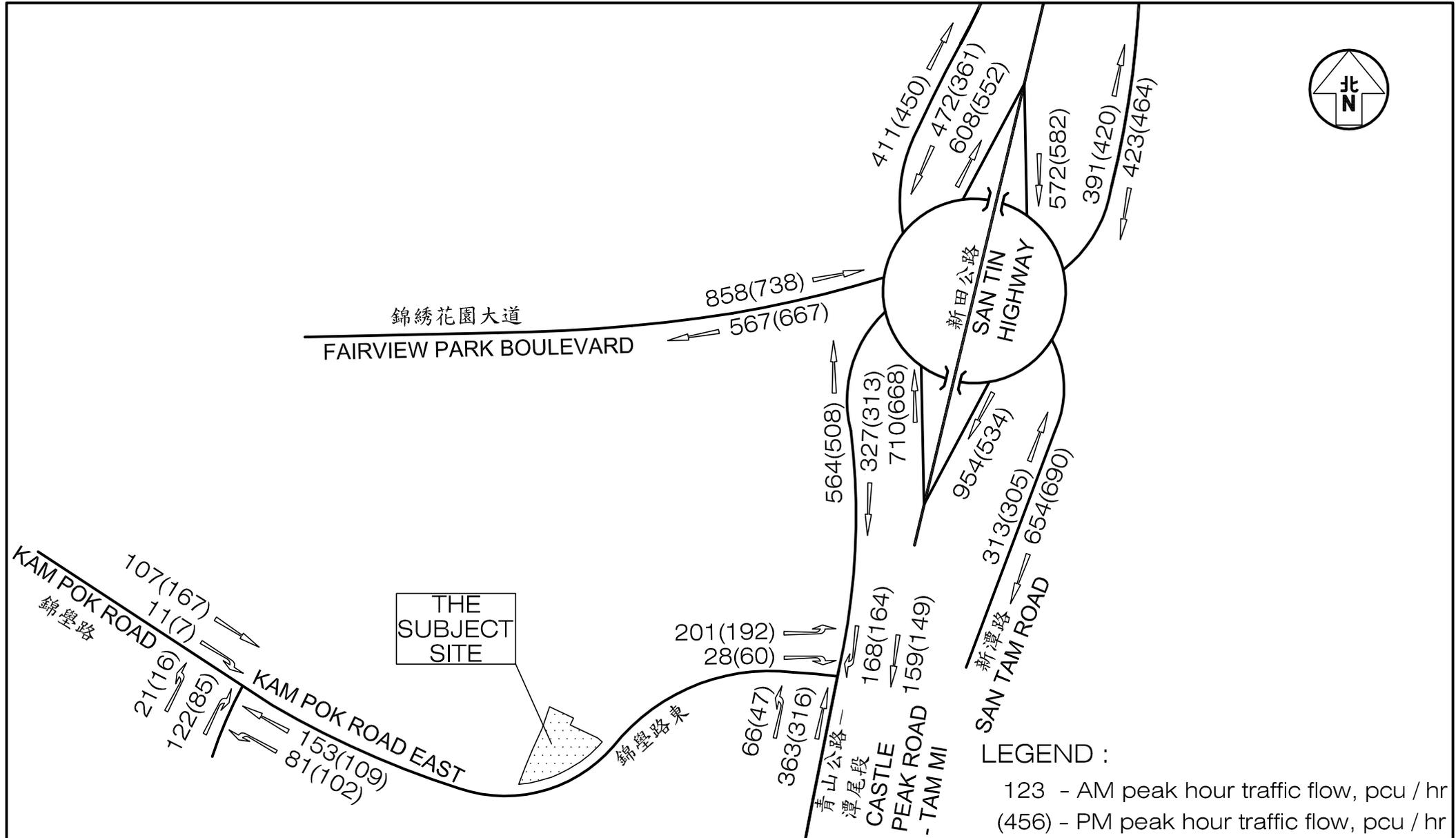
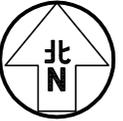
Figure No. **2.4**
 Revision **A**
 J7401

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 Traffic and Transportation Planning Consultants

Figure Title **EXISTING JUNCTION LAYOUT OF THE FAIRVIEW PARK ROUNDABOUT**

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 Drawn by **N C M**
 Checked by **K C**
 Scale in A4 **1 : 1250**
 Date **26 MAY 2025**

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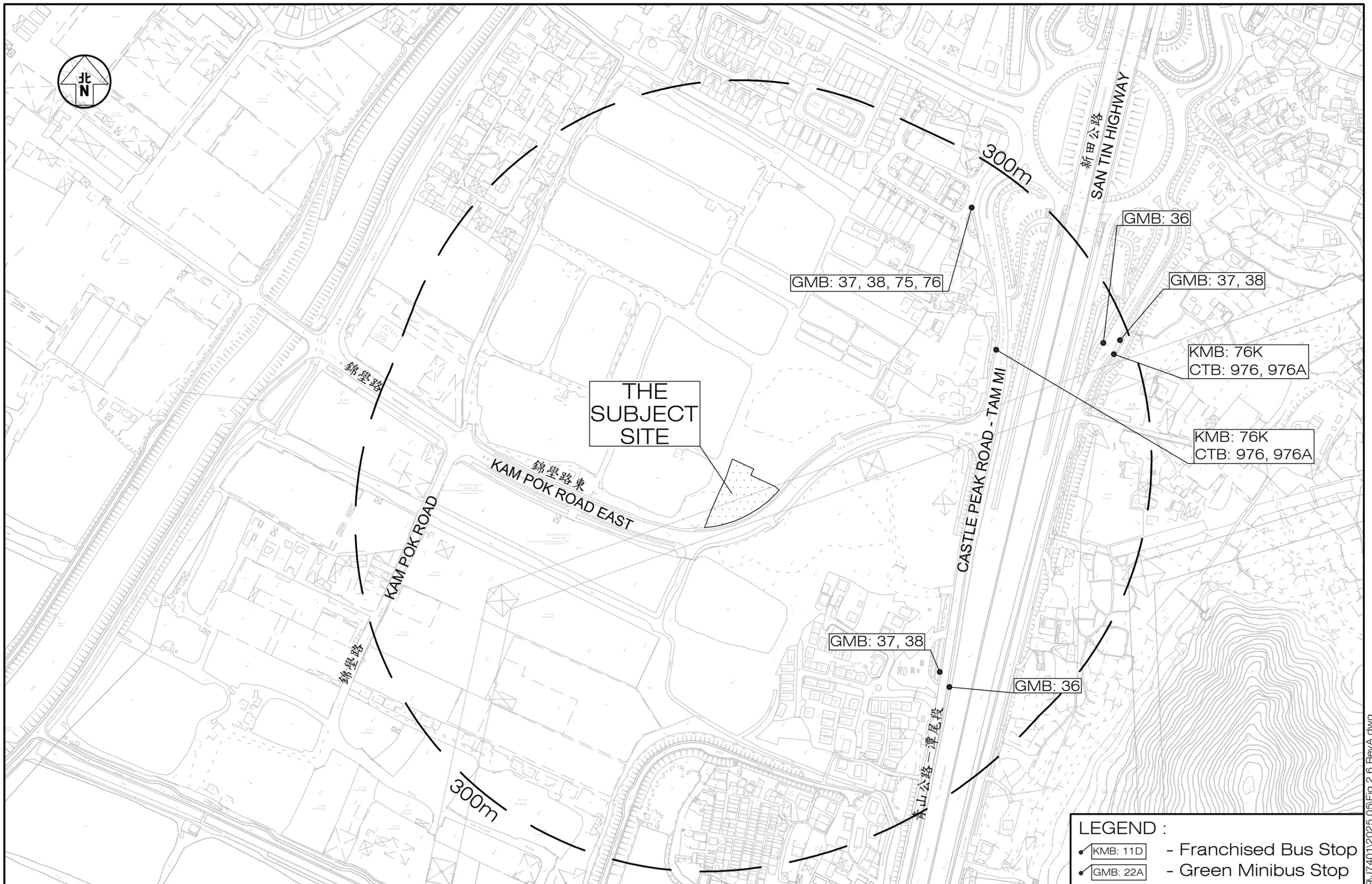


LEGEND :

123 - AM peak hour traffic flow, pcu / hr
 (456) - PM peak hour traffic flow, pcu / hr

Project Title	PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG			Figure No. 2.5	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
	J7401					
	Designed by L C H					
Figure Title EXISTING PEAK HOUR TRAFFIC FLOWS			Scale in A4 N.T.S.		Date 26 MAY 2025	

T:\JOB\J7400-J7449\J7401\2025 05\Fig 2.5 RevA.dwg



Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG J7401

Figure No. 2.6 Revision A

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Figure Title THE PUBLIC TRANSPORT SERVICES PROVIDED IN THE VICINITY OF THE SUBJECT SITE

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Scale in A3 1 : 3,000	Date 26 MAY 2025	

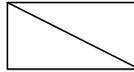
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Wan Chai, Hong Kong
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KAM POK ROAD EAST
錦屏路東

LEGEND :

-  Light Bus / Ambulance Parking Space @9m(L) x 3m(W) x 3.3m(H)
-  LGV loading / unloading bay @7m(L) X 3.5m(W) X 3.6m(H)

Project Title **PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG**

Figure No. **3.1**
Revision **A**

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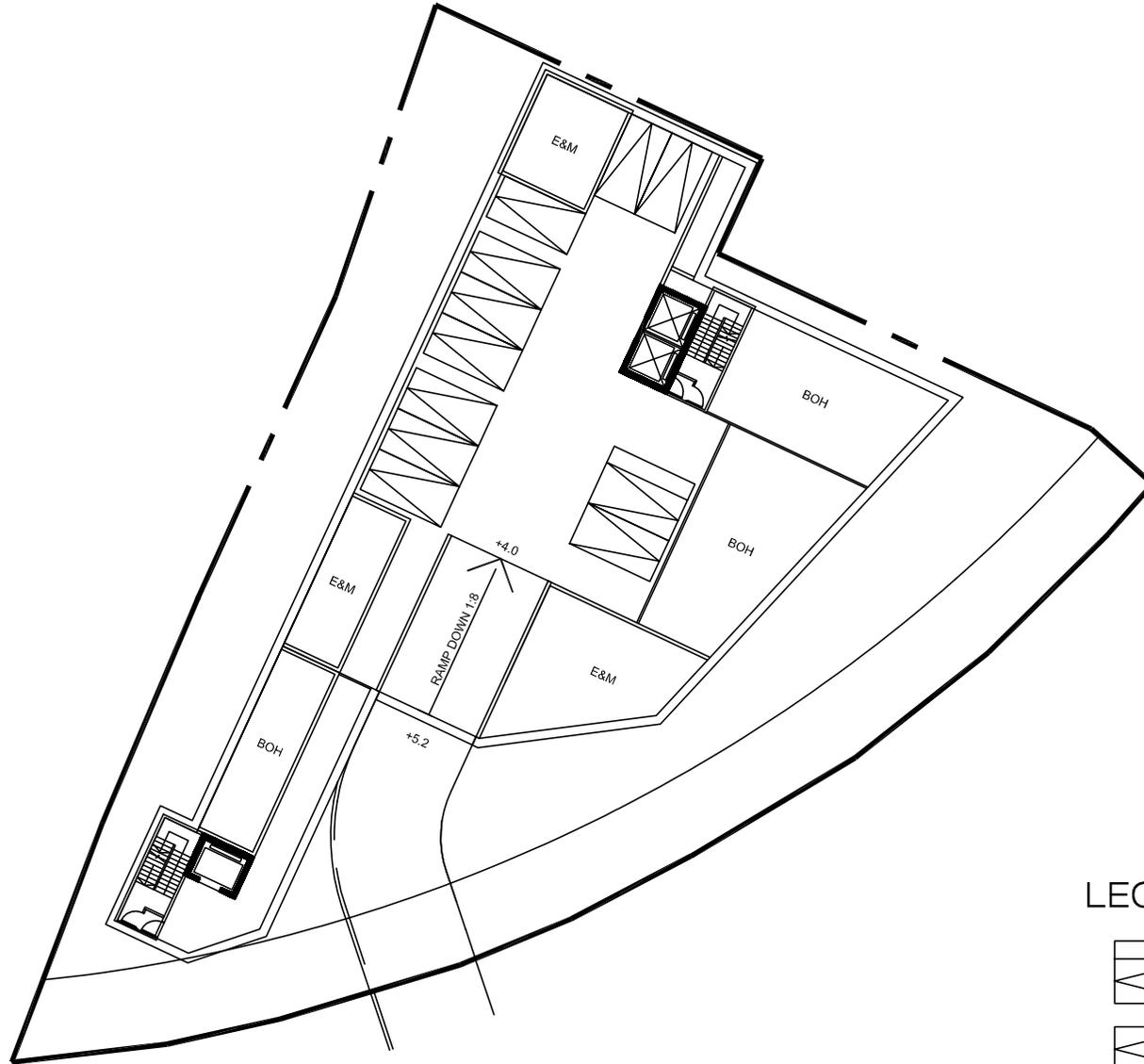
Figure Title **G/F LAYOUT PLAN**

Designed by **L C H**
Drawn by **N C M**
Checked by **K C**

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Email : mail@ckmasia.com.hk

Scale in A4 **1 : 400**
Date **26 MAY 2025**

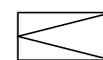
T:\JOB\J7400-J7449\J7401\2025 05\Fig 3.1 - 3.2 RevA.dwg



LEGEND :



Accessible car parking space
@5m(L) X 3.5m(W) X 2.4m(H)



Private car parking space
@5m(L) X 2.5m(W) X 2.4m(H)

Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG

J7401

Figure No.

3.2

Revision

A

Figure Title

B/F LAYOUT PLAN

Designed by
L C H

Drawn by
N C M

Checked by
K C

Scale in A4

1 : 400

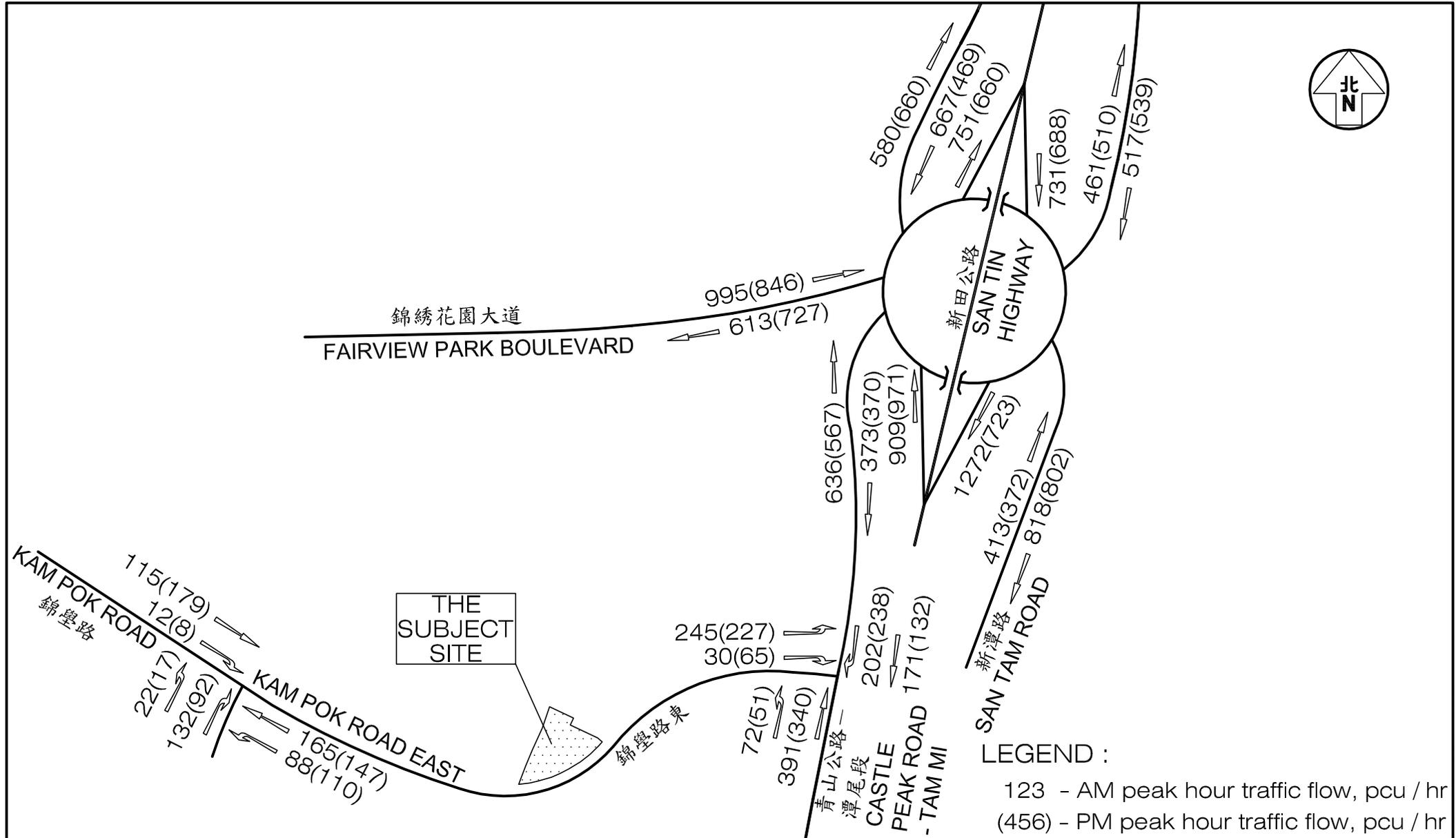
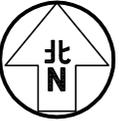
Date

26 MAY 2025

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Traffic and Transportation Planning Consultants

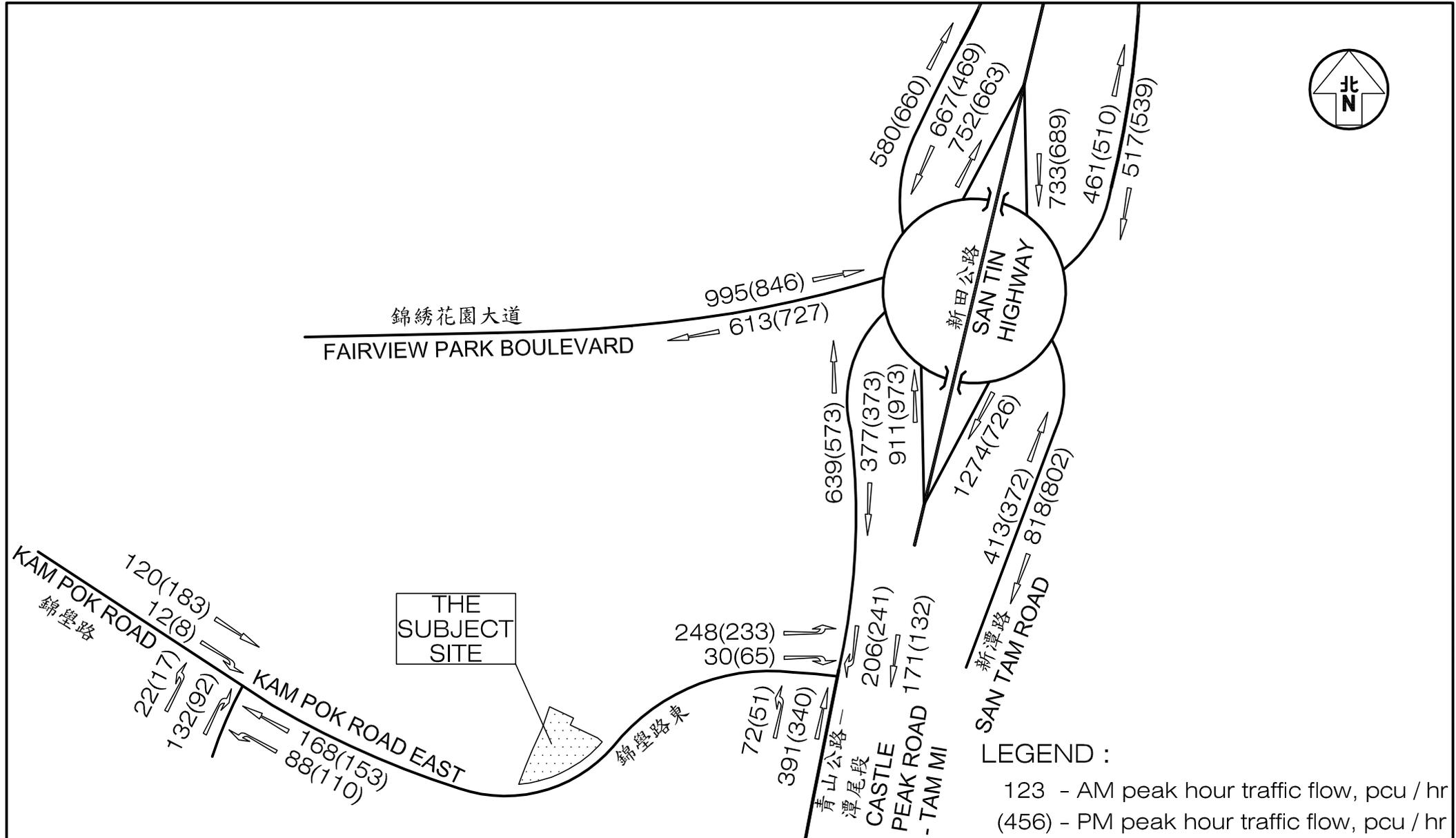
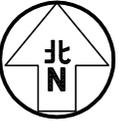
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LEGEND :

123 - AM peak hour traffic flow, pcu / hr
 (456) - PM peak hour traffic flow, pcu / hr

Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG	Figure No. 4.1	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk	
Figure Title YEAR 2033 PEAK HOUR TRAFFIC FLOWS WITHOUT THE PROPOSED RCHE	Designed by L C H	Drawn by N C M		Checked by K C
Scale in A4 N.T.S.	Date 26 MAY 2025			



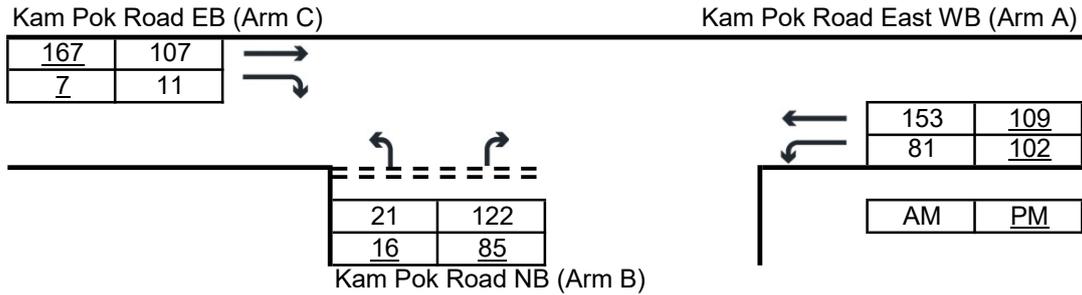
LEGEND :
 123 - AM peak hour traffic flow, pcu / hr
 (456) - PM peak hour traffic flow, pcu / hr

Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG	Figure No. 4.2	Revision A	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk	
	J7401	Designed by L C H		Drawn by N C M
Figure Title YEAR 2033 PEAK HOUR TRAFFIC FLOWS WITH THE PROPOSED RCHE			Scale in A4 N.T.S.	Date 26 MAY 2025

T:\JOB\J7400-J7449\J7401\2025 05\Fig 4.2 RevA.dwg

Priority Junction Analysis

Junction:	Kam Pok Road / Kam Pok Road East		
Design Year:	2025	Job Number:	J7401
Scenario:	Existing Condition	Date:	26 May 2025
		Page	1



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.30	V-rBA	45	w-BA	2.70	D	0.7881
	W-CR	0.00	V-IBA	30	w-BC	2.70	E	0.8492
			V-rBC	45	w-CB	5.00	F	1.0356
			V-rCB	30			Y	0.6447

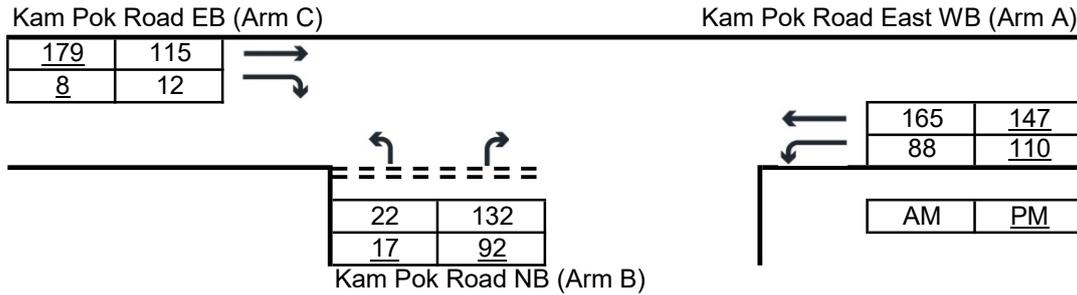
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr	AM	PM
q-CA	107	167	Q-BA	445	445
q-CB	11	7	Q-BC	596	603
q-AB	81	102	Q-CB	715	720
q-AC	153	109	Q-BAC	462	464
q-BA	122	85			
q-BC	21	16			
f	0.147	0.158			

Ratio-of-flow to Capacity	AM	PM
B-A	0.274	0.191
B-C	0.035	0.027
C-B	0.015	0.010
B-AC	0.310	0.217

Priority Junction Analysis

Junction:	Kam Pok Road / Kam Pok Road East		
Design Year:	2033	Job Number:	J7401
		Date:	26 May 2025
Scenario:	Future Condition (Without Proposed RCHE)		Page 2



The predictive equations of capacity of movement are:

$$Q\text{-BA} = D[627 + 14W\text{-CR} - Y(0.364q\text{-AC} + 0.144q\text{-AB} + 0.229q\text{-CA} + 0.52q\text{-CB})]$$

$$Q\text{-BC} = E[745 - Y(0.364q\text{-AC} + 0.144q\text{-AB})]$$

$$Q\text{-CB} = F[745 - 0.364Y(q\text{-AC} + q\text{-AB})]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w\text{-BA} - 3.65)][1 + 0.0009(V\text{-rBA} - 120)][1 + 0.0006(V\text{-IBA} - 150)]$$

$$E = [1 + 0.094(w\text{-BC} - 3.65)][1 + 0.0009(V\text{-rBC} - 120)]$$

$$F = [1 + 0.094(w\text{-CB} - 3.65)][1 + 0.0009(V\text{-rCB} - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.30	V-rBA	45	w-BA	2.70	D	0.7881
	W-CR	0.00	V-IBA	30	w-BC	2.70	E	0.8492
			V-rBC	45	w-CB	5.00	F	1.0356
			V-rCB	30			Y	0.6447

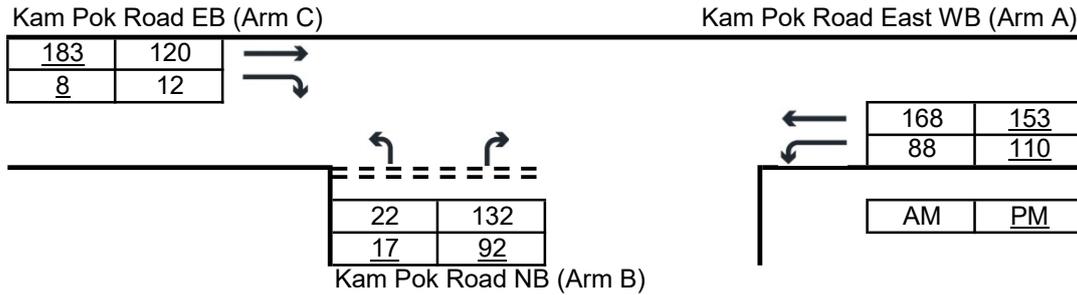
Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr		AM	PM
q-CA	115	179	Q-BA		441	436
q-CB	12	8	Q-BC		593	595
q-AB	88	110	Q-CB		710	709
q-AC	165	147	Q-BAC		457	455
q-BA	132	92				
q-BC	22	17				
f	0.143	0.156				

Ratio-of-flow to Capacity	AM	PM
B-A	0.300	0.211
B-C	0.037	0.029
C-B	0.017	0.011
B-AC	0.337	0.240

Priority Junction Analysis

Junction:	Kam Pok Road / Kam Pok Road East		
Design Year:	2033	Job Number:	J7401
		Date:	26 May 2025
Scenario:	Future Condition (With Proposed RCHE)		Page 3



The predictive equations of capacity of movement are:

$$Q-BA = D[627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB)]$$

$$Q-BC = E[745 - Y(0.364q-AC + 0.144q-AB)]$$

$$Q-CB = F[745 - 0.364Y(q-AC + q-AB)]$$

The geometric parameters represented by D, E, F are:

$$D = [1 + 0.094(w-BA - 3.65)][1 + 0.0009(V-rBA - 120)][1 + 0.0006(V-IBA - 150)]$$

$$E = [1 + 0.094(w-BC - 3.65)][1 + 0.0009(V-rBC - 120)]$$

$$F = [1 + 0.094(w-CB - 3.65)][1 + 0.0009(V-rCB - 120)]$$

where $Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-IBA, etc = visibility to the left for waiting vehicles in stream BA, etc

Geometry :	Input		Input		Input		Calculated	
	W	10.30	V-rBA	45	w-BA	2.70	D	0.7881
	W-CR	0.00	V-IBA	30	w-BC	2.70	E	0.8492
			V-rBC	45	w-CB	5.00	F	1.0356
			V-rCB	30			Y	0.6447

Analysis :

Traffic Flows, pcu/hr	AM	PM	Capacity, pcu/hr		AM	PM
q-CA	120	183	Q-BA		439	434
q-CB	12	8	Q-BC		592	594
q-AB	88	110	Q-CB		709	708
q-AC	168	153	Q-BAC		456	453
q-BA	132	92				
q-BC	22	17				
f	0.143	0.156				

Ratio-of-flow to Capacity	AM	PM
B-A	0.300	0.212
B-C	0.037	0.029
C-B	0.017	0.011
B-AC	0.337	0.240

Signal Junction Analysis

Junction: Castle Peak Road - Tam Mi / Kam Pok Road Job Number: J7401
 Scenario: Existing Condition P. 4
 Design Year: 2025 Designed By: _____ Checked By: _____ Date: 26 May 2025

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Castle Peak Road -	LT+SA	A1	1	3.50	20.0		17	1940	429	0.221	0.221	14	1945	363	0.187	0.187
Tam Mi NB																
Castle Peak Road - Tam Mi SB	SA	B1	2	3.30				2085	159	0.076			2085	149	0.071	
	RT	B2	2	3.40	15.0		100	1905	168	0.088	0.088	100	1905	164	0.086	0.086
Kam Pok Road EB																
	LT	C1	3	3.50	28.0		100	1865	201	0.108	0.108	100	1865	192	0.103	0.103
	RT	C2	3	3.50	13.0		100	1887	28	0.015		100	1887	60	0.032	

pedestrian phase	D(p)	4	min crossing time =	13	sec GM +	12	sec FGM =	25	sec
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<p>AM Traffic Flow (pcu/hr)</p>	<p>PM Traffic Flow (pcu/hr)</p>	<p>$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$ $S_M=S+(1+1.5f/r)$ $S_M=(S-230)/(1+1.5f/r)$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>AM Peak</th> <th>PM Peak</th> </tr> </thead> <tbody> <tr> <td>Group</td> <td>1+2+3</td> <td>1+2+3</td> </tr> <tr> <td>Sum y</td> <td>0.417</td> <td>0.376</td> </tr> <tr> <td>L (s)</td> <td>40</td> <td>40</td> </tr> <tr> <td>C (s)</td> <td>94</td> <td>94</td> </tr> <tr> <td>practical y</td> <td>0.517</td> <td>0.517</td> </tr> <tr> <td>R.C. (%)</td> <td>24%</td> <td>38%</td> </tr> </tbody> </table> <p>Note:</p>		AM Peak	PM Peak	Group	1+2+3	1+2+3	Sum y	0.417	0.376	L (s)	40	40	C (s)	94	94	practical y	0.517	0.517	R.C. (%)	24%	38%
	AM Peak	PM Peak																					
Group	1+2+3	1+2+3																					
Sum y	0.417	0.376																					
L (s)	40	40																					
C (s)	94	94																					
practical y	0.517	0.517																					
R.C. (%)	24%	38%																					

1	2	3	4	5
A1	B2 B1	C1 C2	Dp	
AM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2
PM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2

Signal Junction Analysis

Junction: Castle Peak Road - Tam Mi / Kam Pok Road Job Number: J7401
 Scenario: Future Condition (Without Proposed RCHE) P. 5
 Design Year: 2033 Designed By: _____ Checked By: _____ Date: 26 May 2025

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Castle Peak Road -	LT+SA	A1	1	3.50	20.0		14	1945	463	0.238	0.238	10	1950	391	0.201	0.201
Tam Mi NB																
Castle Peak Road - Tam Mi SB	SA	B1	2	3.30				2085	171	0.082			2085	132	0.063	
	RT	B2	2	3.40	15.0		100	1905	202	0.106	0.106	100	1905	238	0.125	0.125
Kam Pok Road EB																
	LT	C1	3	3.50	28.0		100	1865	245	0.131	0.131	100	1865	227	0.122	0.122
	RT	C2	3	3.50	13.0		100	1887	30	0.016		100	1887	65	0.034	

pedestrian phase	D(p)	4	min crossing time =	13	sec GM +	12	sec FGM =	25	sec
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<p>AM Traffic Flow (pcu/hr)</p>	<p>PM Traffic Flow (pcu/hr)</p>	<p>$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$ $S_M=S+(1+1.5f/r)$ $S_M=(S-230)/(1+1.5f/r)$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>AM Peak</th> <th>PM Peak</th> </tr> </thead> <tbody> <tr> <td>Group</td> <td>1+2+3</td> <td>1+2+3</td> </tr> <tr> <td>Sum y</td> <td>0.475</td> <td>0.447</td> </tr> <tr> <td>L (s)</td> <td>40</td> <td>40</td> </tr> <tr> <td>C (s)</td> <td>120</td> <td>120</td> </tr> <tr> <td>practical y</td> <td>0.600</td> <td>0.600</td> </tr> <tr> <td>R.C. (%)</td> <td>26%</td> <td>34%</td> </tr> </tbody> </table> <p>Note:</p>		AM Peak	PM Peak	Group	1+2+3	1+2+3	Sum y	0.475	0.447	L (s)	40	40	C (s)	120	120	practical y	0.600	0.600	R.C. (%)	26%	34%
	AM Peak	PM Peak																					
Group	1+2+3	1+2+3																					
Sum y	0.475	0.447																					
L (s)	40	40																					
C (s)	120	120																					
practical y	0.600	0.600																					
R.C. (%)	26%	34%																					

1	2	3	4	5
A1	B2 B1	C1 C2	Dp	
AM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2
PM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2

Signal Junction Analysis

Junction: Castle Peak Road - Tam Mi / Kam Pok Road Job Number: J7401
 Scenario: Future Condition (With Proposed RCHE) P. 6
 Design Year: 2033 Designed By: _____ Checked By: _____ Date: 26 May 2025

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Castle Peak Road -	LT+SA	A1	1	3.50	20.0		14	1945	463	0.238	0.238	10	1950	391	0.201	0.201
Tam Mi NB																
Castle Peak Road - Tam Mi SB	SA	B1	2	3.30				2085	171	0.082			2085	132	0.063	
	RT	B2	2	3.40	15.0		100	1905	206	0.108	0.108	100	1905	241	0.127	0.127
Kam Pok Road EB																
	LT	C1	3	3.50	28.0		100	1865	248	0.133	0.133	100	1865	233	0.125	0.125
	RT	C2	3	3.50	13.0		100	1887	30	0.016		100	1887	65	0.034	

pedestrian phase	D(p)	4	min crossing time =	13	sec GM +	12	sec FGM =	25	sec
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<p>AM Traffic Flow (pcu/hr)</p>	<p>PM Traffic Flow (pcu/hr)</p>	<p>$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$</p> <p>$S_M=S+(1+1.5f/r)$ $S_M=(S-230)/(1+1.5f/r)$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>AM Peak</th> <th>PM Peak</th> </tr> </thead> <tbody> <tr> <td>Group</td> <td>1+2+3</td> <td>1+2+3</td> </tr> <tr> <td>Sum y</td> <td>0.479</td> <td>0.452</td> </tr> <tr> <td>L (s)</td> <td>40</td> <td>40</td> </tr> <tr> <td>C (s)</td> <td>120</td> <td>120</td> </tr> <tr> <td>practical y</td> <td>0.600</td> <td>0.600</td> </tr> <tr> <td>R.C. (%)</td> <td>25%</td> <td>33%</td> </tr> </tbody> </table> <p>Note:</p>		AM Peak	PM Peak	Group	1+2+3	1+2+3	Sum y	0.479	0.452	L (s)	40	40	C (s)	120	120	practical y	0.600	0.600	R.C. (%)	25%	33%
	AM Peak	PM Peak																					
Group	1+2+3	1+2+3																					
Sum y	0.479	0.452																					
L (s)	40	40																					
C (s)	120	120																					
practical y	0.600	0.600																					
R.C. (%)	25%	33%																					

1	2	3	4	5
A1	B2 B1	C1 C2	Dp1	
AM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2
PM	G = I/G = 6	G = I/G = 5	G = I/G = 5	G = 25 I/G = 2

Roundabout Analysis

Junction: The Fairview Park Roundabout Job Number: J7401
 Scenario: Existing Condition P. 7
 Design Year: 2025 Designed By: _____ Checked By: _____ Date: 26 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	34	53	373	138	72	120	68	858	1234
From B	30	11	137	32	52	205	97	564	1765
From C	205	41	42	128	127	68	99	710	1375
From D	29	17	72	14	51	117	13	313	1431
From E	62	34	131	108	10	46	32	423	1353
From F	155	86	110	84	25	29	83	572	1168
From G	52	85	89	150	54	23	19	472	1329
Total	567	327	954	654	391	608	411	3912	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	28	53	151	97	95	251	63	738	1147
From B	67	16	76	44	77	110	118	508	1572
From C	223	75	22	140	76	35	97	668	1546
From D	66	17	48	24	63	70	17	305	1524
From E	99	21	127	133	14	37	33	464	1409
From F	124	73	54	146	51	25	109	582	1321
From G	60	58	56	106	44	24	13	361	1453
Total	667	313	534	690	420	552	450	3626	

Legend

Arm	Road (in clockwise order)
A	Fairview Park Boulevard EB
B	Castle Peak Road NB
C	San Tin Road NB
D	San Tam Road NB
E	San Tam Road SB
F	San Tin Road SB
G	Castle Peak Road SB
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	11.0	7.0	22.0	14.0	142	35	0.5
From B	9.0	5.5	20.0	10.0	142	35	0.6
From C	8.5	6.4	23.0	7.5	142	30	0.4
From D	8.5	6.5	20.0	10.0	142	25	0.3
From E	8.0	6.0	20.0	9.5	142	35	0.3
From F	8.5	6.0	25.0	6.5	142	40	0.6
From G	6.0	5.0	22.0	7.0	142	30	0.2
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	$= 1 - 0.00347(\emptyset - 30) - 0.978[(1/r) - 0.05]$
F	$= 303x_2$
f_c	$= 0.210t_D(1 + 0.2x_2)$
t_D	$= 1 + 0.5/(1 + M)$
M	$= \exp[(D - 60)/10]$
x_2	$= v + (e - v)/(1 + 2S)$
S	$= 1.6(e - v)/L$

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	9.09	3640.95	1.00	0.99	2754.13	0.59	1997.68	2049	858	738	0.43	0.36
From B	7.15	3640.95	1.00	0.98	2166.74	0.51	1243.90	1341	564	508	0.45	0.38
From C	7.51	3640.95	1.00	1.01	2274.80	0.53	1562.29	1472	710	668	0.45	0.45
From D	7.72	3640.95	1.00	1.02	2339.01	0.53	1601.76	1551	313	305	0.20	0.20
From E	7.19	3640.95	1.00	0.98	2180.08	0.51	1461.19	1433	423	464	0.29	0.32
From F	7.12	3640.95	1.00	0.98	2157.57	0.51	1523.95	1448	572	582	0.38	0.40
From G	5.69	3640.95	1.00	1.00	1722.94	0.45	1131.38	1075	472	361	0.42	0.34
From H												

Roundabout Analysis

Junction: The Fairview Park Roundabout Job Number: J7401
 Scenario: Future Condition (Without Proposed RCHE) P. 8
 Design Year: 2033 Designed By: _____ Checked By: _____ Date: 26 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	36	58	444	156	79	148	74	995	1652
From B	32	12	165	37	57	229	104	636	2274
From C	222	55	55	139	167	75	196	909	1638
From D	31	20	78	15	61	180	28	413	1729
From E	67	36	194	126	11	49	34	517	1681
From F	168	100	120	161	27	32	123	731	1447
From G	57	92	216	184	59	38	21	667	1598
Total	613	373	1272	818	461	751	580	4868	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	30	58	191	110	103	286	68	846	1436
From B	73	17	94	49	83	125	126	567	1912
From C	245	106	36	155	134	42	253	971	1756
From D	72	20	52	26	71	103	28	372	1925
From E	107	22	170	150	15	40	35	539	1787
From F	134	85	60	188	56	30	135	688	1666
From G	66	62	120	124	48	34	15	469	1694
Total	727	370	723	802	510	660	660	4452	

Legend

Arm	Road (in clockwise order)
A	Fairview Park Boulevard EB
B	Castle Peak Road NB
C	San Tin Road NB
D	San Tam Road NB
E	San Tam Road SB
F	San Tin Road SB
G	Castle Peak Road SB
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	11.0	7.0	22.0	14.0	142	35	0.5
From B	9.0	5.5	20.0	10.0	142	35	0.6
From C	8.5	6.4	23.0	7.5	142	30	0.4
From D	8.5	6.5	20.0	10.0	142	25	0.3
From E	8.0	6.0	20.0	9.5	142	35	0.3
From F	8.5	6.0	25.0	6.5	142	40	0.6
From G	6.0	5.0	22.0	7.0	142	30	0.2
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	$= 1 - 0.00347(\emptyset - 30) - 0.978[(1/r) - 0.05]$
F	$= 303x_2$
f_c	$= 0.210t_D(1 + 0.2x_2)$
t_D	$= 1 + 0.5/(1 + M)$
M	$= \exp[(D - 60)/10]$
x_2	$= v + (e - v)/(1 + 2S)$
S	$= 1.6(e - v)/L$

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x_2	M	t_D	K	F	f_c	Q_E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	9.09	3640.95	1.00	0.99	2754.13	0.59	1753	1880	995	846	0.57	0.45
From B	7.15	3640.95	1.00	0.98	2166.74	0.51	989	1170	636	567	0.64	0.48
From C	7.51	3640.95	1.00	1.01	2274.80	0.53	1423	1361	909	971	0.64	0.71
From D	7.72	3640.95	1.00	1.02	2339.01	0.53	1440	1333	413	372	0.29	0.28
From E	7.19	3640.95	1.00	0.98	2180.08	0.51	1296	1243	517	539	0.40	0.43
From F	7.12	3640.95	1.00	0.98	2157.57	0.51	1385	1277	731	688	0.53	0.54
From G	5.69	3640.95	1.00	1.00	1722.94	0.45	1010	967	667	469	0.66	0.49
From H												

Roundabout Analysis

Junction: The Fairview Park Roundabout Job Number: J7401
 Scenario: Future Condition (With Proposed RCHE) P. 9
 Design Year: 2033 Designed By: _____ Checked By: _____ Date: 26 May 2025

AM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	36	58	444	156	79	148	74	995	1656
From B	32	12	167	37	57	230	104	639	2274
From C	222	57	55	139	167	75	196	911	1639
From D	31	20	78	15	61	180	28	413	1732
From E	67	36	194	126	11	49	34	517	1684
From F	168	102	120	161	27	32	123	733	1449
From G	57	92	216	184	59	38	21	667	1602
Total	613	377	1274	818	461	752	580	4875	

PM Peak

Arm	To A	To B	To C	To D	To E	to F	to G	Total	q _c
From A	30	58	191	110	103	286	68	846	1439
From B	73	17	97	49	83	128	126	573	1912
From C	245	108	36	155	134	42	253	973	1759
From D	72	20	52	26	71	103	28	372	1930
From E	107	22	170	150	15	40	35	539	1792
From F	134	86	60	188	56	30	135	689	1668
From G	66	62	120	124	48	34	15	469	1697
Total	727	373	726	802	510	663	660	4461	

Legend

Arm	Road (in clockwise order)
A	Fairview Park Boulevard EB
B	Castle Peak Road NB
C	San Tin Road NB
D	San Tam Road NB
E	San Tam Road SB
F	San Tin Road SB
G	Castle Peak Road SB
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	11.0	7.0	22.0	14.0	142	35	0.5
From B	9.0	5.5	20.0	10.0	142	35	0.6
From C	8.5	6.4	23.0	7.5	142	30	0.4
From D	8.5	6.5	20.0	10.0	142	25	0.3
From E	8.0	6.0	20.0	9.5	142	35	0.3
From F	8.5	6.0	25.0	6.5	142	40	0.6
From G	6.0	5.0	22.0	7.0	142	30	0.2
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q_E	Entry Capacity
q_c	Circulating Flow across the Entry
K	$= 1 - 0.00347(\emptyset - 30) - 0.978[(1/r) - 0.05]$
F	$= 303x_2$
f_c	$= 0.210t_D(1 + 0.2x_2)$
t_D	$= 1 + 0.5/(1 + M)$
M	$= \exp[(D - 60)/10]$
x_2	$= v + (e - v)/(1 + 2S)$
S	$= 1.6(e - v)/L$

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x_2	M	t_D	K	F	f_c	Q_E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	9.09	3640.95	1.00	0.99	2754.13	0.59	1751	1878	995	846	0.57	0.45
From B	7.15	3640.95	1.00	0.98	2166.74	0.51	989	1170	639	573	0.65	0.49
From C	7.51	3640.95	1.00	1.01	2274.80	0.53	1423	1359	911	973	0.64	0.72
From D	7.72	3640.95	1.00	1.02	2339.01	0.53	1438	1331	413	372	0.29	0.28
From E	7.19	3640.95	1.00	0.98	2180.08	0.51	1295	1240	517	539	0.40	0.43
From F	7.12	3640.95	1.00	0.98	2157.57	0.51	1384	1276	733	689	0.53	0.54
From G	5.69	3640.95	1.00	1.00	1722.94	0.45	1008	965	667	469	0.66	0.49
From H												

Appendix 2 –
Swept Path Analysis



ENTERING

LEAVING

<p>Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG</p>	<p>Figure No. SP1</p>	<p>Revision A</p>	<p>T:\JOB\J7400-J7449\J7401\2025 05\Fig SP1 - SP6 RevA.dwg</p>
<p>Figure Title SWEPT PATH OF MINI COACH ENTERING AND LEAVING THE LIGHT BUS / AMBULANCE PARKING SPACE ON G/F</p>	<p>Designed by L C H</p> <p>Drawn by N C M</p> <p>Checked by K C</p> <p>Scale in A4 1 : 250</p>	<p>CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk</p>	



Project Title PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG

J7401

Figure No. SP2 Revision A

Figure Title SWEPT PATH OF AMBULANCE ENTERING AND LEAVING THE LIGHT BUS / AMBULANCE PARKING SPACE ON G/F

Designed by L C H Drawn by N C M Checked by K C

Scale in A4 1 : 250 Date 26 MAY 2025

CKM Asia Limited

Traffic and Transportation Planning Consultants
 21st Floor, Methodist House, 36 Hennessy Road,
 Wan Chai, Hong Kong
 Tel : (852) 2520 5990 Fax : (852) 2528 6343
 Email : mail@ckmasia.com.hk



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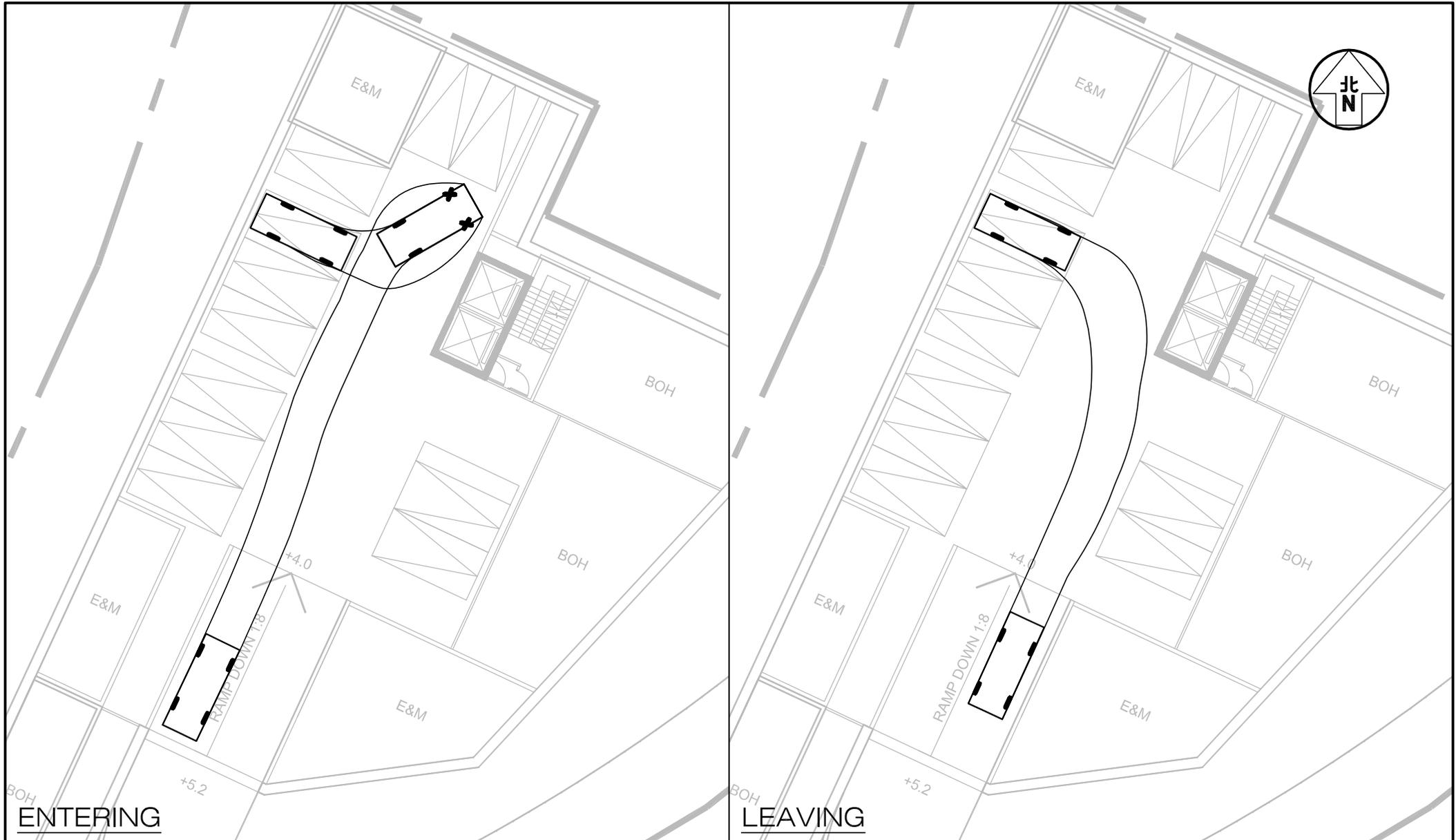
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Figure Title SWEPT PATH OF LGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY ON G/F	Designed by L C H Drawn by N C M Checked by K C Scale in A4 1 : 250 Date 26 MAY 2025	

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Figure Title SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE ON B/F	Designed by L C H	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
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Appendix 4

Environmental Assessment (EA)

PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN “VILLAGE TYPE DEVELOPMENT” ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG WAI, YUEN LONG

ENVIRONMENTAL ASSESSMENT

20 May 2025

Report No.: RT25285-EA-01

Prepared By:



BeeXergy Consulting Limited (BXG)

Phone: (852) 3568-4701

Address: Units 2501, 2503 & 2504, 25/F, AIA Financial Centre
712 Prince Edward Road East
Kowloon, Hong Kong

Email: info@beexergy.com



Project:	PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG WAI, YUEN LONG ENVIRONMENTAL ASSESSMENT				
Report No.:	RT25285-EA-01				
Revision	Issue Date	Description	Author	Checker	Approver
0	20/05/2025	Issued for Comment	LY	YS	HM

Prepared By:



Leo Yu

Consultant

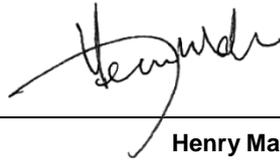
Checked by



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer:

-
- This report is prepared and submitted by BeeXergy Consulting 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.
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1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. The Project Proponent proposes to develop a 3-storey Residential Care Home for the Elderly (RCHE in various lots in D.D. 104, Nam Sang Wai (hereafter called “the Proposed Development”).
- 1.1.2. BeeXergy Consulting Limited was commissioned by DeSPACE (International) Limited (the Project Planner) to undertake an Environmental Assessment (EA) in support of its planning application under Section 16 of the Town Planning Ordinance (TPO) for the Proposed Development.

1.2. PROJECT LOCATION

- 1.2.1. The Project Site is approximately 1844m², currently bounded by abandoned fishponds to the north and west, Kam Pok Road East to the south. The Project Site is currently zoned as “Village Type Development” (“V”) under the Approved Nam Sang Wai Outline Zoning Plan No. S/YL-NSW/10. **Figure 1.1** shows the location of Project Site and its environs.

1.3. PROJECT DESCRIPTION

- 1.3.1. The Proposed Development will comprise one 3-storey building (excluding carpark) comprising RCHE dormitory and communal area. The key development parameters are summarised in **Table 1.1** and the Master Layout Plan is enclosed in **Appendix 1.1**.

Table 1.1 Key Development Parameters of the Proposed Development

No. of Storeys	3 storeys
Total Gross Floor Area (GFA)	Approx. 4,243.5m ²
Building Height	+20.00 mPD
Proposed Major Floor Use	LG/F: Carpark G/F to 2/F: Dormitory for RCHE(s), Communal Area, Carpark Entrance and Lay-by
Tentative Population Intake Year	2030
Total No. of Beds	208

1.4. SCOPE OF THE ENVIRONMENTAL ASSESSMENT

1.4.1. This EA Report covers the following key issues arising from the construction and operation of the Proposed Scheme:

- Air Quality Impact;
- Noise Impact;

1.5. STRUCTURE OF THE REPORT

1.5.1. This EA Report includes the following sections:

- Section 1 introduces the project background and outlines the scope of this EA;
- Section 2 evaluates the air quality impact;
- Section 3 presents the noise impact assessment;
- Section 4 summarizes the findings of this EA study.

2. AIR QUALITY IMPACT

2.1. INTRODUCTION

2.1.1. This section identifies the potential air quality impact associated with the construction and operation of the Proposed Scheme. It also recommends practical pollution control and mitigation measures, where necessary.

2.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

2.2.1. The relevant legislation, standards and guidelines applicable to the present review of air quality impact include:

- Air Pollution Control Ordinance (APCO) (Cap. 311);
- Air Pollution Control (Smoke) Regulations (Cap. 311C);
- Air Pollution Control (Fuel Restriction) Regulations (Cap. 311I);
- Air Pollution Control (Construction Dust) Regulation (Cap. 311R);
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (Cap. 311Z);
- Hong Kong Planning Standards and Guidelines (HKPSG); and
- EPD's Guidelines on "Control of Oily Fume and Cooking Odour from Restaurants and Food Business".

Air Quality Objectives

2.2.2. The APCO provides a statutory framework for establishing the Air Quality Objectives (AQOs) and stipulating the anti-pollution requirements for air pollution sources. The AQOs stipulate concentration for a range of pollutants, which are summarized below in **Table 2.1**.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging Time	Concentration Limit ^[i] ($\mu\text{g}/\text{m}^3$)	Number of Exceedances Allowed
Sulphur Dioxide (SO_2)	10-minute	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) ^[ii]	24-hour	100	9
	Annual	50	N/A
Fine Suspended Particulates ($\text{PM}_{2.5}$) ^[iii]	24-hour	50	35
	Annual	25	N/A

Pollutant	Averaging Time	Concentration Limit ^[i] ($\mu\text{g}/\text{m}^3$)	Number of Exceedances Allowed
Nitrogen Dioxide (NO ₂)	1-hour	200	18
	Annual	40	N/A
Ozone (O ₃)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead	Annual	0.5	N/A
Notes: [i] All measurements of the concentration of gaseous air pollutants, i.e., SO ₂ , NO ₂ , O ₃ and CO, are to be adjusted to a reference temperature of 293 K and a reference pressure of 101.325 kPa. [ii] PM ₁₀ means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less. [iii] PM _{2.5} means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.			

Hong Kong Planning Standards and Guidelines

2.2.3. Environmental requirements to be considered in land use planning are outlined in Chapter 9 of the HKPSG. The standards and guidelines provide recommendation on suitable locations for developments and sensitive users, provision of environmental facilities and design, layout, phasing and operational controls to minimize adverse environmental impacts. It also lists out environmental factors influencing the land use planning and recommends buffer distances for land uses.

2.2.4. Buffer distances on usage of open space site for active and passive recreational uses are also recommended. Evaluation of potential air quality impact on the Proposed Scheme due to the open road emissions and industrial emissions shall make reference to the guidelines as stipulated in the HKPSG. The buffer distance requirements in HKPSG are extracted below in **Table 2.2**.

Table 2.2 HKPSG Recommended Buffer Distance

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Roads and Highways	<i>Type of Road</i>		
	Trunk Road and Primary Distributor	> 20m	Active and Passive Recreational Uses
		3 – 20m	Passive Recreational Uses
		< 3m	Amenity Areas
District Distributor	> 10m	Active and Passive Recreational Uses	

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Roads and Highways	District Distributor	< 10m	Passive Recreational Uses
	Local Distributor	> 5m	Active and Passive Recreational Uses
		< 5m	Passive Recreational Uses
	Under Flyover	N/A	Passive Recreational Uses
Industrial Areas	<i>Difference in Height between Industrial Chimney Exit and the Site</i>	/	
	< 20m	> 200m	Active and Passive Recreational Uses
		5 – 200m	Passive Recreational Uses
	20 – 30m (*)	> 100m	Active and Passive Recreational Uses
		5 – 100m	Passive Recreational Uses
	30 – 40m	> 50m	Active and Passive Recreational Uses
		5 – 50m	Passive Recreational Uses
	> 40m	> 10m	Active and Passive Recreational Uses
Remarks: <ol style="list-style-type: none"> In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available. The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites. The guidelines are generally applicable to major industrial areas but not individual large industrial establishments which are likely to be significant air pollution sources. Consult EPD when planning open space sites close to such establishments. Amenity areas are permitted in any situation. 			

2.3. AIR SENSITIVE RECEIVERS

2.3.1. Representative air sensitive receivers (ASRs) within 500m assessment area have been identified based on topographic maps supplemented by site surveys, outline zoning plans and other published plans in the vicinity of the Project Site. Within the 500m assessment area, 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. Details of the identified representative ASRs are summarized in **Table 2.3** below and

their locations are shown in **Figure 2.1**.

Table 2.3 Representative Air Sensitive Receivers

ASR ID	Description	Use	Existing/Planned	Approximate Shortest Distance from Project Site, m
A01	Merry Garden	Residential	Existing	90
A02	Meister House	Residential	Existing	256
A03	Man Yuen Chun	Residential	Existing	265
A04	Planned Residential Development	Residential	Planned	27

2.4. CONSTRUCTION PHASE IMPACT REVIEW

Impact Identification and Evaluation

2.4.1. Major construction activities include construction works for site set up, foundation, excavation, superstructure and fitting out, etc of the new building. Potential fugitive dust emission arising from these construction activities is anticipated.

2.4.2. With the implementation of appropriate dust control measures and the requirements as listed in the Air Pollution Control (Construction Dust) Regulation of APCO to minimise the dust impact, adverse fugitive dust impact is not anticipated during construction.

Recommended Mitigation Measures

2.4.3. To ensure that dust and gaseous emissions are minimized during the construction phase of the Project, relevant dust control requirements stipulated in Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations should be implemented. The proposed suppression measures are listed below.

- The designated haul road should be hard paved to minimize fugitive dust emission;
- During the site formation works, the active works areas should be water sprayed with water browser or sprayed manually hourly during construction period. The Contractor should ensure that the amount of water spraying is just enough to dampen the exposed surfaces without over-watering which could result in surface water runoff;
- Any excavated dusty materials or stockpile of dusty materials should be

covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated as soon as possible;

- Dusty materials remaining after a stockpile is removed should be wetted with water;
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore or similar;
- The Contractor(s) shall only transport adequate amount of fill materials to the Project Site to minimize stockpiling of fill materials on-site, thus reducing fugitive dust emission due to wind erosion;
- Should temporary stockpiling of dusty materials be required, it shall be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- Vehicle speed to be limited to 10 kph except on completed access roads;
- The portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- Every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving the construction site;
- The load of dusty materials carried by vehicle leaving the construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
- The working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet;
- Restricting height from which materials are to be dropped as far as practicable to minimize the fugitive dust arising from loading/unloading activities;
- Every stock of more than 20 bags of cement or dry pulverized fuel ash shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;
- Cement, pulverized fuel ash or any other dusty materials collected by fabric filters or other air pollution control system or equipment shall be disposed of in

totally enclosed containers;

- Electric power supply shall be provided for on-site machinery as far as practicable;
- Regular maintenance of construction equipment deployed on-site should be conducted to minimize gaseous and prevent black smoke emission;
- Hoarding of not less than 2.4m high from ground level shall be provided along the site boundary except for a site entrance or exit to minimise dust nuisance to the nearby sensitive receivers. For locations with ASRs in immediate proximity to the Project Site, higher hoarding shall be erected; and
- Regular site audit shall be conducted to ensure all the mitigation measures are properly implemented.

2.4.4. With the implementation of above mitigation measures, no adverse construction phase air quality impact is anticipated.

2.5. OPERATION PHASE IMPACT REVIEW

Impact Identification and Evaluation

Vehicular Emission

2.5.1. Vehicular emission from existing open roads is the potential air pollution source to the Proposed Scheme during operation phase.

2.5.2. The Application Site is bounded by Kam Pok Road East and is subject to the air quality impact associated with the vehicular emission from existing open roads. In order to comply with the buffer distance requirements as stipulated in the HKPSG, the air-sensitive uses at the Proposed Development have been positioned away from Kam Pok Road East. The required buffer distances from the surrounding road were summarized in **Table 2.4** and illustrated in **Figure 2.2**. No air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones.

Table 2.4 Relevant Buffer Distance Requirements

Road Name	Road Type	Recommended Buffer Distance in HKPSG	Buffer Distance allowed for the Proposed Scheme
Kam Pok Road East	Local Distributor	5m	>5m
Note: As advised by the Project's Traffic Consultant, Kam Pok Road East (from Castle Peak Road - Tam Mi to Kam Pok Road) is classified as a Local Distributor			

As the required buffer distances between ASRs and the surrounding roads could be achieved, no adverse air quality impact associated with vehicular emission on the Proposed Scheme is anticipated.

Recommended Mitigation Measures

- 2.5.3. The setback distance between the building façades and the fresh air intakes/opened windows is recommended to be at least 5m away from Kam Pok Road East to satisfy the recommended buffer distance from the carriageway as per Chapter 9 of HKPSG

2.6. CONCLUSION

- 2.6.1. Fugitive dust emission is the major source of air pollution during the construction phase of the Project. Through proper implementation of dust control measures as required under the Air Pollution Control (Construction Dust) Regulation, Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation and Air Pollution Control (Fuel Restriction) Regulations, construction dust and gaseous emissions can be controlled at source to acceptable levels. Therefore, air quality impact during construction phase is not anticipated to be adverse.
- 2.6.2. The potential operation phase air quality impact due to vehicular emission from the surrounding roads and industrial chimney emission have been evaluated. Since the HKPSG buffer distance requirements could be complied, no adverse operation phase air quality impact on the Proposed Scheme is expected.

3. NOISE IMPACT

3.1. INTRODUCTION

3.1.1. The Project will have potential noise impacts during the construction and operation phases. During the construction phase, potential construction airborne noise impact may be generated due to the use of powered mechanical equipment (PME) for various construction works including site formation, foundation and superstructure. During the operation phase of the Project, noise due to building equipment will also have potential noise impacts to the NSRs nearby.

3.2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

3.2.1. The relevant legislation, standards and guidelines applicable to the present noise impact assessment include:

- Noise Control Ordinance (NCO) (Cap. 400);
- Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-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);
- Technical Memorandum on Noise from Percussive Piling (PP-TM);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN 1/24 "Minimizing Noise from Construction Activities";
- Good Practices on Pumping System Noise Control; and
- Good Practices on Ventilation System Noise Control

3.3. CONSTRUCTION PHASE IMPACT REVIEW

Noise Standards for Construction Works during Non-restricted Hours

3.3.1. There is no statutory control for noise arising from construction activities (except for percussive piling and the use of hand-held percussive breakers and air compressors) during non-restricted hours (i.e. 0700 to 1900 hours from Monday to Saturday, not including general holidays). However, ProPECC PN 1/24 provides the assessment criteria for construction works during non-restricted hours. The recommended daytime construction noise levels for uses rely on openable windows for ventilation are summarized in **Table 3.1** below.

Table 3.1 Noise Standards for Construction Works during Non-restricted Hours

Uses	L_{eq} (30 mins), dB(A)
All domestic premises Temporary housing accommodation Hostels Convalescences homes Homes for the aged	75
Places of public worship Courts of law Hospitals and medical clinics	70
Educational institutions (including kindergartens and nurseries)	70 (65 during examination)
Note: The above standards apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.	

Noise Standards for Construction Works during Restricted Hours

3.3.2. Noise impacts arising from construction activities (excluding percussive piling) conducted during the restricted hours (1900 to 0700 hours on any day and anytime on Sunday and general holiday) are governed by the NCO.

3.3.3. All the proposed construction works are expected to be carried out during non-restricted hours. In case of any construction activities during restricted hours, it is the Contractor's responsibility to ensure compliance with the NCO and the relevant technical memoranda. The Contractor will be required to submit a construction noise permit (CNP) application to the Noise Control Authority and abide by any conditions stated in the CNP, should one be issued. It should be noted that description made in this report does not guarantee that a CNP will be granted for the project construction. The Noise Control Authority would take into account the contemporary condition of adjoining land uses and other considerations when processing the CNP application

based on the NCO and relevant technical memoranda issued under the NCO. The findings in this report shall not bind the Noise Control Authority in making the decision.

Noise Standards for Percussive Piling

- 3.3.4. Noise impact arising from percussive piling at any time is also governed by the NCO. The noise criteria and the assessment procedures for issuing a CNP for percussive piling are specified in the PP-TM. Separate application to EPD for a CNP is required.
- 3.3.5. Should percussive piling be required, the requirements in the PP-TM shall be followed.

Impact Identification and Evaluation

- 3.3.6. The potential source of noise impact during the construction phase would be the use of PME for various construction activities. The key construction works would include:
- Site clearance, including demolition of existing structures and tree removal;
 - Site formation;
 - Foundation; and
 - Construction of superstructure.
- 3.3.7. No construction works will be carried out during restricted hours. Should restricted hours works or percussive piling work be required, the Contractor shall apply for a CNP and ensure full compliance with the NCO.

Recommended Mitigation Measures

- 3.3.8. Standard construction noise control measures such as adoption of quieter construction method, use of quality PME (QPME) with lower sound power level (SWL), use of movable noise barriers and noise enclosures to screen noise from PME, and implementation of good site practices to limit noise emissions at source are recommended.
- 3.3.9. Good site practices and noise management can further minimize the potential construction noise impact. The following good site practices are recommended for implementation during construction phase:
- Contractor shall devise and execute working methods that will minimize the noise impact on the surrounding environment; and shall provide experienced personnel with suitable training to ensure these methods are properly implemented;
 - Noisy activities should be scheduled to minimize exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background

noise (such as during peak traffic hours);

- The Contractor should arrange construction activities with care so that concurrent construction activities are avoided as much as possible;
- Only well-maintained plant should be operated on-site and plant will be serviced regularly during the construction phase;
- Machines and plant that may be in intermittent use should be shut down between work periods or throttled down to a minimum;
- Silencers or mufflers on construction equipment should be utilized and properly maintained during the construction phase;
- Noisy equipment such as emergency generators shall always be sited as far away as possible from NSRs;
- Mobile plants should be sited as far away from NSRs as possible;
- Plant known to emit noise strongly in one direction should be orientated so that the noise is directed away from the nearby NSRs; and
- Material stockpiles and other structures should be effectively utilized in screening noise from on-site construction activities.

3.4. OPERATION PHASE

Noise Standards for Fixed Noise Impact Assessment

3.4.1. IND-TM stipulates the appropriate Acceptable Noise Level (ANL) for fixed noise sources. The ANL is dependent on the area sensitivity rating of a noise sensitive receivers (NSR), as defined in Table 1 of the IND-TM (reproduced in **Table 3.2**). The area sensitivity rating of a NSR is determined by the type of area where the NSR is located and the presence of any influencing factors (IFs) such as major roads and industrial areas.

Table 3.2 Area Sensitivity Ratings

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Rural area, including country parks or village type developments	A	B	B
Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
Urban area	B	C	C

Area other than those above	B	B	C
-----------------------------	---	---	---

- 3.4.2. The HKPSG also states that in order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the façade of the nearest existing sensitive use should be at least 5 dB(A) below the appropriate ANL shown in Table 2 of IND-TM or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background. The ANLs stipulated in the IND-TM are provided in **Table 3.3**.

Table 3.3 Acceptable Noise Levels

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

Noise Standards for Road Traffic Noise Impact Assessment

- 3.4.3. Table 4.1 of Chapter 9 of the HKPSG provides the assessment criteria for road traffic noise impact at noise sensitive uses which rely on opened windows for ventilation. **Table 3.4** summarizes the adopted road traffic noise criteria for noise sensitive uses with openable windows at the Proposed Scheme.

Table 3.4 Road Traffic Noise Criteria for Noise Sensitive Uses

Location	Use	L ₁₀ (1 hour), dB(A)
G/F – 2/F	RCHE Dormitory	70
G/F – 1/F	Multi-Purpose Area	70
G/F	Rehab Zone	70
1/F	Dining Area	70
1/F – 2/F	Communal Area	70

Notes:

[1] The above standards apply to noise sensitive uses which rely on opened windows for ventilation and should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

Noise sensitive receivers

- 3.4.4. Existing NSRs and planned/committed noise sensitive uses identified on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development

applications approved by the Town Planning Board have been identified. The first layer of representative NSRs within the 300m assessment area are listed in **Table 3.5** below and their locations are illustrated in **Figure 3.1**.

Table 3.5 Representative Noise Sensitive Receivers

NSR ID	Description	Nature of Use	Existing/Planned	Approximate Shortest Distance from Project Site, m
N01	Merry Garden	Residential	Existing	90
N02	Meister House	Residential	Existing	256
N03	Man Yuen Chun	Residential	Existing	265
N04	Planned Residential Development	Residential	Planned	27

Road Traffic Noise Impact on the Proposed Scheme

Impact Identification

- 3.4.5. The Project Site is bounded by Kam Pok Road East to the south, Castle Peak Road – Tam Mi and San Tin Highway to the east. The key noise impact during operation phase would be road traffic noise from the abovementioned roads and other local roads.

Noise Sensitive Uses

- 3.4.6. Noise assessment points have been provided for all noise sensitive uses with openable windows at the Proposed Development. The respective criteria for all types of noise sensitive uses with openable windows have been listed in **Table 3.4**. The locations of all NSRs for road traffic noise impact assessment are shown in **Figures 3.2a** to **3.2c**.

Assessment Methodology

- 3.4.7. The road traffic noise impact from the existing and planned road network has been assessed within 300m assessment area on the future NSRs within the Proposed Development. The road traffic noise model adopts the methodology outlined in the Calculation of Road Traffic Noise (CRTN) developed by the UK Department of Transport. The road traffic noise would be presented in terms of noise levels exceeded for 10% of the one-hour period for the hour having the peak traffic flow $L_{10(1\text{hour})}$ under various traffic forecast scenarios. Representative NAPs, key building structures with noise screening effects, topographical contours and road segments with traffic flow data have been inputted into the model in predicting the potential traffic noise impacts.
- 3.4.8. Traffic flow of the existing and planned roads within 300m assessment area have been forecasted by the traffic consultant of the Project. As stated in CRTN, the traffic flow used for assessment shall be the maximum traffic projection within 15 years upon

occupancy of the development. The assessment has been undertaken based on the projected AM peak hourly traffic flows in Year 2045, which corresponds to the maximum projected traffic conditions within 15 years upon occupancy of the Proposed Development, i.e. Year 2030. The traffic forecast data is enclosed in **Appendix 3.1**. The traffic forecasting methodology for producing the adopted traffic data has been submitted to the Transport Department (TD) for endorsement.

Predicted Road Traffic Noise Impact on the Proposed Development under Base Case Scenario

- 3.4.9. Predicted peak hourly road traffic noise levels at all NSRs within the Proposed Development are summarized in **Table 3.6** below. Detailed breakdown of the road traffic noise impact assessment results under base case scenario are presented in **Appendix 3.2**.

Table 3.6 Summary of Predicted Road Traffic Noise Levels (Base Case Scenario)

Floor	Facility / Room	Noise Criteria, dB(A)	Predicted Maximum L ₁₀ (1 hour), dB(A)
G/F – 2/F	RCHE Dormitory	70	77
G/F – 1/F	Multi-Purpose Area	70	76
G/F	Rehab Zone	70	70
1/F	Dining Area	70	76
1/F – 2/F	Communal Area	70	76

- 3.4.10. In view of the predicted traffic noise level exceeded noise standard, mitigation measures are required to ensure the noise level would be comply with relevant noise standard.
- 3.4.11. With reference to "Practice Note on Application of INNOVATIVE NOISE MITIGATION DESIGNS in Planning Private Residential Developments against Road Traffic Noise Impact", the design of AW(BT) and corresponding noise reduction is shown in **Appendix 3.3**. The locations of the proposed acoustic window (baffle type) are shown in **Figure 3.3**.
- 3.4.12. The proposed reference cases can provide noise reduction from 6dB(A) to 7dB(A) based on their corresponding room size.
- 3.4.13. The assessment results revealed that all NSRs within the Proposed Development could comply with the respective noise criteria under the mitigated scenario. Hence, no adverse road traffic noise impact on the Proposed Development is anticipated and

no road traffic noise mitigation measure is required.

Fixed Noise Impact from the Proposed Scheme

Impact Identification and Evaluation

3.4.14. According to the latest development scheme, potential fixed noise sources within the Proposed Scheme include the transformer room and E&M rooms. During the operation phase, potential fixed noise sources will be fully enclosed and located inside the building structure. Noise impact arising from fixed plants is expected to be minimal.

3.4.15. To ensure the fixed plant noise generated by the Proposed Scheme would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG.

3.4.16. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it is anticipated that the fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Scheme will not exceed the relevant noise criteria under the HKPSG and NCO.

Recommended Mitigation Measures

3.4.17. The following noise mitigation measures are recommended to control noise emissions from planned fixed plant noise sources within the Proposed Scheme:

- All the noisy plants should be installed within plant room or with acoustic enclosure;
- Proper selection of quiet plant aiming to reduce the tonality at NSRs;
- Installation of silencer / acoustic enclosure / acoustic louvre for the exhaust of ventilation system;
- Openings of ventilation systems should be located away from NSRs as far as practicable and oriented away from the NSRs;
- Installation of absorptive noise barrier (with density of absorption material of 48kg/m³) for the aerator which would duly shield the engine and other noisy parts of the aerator as far as practicable, and;
- Provide suitable at source noise control measures with reference to EPD's "Good Practices on Ventilation System Noise Control" and "Good Practices on Pumping System Noise Control" such as silencers and acoustic linings when

necessary.

Fixed Noise Impact on the Proposed Development

Identification of Fixed Noise Sources

3.4.18. A number of existing fixed noise sources have been identified within 300m assessment area through desktop study and site visit conducted on 12 May 2025. **Figure 3.3** indicates the locations of existing major fixed noise sources with details summarized in **Table 3.7**.

Table 3.7 Information of the Identified Fixed Noise Sources

Location	Source ID	Equipment	Approximate Shortest Horizontal Distance to the Project Site
Open Storage	S01	Fork Lift	103m
Open Storage	S02	Fork Lift	200m
Open Storage	S03	Fork Lift	244m

3.4.19. Given the large separation distance between the identified major fixed noise sources and the Project Site (i.e. approximately 100m or above) and no noticeable fixed noise was observed at the Project Site during site visit, no adverse fixed noise impact to the Proposed Development is expected.

3.5. CONCLUSION

Construction Phase

3.5.1. Evaluation on construction noise impact associated with different construction activities has been conducted. With the implementation of practical mitigation measures including good site management practices, use of quieter construction methods and equipment, and use of movable noise barriers and noise enclosures, the construction noise impact on the nearby NSRs would be minimized.

Operation Phase

3.5.2. Traffic noise impact has been identified and assessed based on the maximum traffic flow within 15 years upon commencement of operation of the Proposed Development. With the implementation of noise mitigation measures (i.e., Acoustic Windows (Baffle Type)), no adverse traffic noise impact is anticipated.

3.5.3. To ensure the fixed plant noise generated by the Proposed Scheme would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Scheme shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Provisions shall be made to control

the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, no adverse fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Scheme is expected.

4. CONCLUSION

- 4.1.1. The Project is to construct a 3-storey RCHE dormitory and communal area. This EA Report addressed the potential environmental issues arising from the construction and operation of the Proposed Scheme, which include the air quality and noise.
- 4.1.2. With the recommended environmental mitigation measures in place, no unacceptable environmental impact on or arising from the Proposed Scheme is anticipated.

FIGURE 1.1
LOCATION OF PROJECT SITE

LEGEND:

- Site Boundary
- 300/500m Assessment Area



	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

Drawing Title
 PROPOSED DEVELOPMENT LOCATION

Drawing No. FIGURE 1.1	Rev. 0
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Scale:
 A4 - 1:5500

FIGURE 2.1
LOCATION OF REPRESENTATIVE AIR
SENSITIVE RECEIVERS



LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

Drawing Title
 LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS

Drawing No. FIGURE 2.1	Rev. 0
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Scale:
 A4 - 1:5500

FIGURE 2.2

BUFFER DISTANCES

LEGEND:

- Site Boundary
- 5m Buffer Distance



	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

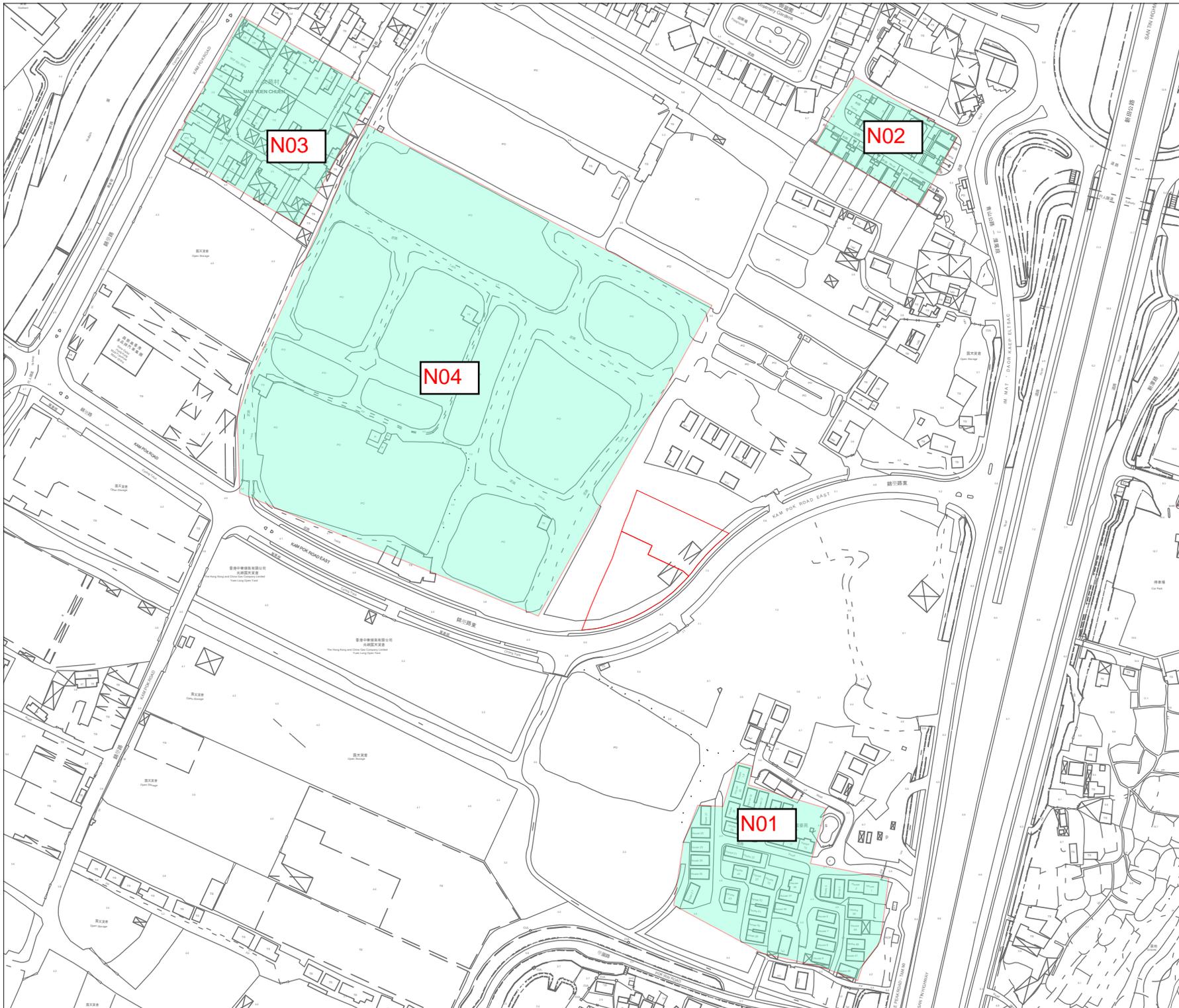
Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

DrawingTitle
 BUFFER DISTANCE

Drawing No. FIGURE 2.2	Rev. 0
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Scale:
 A4 - 1:5500

FIGURE 3.1
LOCATION OF REPRESENTATIVE NOISE
SENSITIVE RECEIVERS



LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

Drawing Title
 LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Drawing No. FIGURE 3.1	Rev. 0
----------------------------------	------------------

Scale:
 A4 - 1:5500

FIGURE 3.2
LOCATION OF REPRESENTATIVE TRAFFIC
NOISE SENSITIVE RECEIVERS

NOTES:

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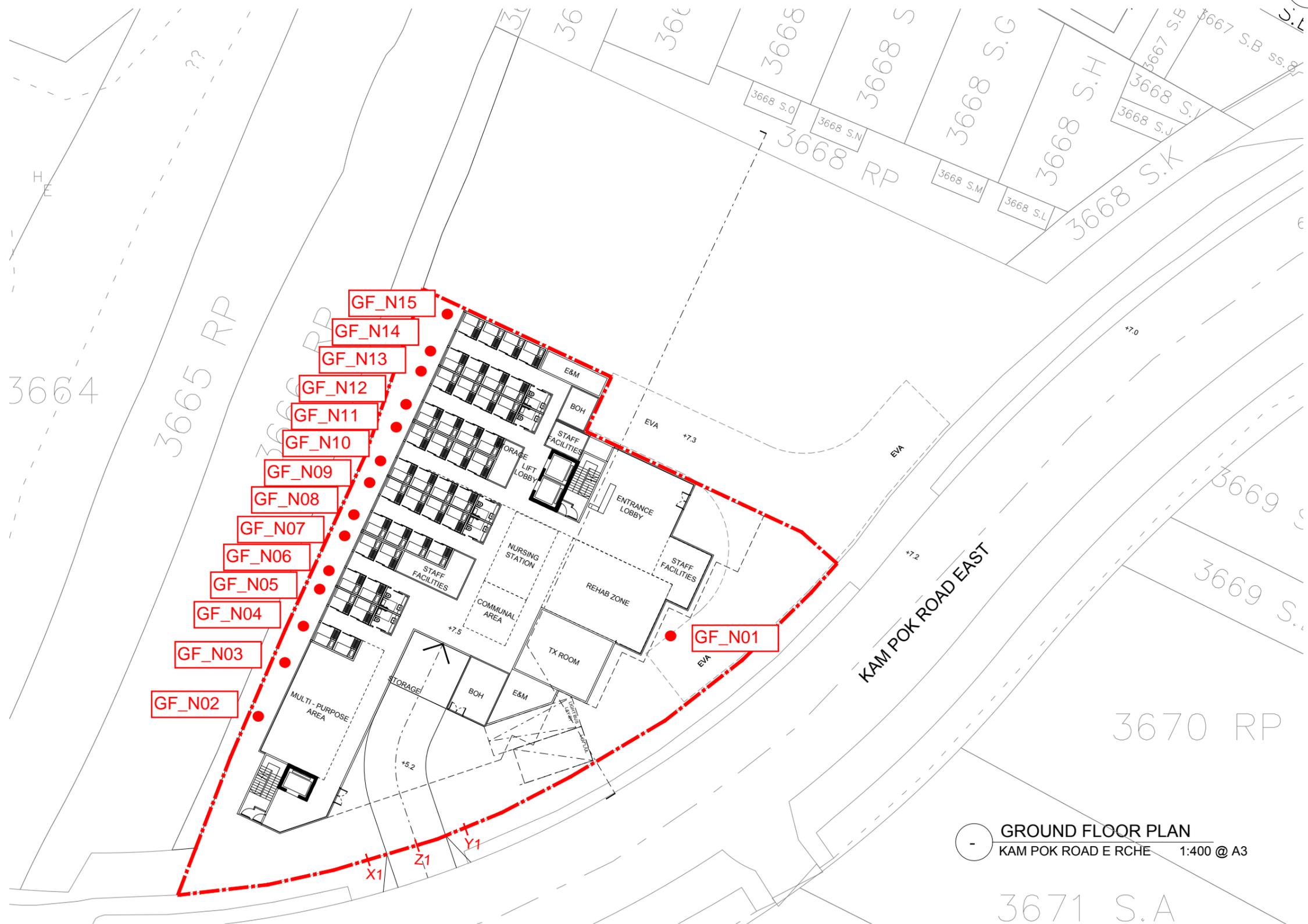
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B103 MAY 2025



GROUND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

3671 S.A



NOTES:

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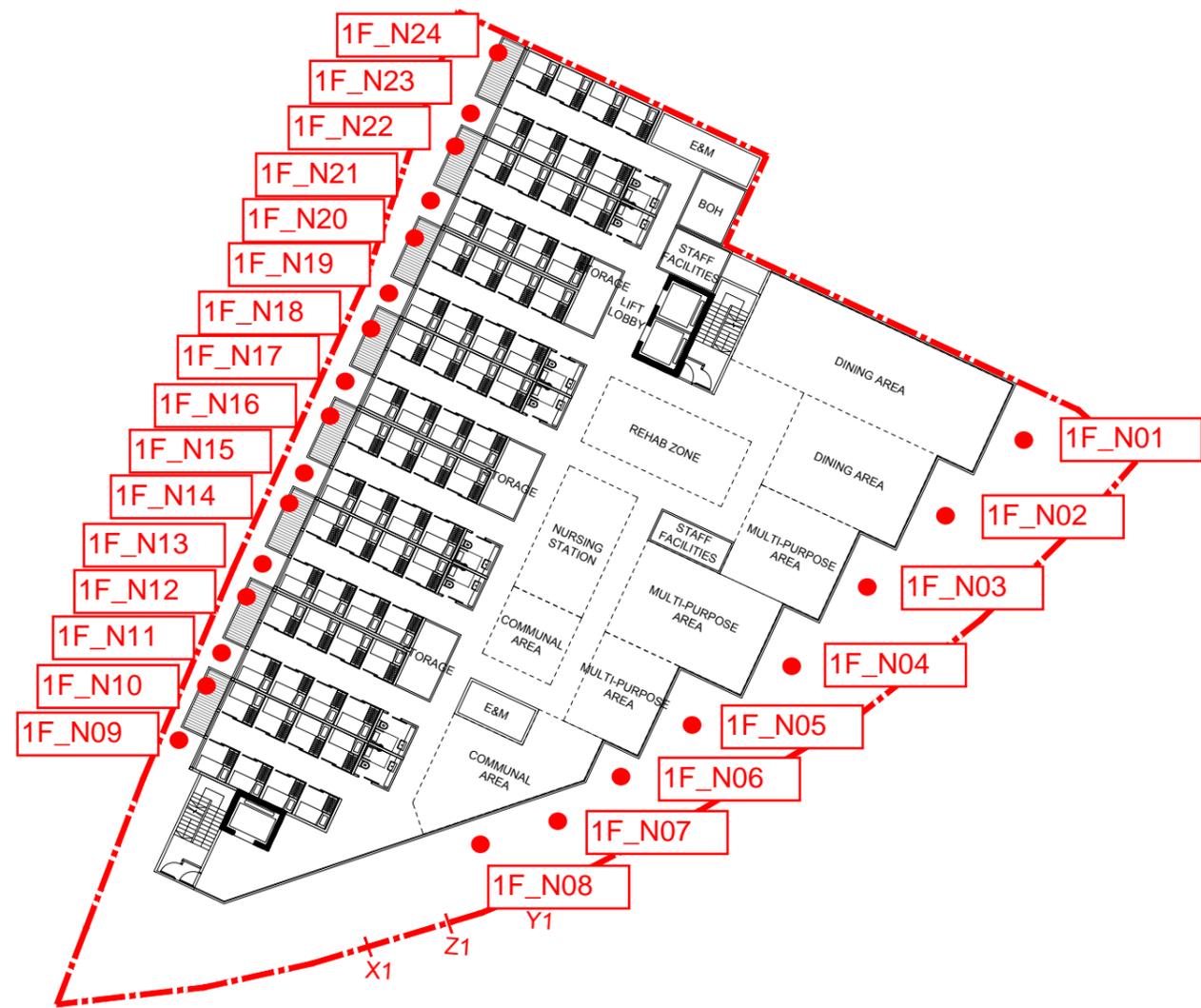
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SCALE : 1:400 @A3 Rev: —
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Drawing No. : Date:



1ST FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



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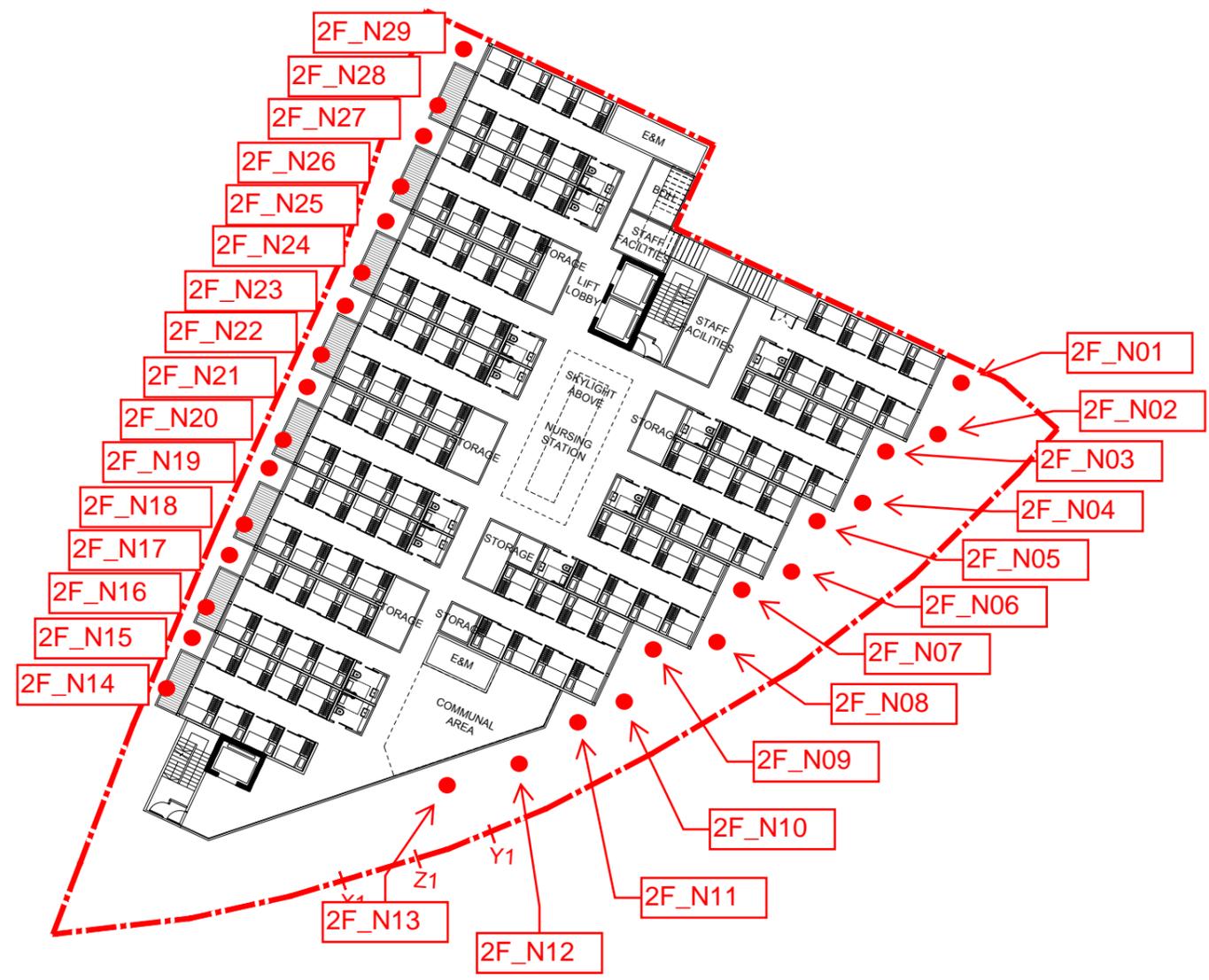


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2ND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

DRAWING : SECOND FLOOR PLAN

SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B105 MAY 2025

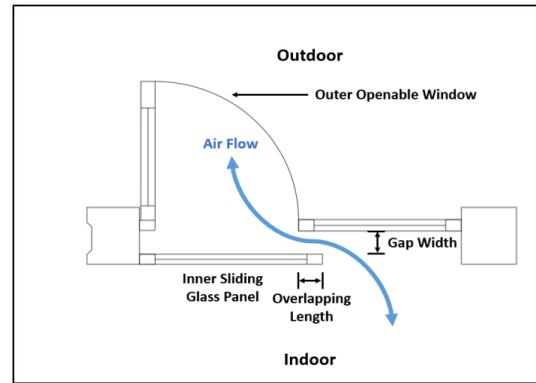
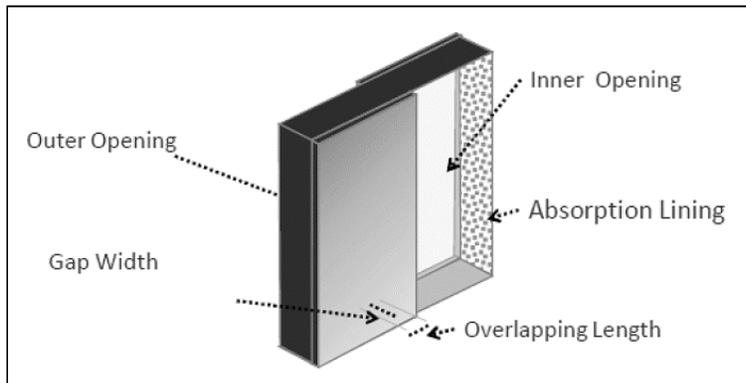
FIGURE 3.3
LOCATION OF PROPOSED ACOUSTIC
WINDOW

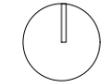
Proposed Types of Acoustic Window (Baffle Type)

Type of AW(BT)	Reference Case	Room Area, m ²	Noise Attenuation, dB(A)	Inner Window Opening, mm		Outer Window Opening, mm		Window Overlapping Length, mm	Window Pane Separation, mm	MPA ^[1] Applied?
				Height	Width	Height	Width			
Type 1	EPD	8	6	870	580	870	600	100	100	No
Type 2	EPD	18	7	1500	750	1500	750	100	100	No

Notes:

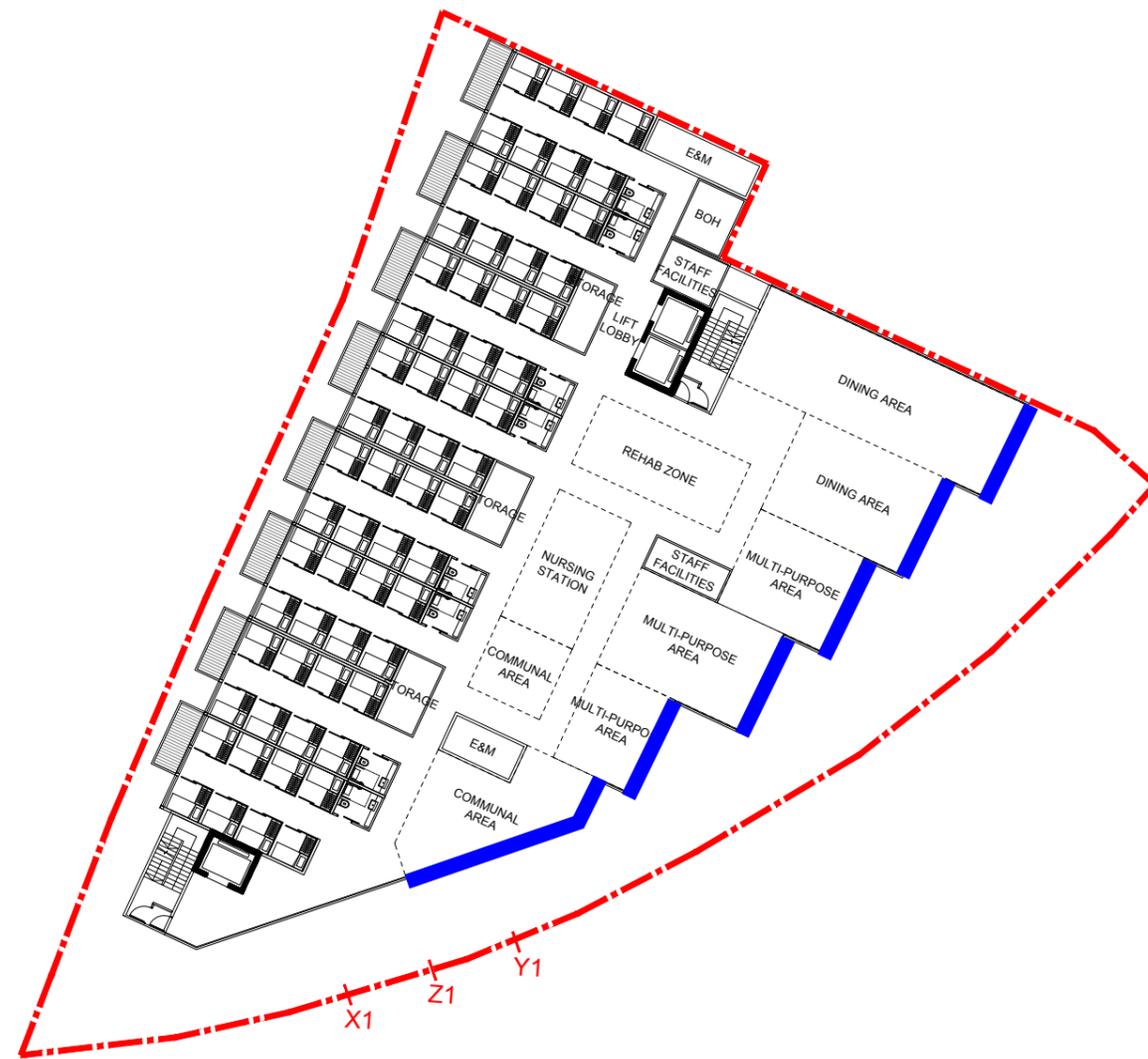
[1] MPA: Micro-Perforated Absorber





NOTES:

█ Type 2 AW(BT)



1ST FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

REV	DATE	DESCRIPTION	BY	CHKD
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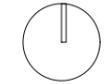
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SCALE : 1:400 @A3 Rev: —

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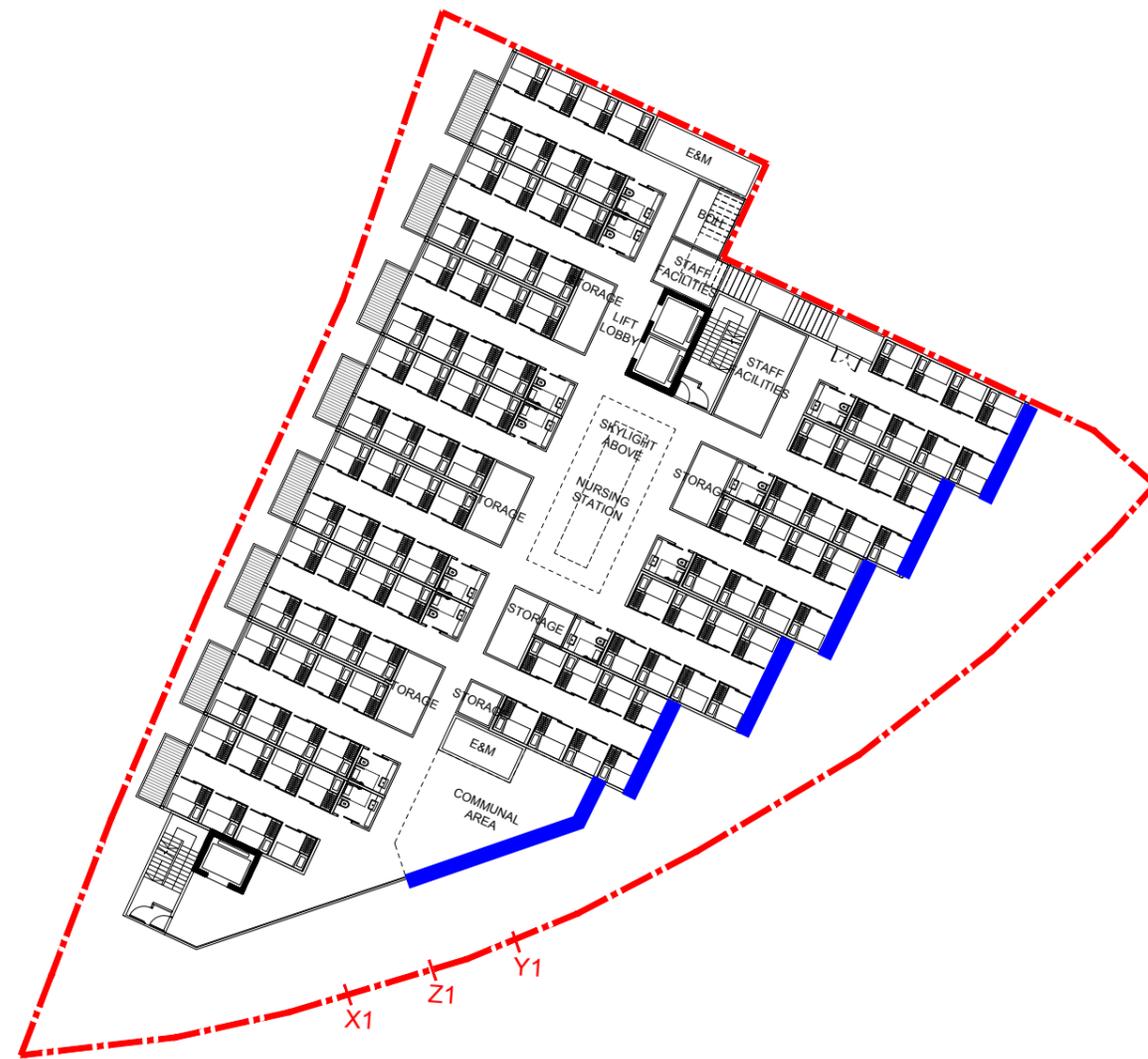
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CP-B104 MAY 2025



NOTES:

█ Type 2 AW(BT)



2ND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

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DRAWING : SECOND FLOOR PLAN

SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B105 MAY 2025

APPENDIX 1.1 INDICATIVE BUILDING PLAN

NOTES:

LEGEND:

-  THE SITE
-  SHARED EVA
-  GOVERNMENT LAND
-  OVERHEAD LINES
-  EXISTING NOISE BARRIER

REV	DATE	DESCRIPTION	BY	CHKD
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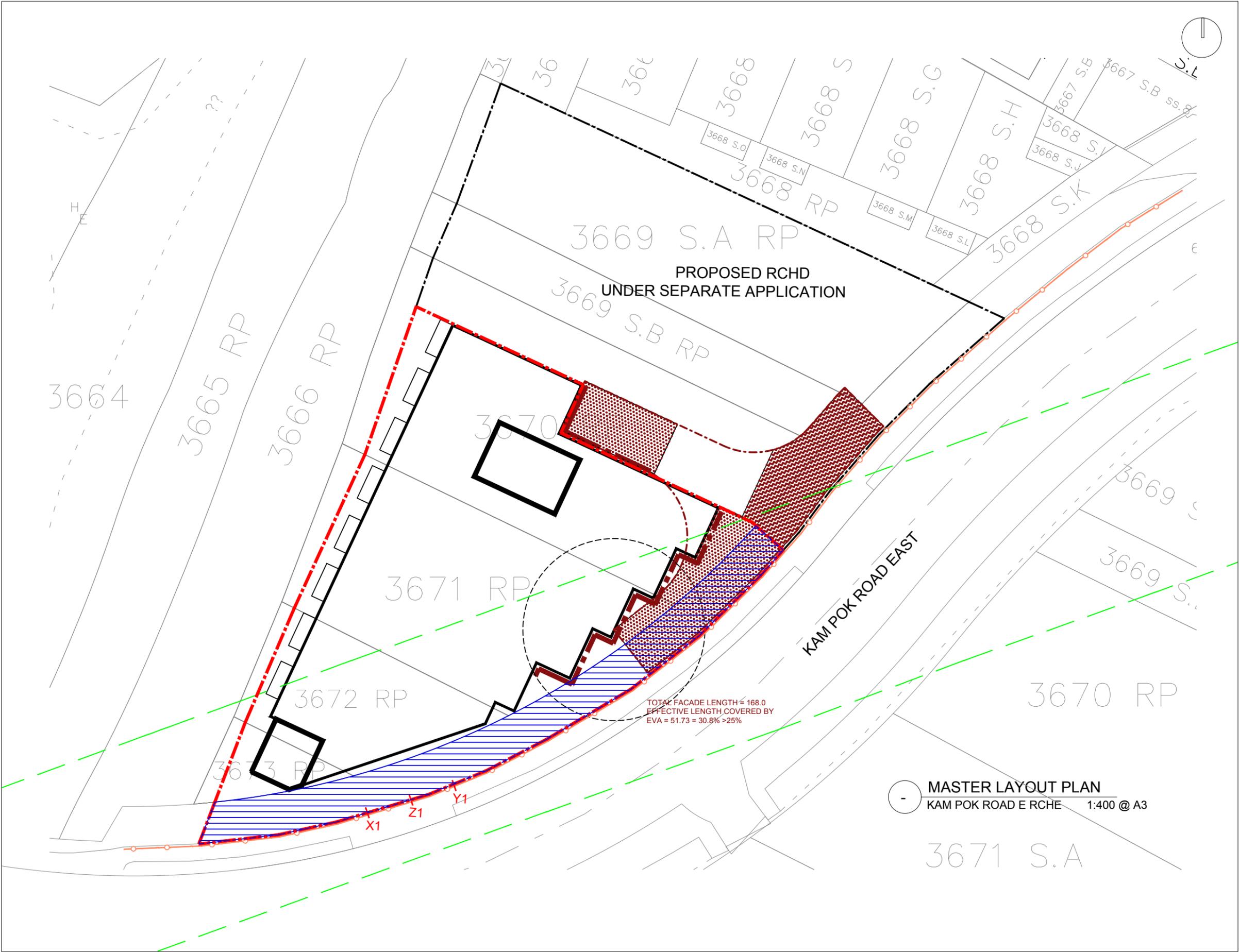
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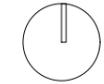
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PROJECT NO: 25001_KPR

Drawing No. : Date:

FIGURE 2 MAY 2025





NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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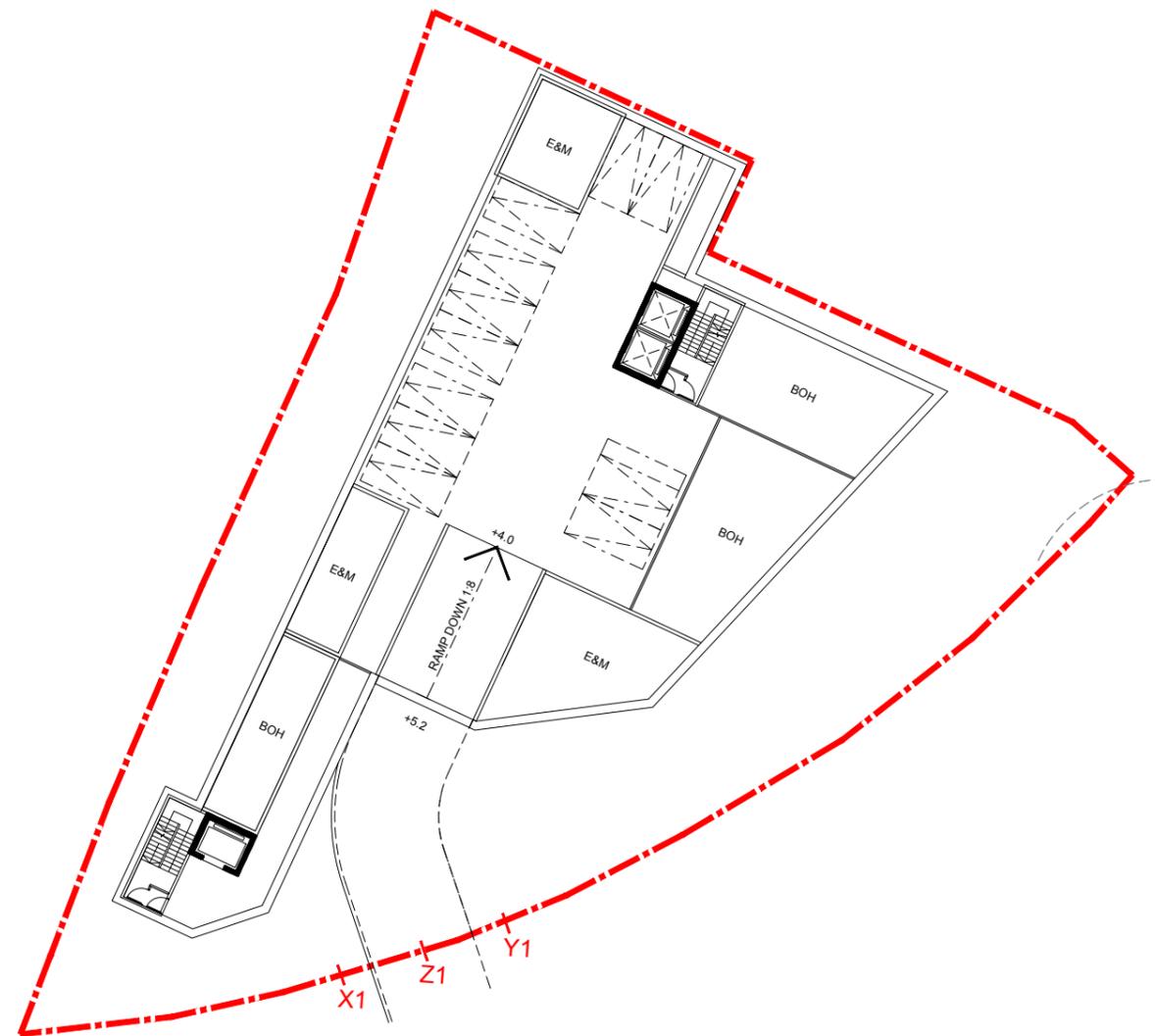
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PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B102 MAY 2025



BASEMENT FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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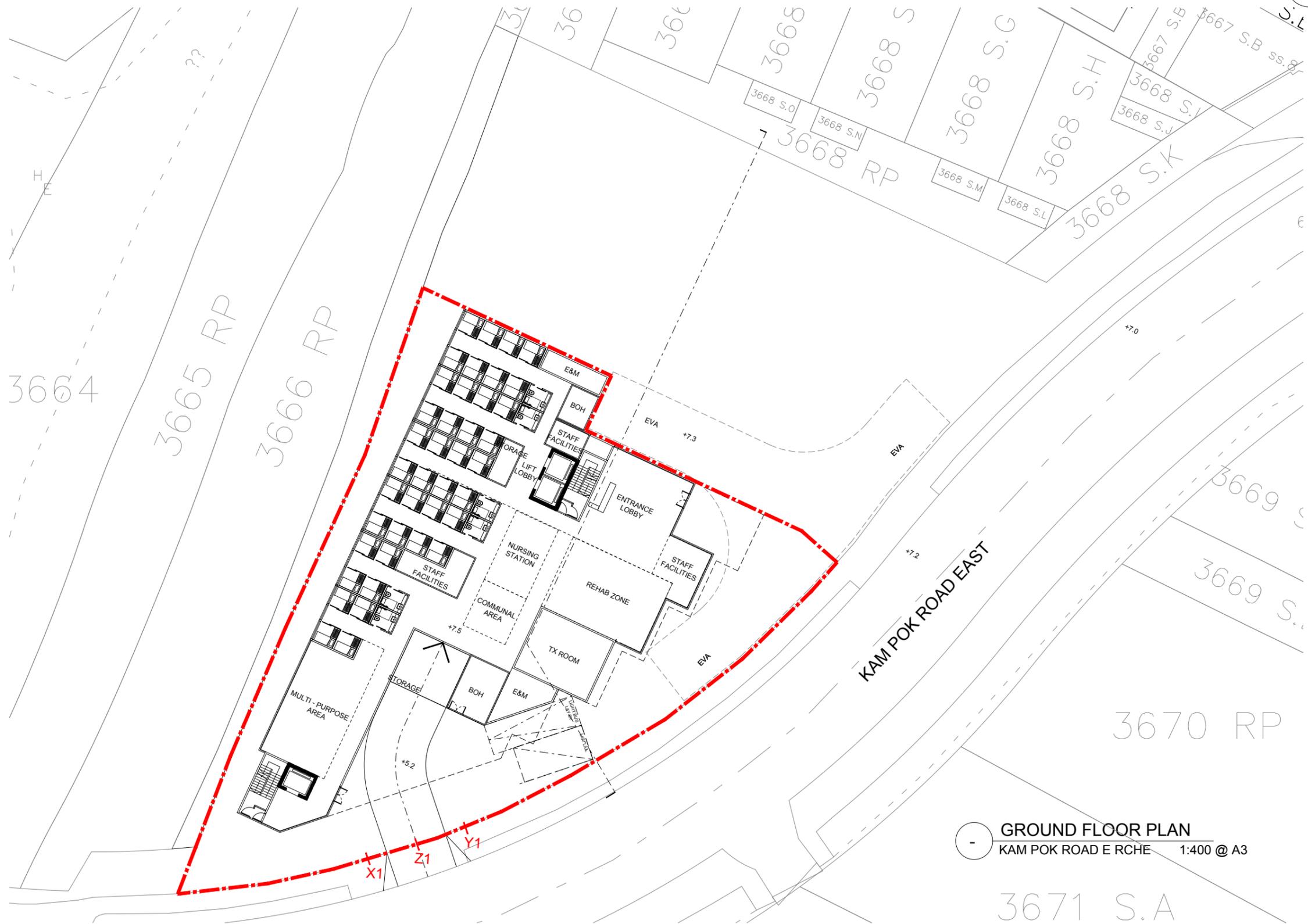
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B103 MAY 2025



GROUND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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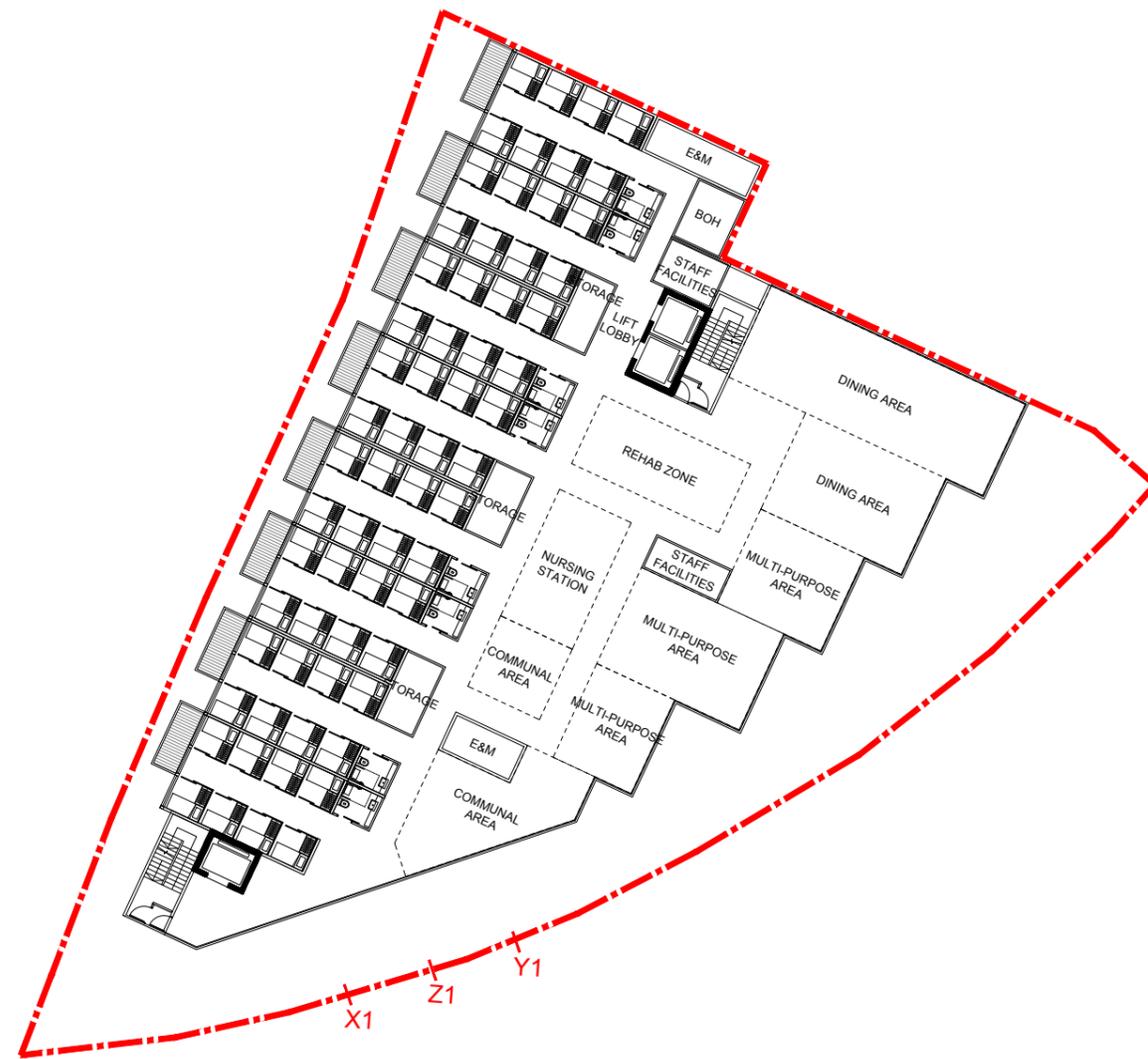
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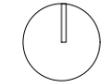
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Drawing No. : Date:

CP-B104 MAY 2025



1ST FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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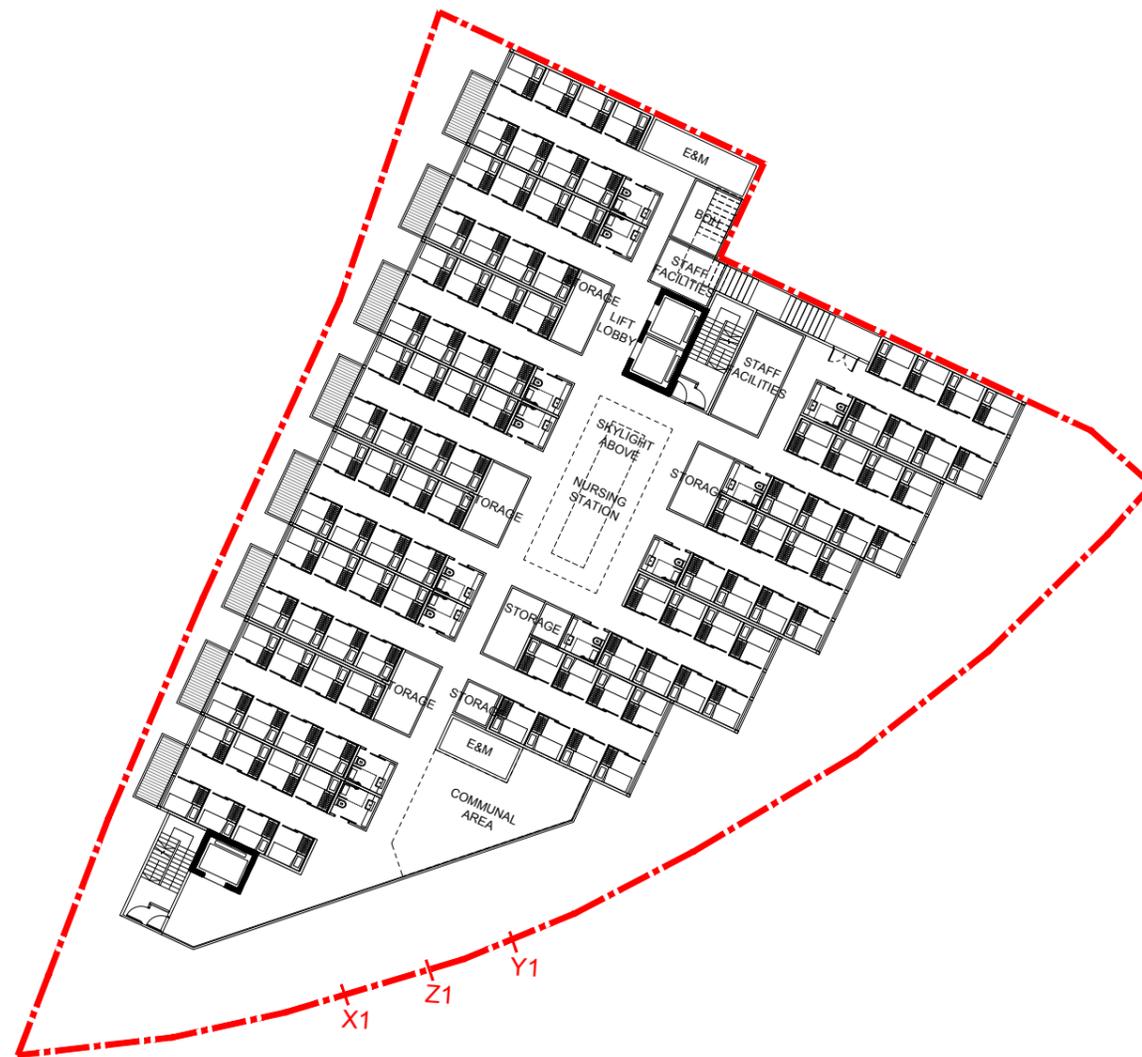
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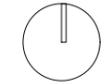
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Drawing No. : Date:

CP-B105 MAY 2025



2ND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

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-	5.5.2025	CONCEPT DESIGN	KC	PC

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DRAWING : ROOF PLAN

SCALE : 1:400 @A3 Rev: —

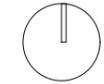
PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B106 MAY 2025



ROOF PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

CLIENT

TOWN PLANNER

DeSPACE (International) Limited



ARCHITECT

Vessel International Limited
Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

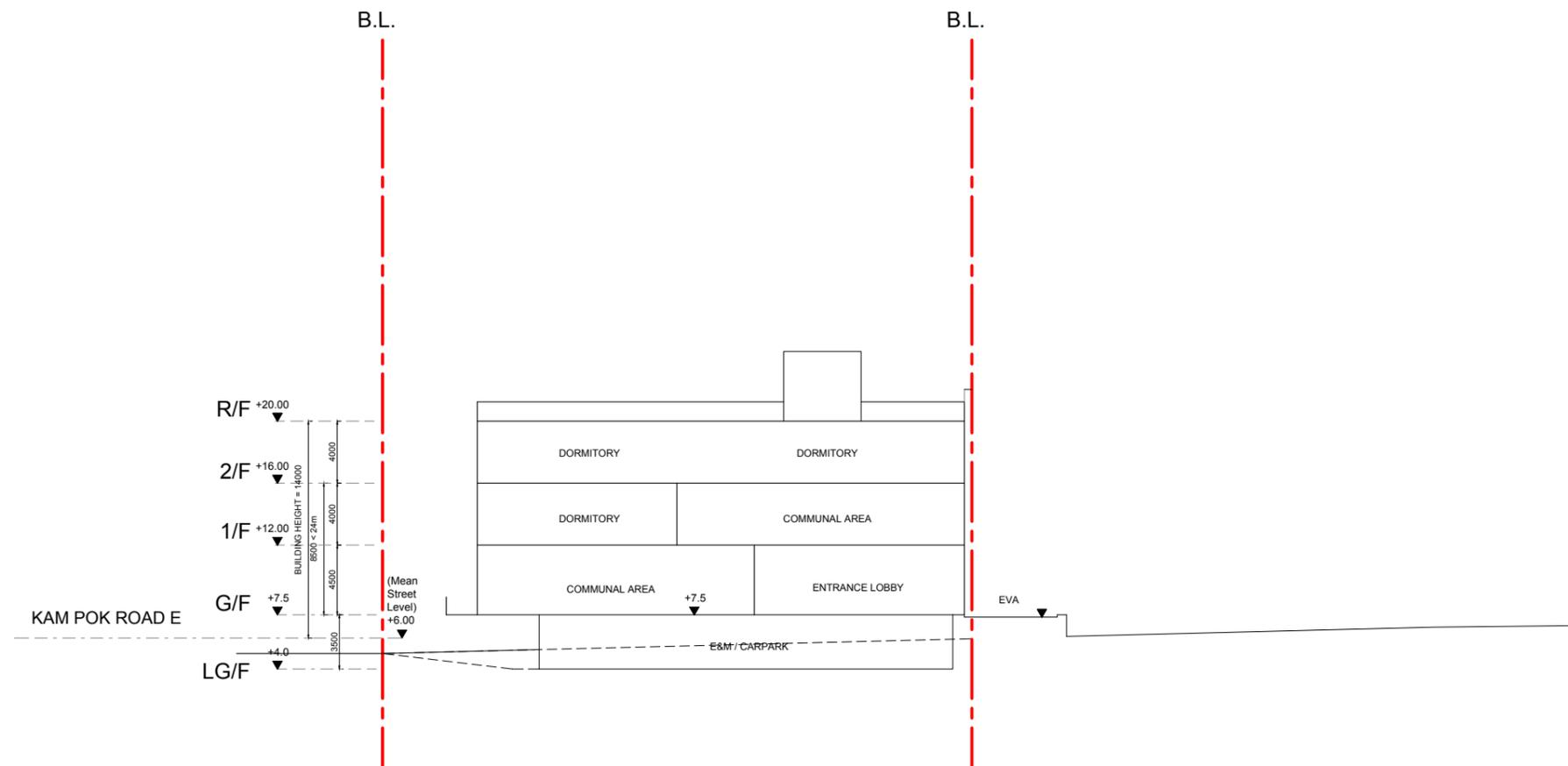
DRAWING : SCHEMATIC SECTION

SCALE : 1: 400 @A3 Rev: —

PROJECT NO: 25001_KPR

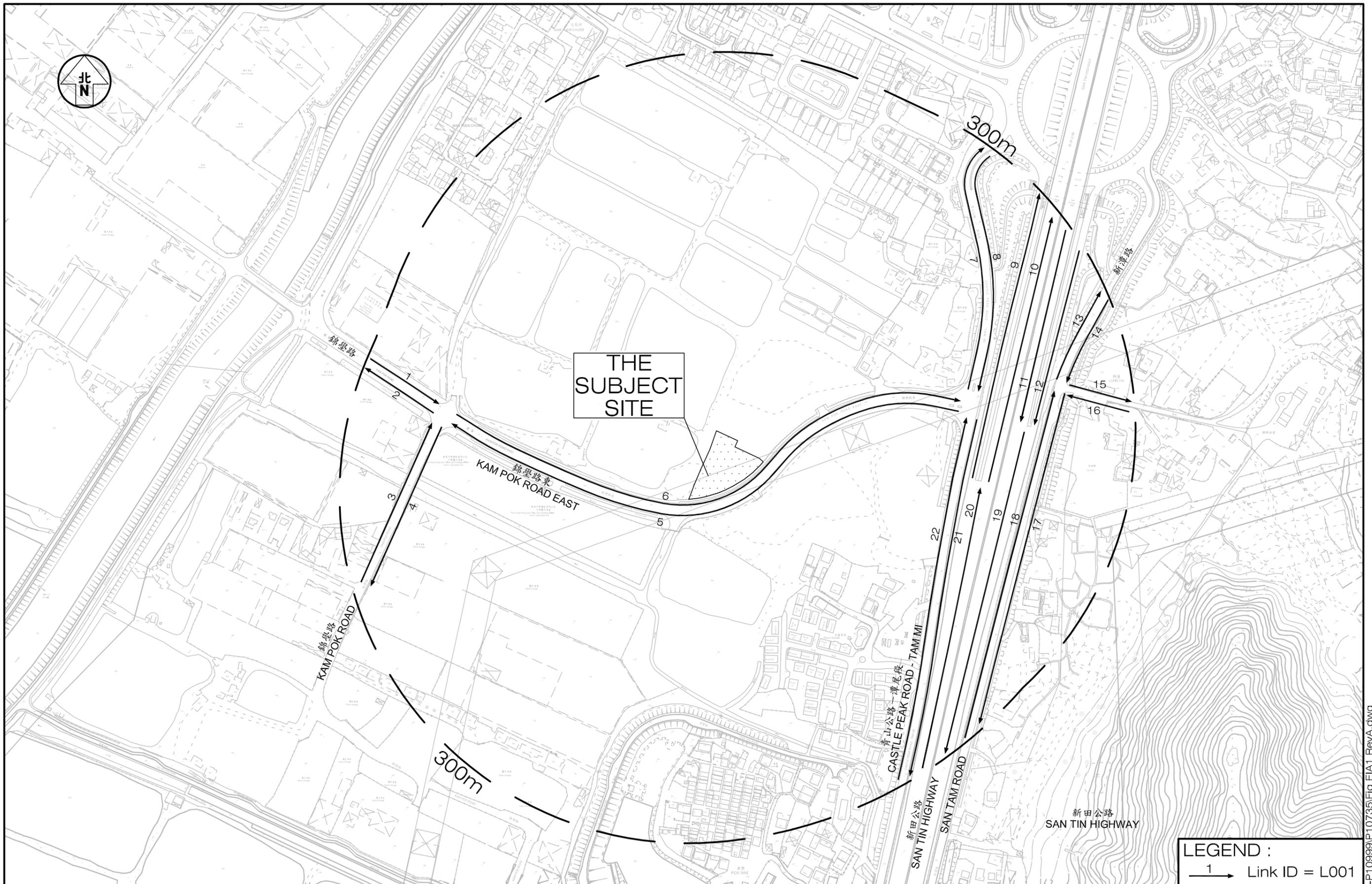
Drawing No. : Date:

CP-B201 MAY 2025



SCHEMATIC SECTION
KAM POK ROAD E RCHE 1:400 @ A3

APPENDIX 3.1 TRAFFIC FORECAST DATA



LEGEND :
 1 → Link ID = L001

Project **PROPOSED SOCIAL WELFARE FACILITIES (RCHE) IN "VILLAGE TYPE DEVELOPMENT" ZONE, LOTS 3670 RP (PART), 3671 RP (PART), 3672 RP (PART), 3673 RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D.104, NAM SANG WAI, YUEN LONG**

Figure No. **EIA1**
 Revision **A**

CKM Asia Limited
 Traffic and Transportation Planning Consultants

Figure Title **LOCATION OF TRAFFIC DATA**

Designed by **K C**
 Drawn by **C C L**
 Checked by **-**
 Scale in A3 **1 : 3,000**
 Date **26 MAY 2025**

21st Floor, Methodist House, 36 Hennessy Road
 Wan Chai, Hong Kong
 Tel : (852) 2520 5990 Fax : (852) 2528 6343
 Email : mail@ckmasia.com.hk

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YEAR 2045 TRAFFIC FORECAST

Date: 23 May 2025

Job No.: J7400 & J7401

Link ID	Road Section	From Road	To Road	Speed Limit (kph)	Road Classification	AM Peak Hour		
						Traffic Flows (veh/hr)	Vehicle Composition	
							LV	HV
L001	Kam Pok Road (EB)	Pok Wai South Road	Kam Pok Road East	50	LD	80	43%	57%
L002	Kam Pok Road (WB)	Kam Pok Road East	Pok Wai South Road	50	LD	130	42%	58%
L003	Kam Pok Road (NB)	Pok Wai West Road	Kam Pok Road East	50	LD	80	18%	82%
L004	Kam Pok Road (SB)	Kam Pok Road East	Pok Wai West Road	50	LD	70	48%	52%
L005	Kam Pok Road East (WB)	Castle Peak Road - Tam Mi	Kam Pok Road	50	LD	170	43%	57%
L006	Kam Pok Road East (EB)	Kam Pok Road	Castle Peak Road - Tam Mi	50	LD	140	27%	73%
L007	Castle Peak Road - Tam Mi (NB)	Kam Pok Road East	Fairview Park Interchange	50	RR	460	49%	51%
L008	Castle Peak Road - Tam Mi (SB)	Fairview Park Interchange	Kam Pok Road East	50	RR	290	51%	49%
L009	San Tin Highway (NB)	San Tin Highway	Fairview Park Interchange	50	DD	820	72%	28%
L010	San Tin Highway (NB)	San Tin Highway	San Tin Highway	100	PD	3,940	68%	32%
L011	San Tin Highway (SB)	San Tin Highway	San Tin Highway	100	PD	3,610	57%	43%
L012	San Tin Highway (SB)	Fairview Park Interchange	San Tin Highway	50	DD	1,130	75%	25%
L013	San Tam Road (NB)	Unnamed Road	Fairview Park Interchange	50	RR	340	62%	38%
L014	San Tam Road (SB)	Fairview Park Interchange	Unnamed Road	50	RR	700	68%	32%
L015	Unnamed Road (EB)	San Tam Road	Cul-de-sac	50	RR	10	75%	25%
L016	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	80%	20%
L017	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	68%	32%
L018	San Tam Road (NB)	Fung Kat Heung Road	Unnamed Road	50	RR	330	62%	38%
L019	San Tin Highway (SB)	San Tin Highway	Yuen Long Highway	100	PD	4,740	61%	39%
L020	San Tin Highway (NB)	Yuen Long Highway	San Tin Highway	100	PD	4,760	69%	31%
L021	Castle Peak Road - Tam Mi (SB)	Kam Pok Road East	Access Road to Merry Garden	50	RR	160	62%	38%
L022	Castle Peak Road - Tam Mi (NB)	Access Road to Merry Garden	Kam Pok Road East	50	RR	370	57%	43%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

PD – Primary Distributor

DD – District Distributor

LD – Local Distributor

RR – Rural Road

YEAR 2045 TRAFFIC FORECAST

Date: 23 May 2025

Job No.: J7400 & J7401

Link ID	Road Section	From Road	To Road	Speed Limit (kph)	Road Classification	PM Peak Hour		
						Traffic Flows (veh/hr)	Vehicle Composition	
							LV	HV
L001	Kam Pok Road (EB)	Pok Wai South Road	Kam Pok Road East	50	LD	120	40%	60%
L002	Kam Pok Road (WB)	Kam Pok Road East	Pok Wai South Road	50	LD	100	39%	61%
L003	Kam Pok Road (NB)	Pok Wai West Road	Kam Pok Road East	50	LD	70	43%	57%
L004	Kam Pok Road (SB)	Kam Pok Road East	Pok Wai West Road	50	LD	70	20%	80%
L005	Kam Pok Road East (WB)	Castle Peak Road - Tam Mi	Kam Pok Road	50	LD	150	33%	67%
L006	Kam Pok Road East (EB)	Kam Pok Road	Castle Peak Road - Tam Mi	50	LD	170	42%	58%
L007	Castle Peak Road - Tam Mi (NB)	Kam Pok Road East	Fairview Park Interchange	50	RR	450	56%	44%
L008	Castle Peak Road - Tam Mi (SB)	Fairview Park Interchange	Kam Pok Road East	50	RR	270	51%	49%
L009	San Tin Highway (NB)	San Tin Highway	Fairview Park Interchange	50	DD	880	73%	27%
L010	San Tin Highway (NB)	San Tin Highway	San Tin Highway	100	PD	3,750	71%	29%
L011	San Tin Highway (SB)	San Tin Highway	San Tin Highway	100	PD	3,900	68%	32%
L012	San Tin Highway (SB)	Fairview Park Interchange	San Tin Highway	50	DD	680	76%	24%
L013	San Tam Road (NB)	Unnamed Road	Fairview Park Interchange	50	RR	330	67%	33%
L014	San Tam Road (SB)	Fairview Park Interchange	Unnamed Road	50	RR	700	66%	34%
L015	Unnamed Road (EB)	San Tam Road	Cul-de-sac	50	RR	10	100%	0%
L016	Unnamed Road (WB)	Cul-de-sac	San Tam Road	50	RR	10	100%	0%
L017	San Tam Road (SB)	Unnamed Road	Fung Kat Heung Road	50	RR	700	66%	34%
L018	San Tam Road (NB)	Fung Kat Heung Road	Unnamed Road	50	RR	330	67%	33%
L019	San Tin Highway (SB)	San Tin Highway	Yuen Long Highway	100	PD	4,570	69%	31%
L020	San Tin Highway (NB)	Yuen Long Highway	San Tin Highway	100	PD	4,630	71%	29%
L021	Castle Peak Road - Tam Mi (SB)	Kam Pok Road East	Access Road to Merry Garden	50	RR	160	62%	38%
L022	Castle Peak Road - Tam Mi (NB)	Access Road to Merry Garden	Kam Pok Road East	50	RR	340	59%	41%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

PD – Primary Distributor

DD – District Distributor

LD – Local Distributor

RR – Rural Road

APPENDIX 3.2 TRAFFIC NOISE IMPACT ASSESSMENT RESULTS

Predicted Road Traffic Noise Levels for 2045 (Mitigated Case Scenario)

Floor	NAP ID	Description	Floor Height, mPD	Assessment Height, mPD	Noise Criteria, dB(A)	Unmitigated Noise Level, L_{10} (1 hour) ^{1/3} , dB(A)	Proposed Noise Mitigation Measures	Estimated Noise Attenuation, dB(A)	Mitigated Noise Level, L_{10} (1 hour) ^{1/3} , dB(A)	Compliance
						AM				
G/F	GF N01	Rehab Zone	+7.50	+8.7	70	73	Fixed Glazing	N/A	N/A	Yes
	GF N02	Multi-purpose Room			70	67				
	GF N03	Multi-purpose Room			70	67				
	GF N04	RCHE Dormitory			70	66				
	GF N05	RCHE Dormitory			70	66				
	GF N06	RCHE Dormitory			70	66				
	GF N07	RCHE Dormitory			70	65				
	GF N08	RCHE Dormitory			70	65				
	GF N09	RCHE Dormitory			70	65				
	GF N10	RCHE Dormitory			70	65				
	GF N11	RCHE Dormitory			70	65				
	GF N12	RCHE Dormitory			70	64				
	GF N13	RCHE Dormitory			70	64				
	GF N14	RCHE Dormitory			70	64				
	GF N15	RCHE Dormitory			70	67				
1/F	1F N01	Dining Area	+12.00	+13.2	70	76	Type 2	7	69	Yes
	1F N02	Dining Area			70	75	Type 2	7	68	Yes
	1F N03	Multi-purpose Room			70	75	Type 2	7	68	Yes
	1F N04	Multi-purpose Room			70	75	Type 2	7	68	Yes
	1F N05	Multi-purpose Room			70	74	Type 2	7	67	Yes
	1F N06	Communal Area			70	74	Type 2	7	67	Yes
	1F N07	Communal Area			70	75	Type 2	7	68	Yes
	1F N08	Communal Area			70	75	Type 2	7	68	Yes
	1F N09	RCHE Dormitory			70	68	N/A	N/A	68	Yes
	1F N10	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	1F N11	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	1F N12	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	1F N13	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	1F N14	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	1F N15	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	1F N16	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	1F N17	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	1F N18	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	1F N19	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	1F N20	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	1F N21	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	1F N22	RCHE Dormitory			70	64	N/A	N/A	64	Yes
	1F N23	RCHE Dormitory			70	64	N/A	N/A	64	Yes
	1F N24	RCHE Dormitory			70	67	N/A	N/A	67	Yes
2/F	2F N01	RCHE Dormitory	+16.00	+17.2	70	77	Type 2	7	70	Yes
	2F N02	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F N03	RCHE Dormitory			70	76	Type 2	7	69	Yes
	2F N04	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F N05	RCHE Dormitory			70	75	Type 2	7	68	Yes
	2F N06	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F N07	RCHE Dormitory			70	75	Type 2	7	68	Yes
	2F N08	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F N09	RCHE Dormitory			70	74	Type 2	7	67	Yes
	2F N10	RCHE Dormitory			70	77	Type 2	7	70	Yes
	2F N11	Communal Area			70	76	Type 2	7	69	Yes
	2F N12	Communal Area			70	77	Type 2	7	70	Yes
	2F N13	Communal Area			70	76	Type 2	7	69	Yes
	2F N14	RCHE Dormitory			70	68	N/A	N/A	68	Yes
	2F N15	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	2F N16	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	2F N17	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	2F N18	RCHE Dormitory			70	67	N/A	N/A	67	Yes
	2F N19	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	2F N20	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	2F N21	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	2F N22	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	2F N23	RCHE Dormitory			70	66	N/A	N/A	66	Yes
	2F N24	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	2F N25	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	2F N26	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	2F N27	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	2F N28	RCHE Dormitory			70	65	N/A	N/A	65	Yes
	2F N29	RCHE Dormitory			70	68	N/A	N/A	68	Yes
	2F N30	RCHE Dormitory			70	45	N/A	N/A	45	Yes

Results Summary	
Total No. of NAPs	69
Total No. of NAPs with exceedance	0
Compliance Rate	100%

Appendix 5

Sewerage Impact Assessment (SIA)

**PROPOSED SOCIAL WELFARE FACILITIES
(RESIDENTIAL CARE HOME FOR THE
ELDERLY (RCHE)) IN “VILLAGE TYPE
DEVELOPMENT” ZONE, VARIOUS LOTS IN
D.D. 104 AND ADJOINING GOVERNMENT
LAND, NAM SANG WAI, YUEN LONG**

SEWERAGE IMPACT ASSESSMENT

20 May 2025

Report No: RT25285-SIA-01

Prepared By:



BeeXergy Consulting Limited (BXG)

Phone: (852) 3568-4701

Address: Unit 2501, 2503 & 2504,
25/F, AIA Financial Centre,
712 Prince Edward Road East,
Kowloon, Hong Kong

Email: info@beexergy.com

Project:	PROPOSED SOCIAL WELFARE FACILITIES (RESIDENTIAL CARE HOME FOR THE ELDERLY (RCHE)) IN "VILLAGE TYPE DEVELOPMENT" ZONE, VARIOUS LOTS IN D.D. 104 AND ADJOINING GOVERNMENT LAND, NAM SANG WAI, YUEN LONG SEWERAGE IMPACT ASSESSMENT				
Report No.:	Ref: RT25285-SIA-01				
Revision	Issue Date	Description	Author	Checker	Approver
0	20/05/2025	Issued for Comment	LY	YS	HM

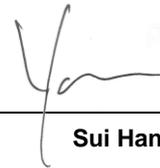
Prepared By:



Leo Yu

Consultant

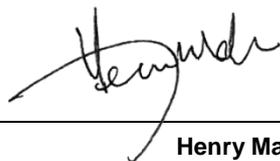
Checked by



Sui Hang Yan

Technical Director

Approved by:



Henry Mak

Director

Disclaimer:

- This report is prepared and submitted by Beexergy Consulting 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.

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1.2	PROJECT LOCATION.....	1
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2	SEWERAGE IMPACT ASSESSMENT	1
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2.2	EXISTING SEWERAGE FACILITIES	1
2.3	ASSESSMENT CRITERIA, METHODOLOGY, AND ASSUMPTIONS	2
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3	CONCLUSION	4

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1. The Project Proponent proposes to develop a 3-storey Residential Care Home for the Elderly (RCHE) in various lots in D.D. 104, Nam Sang Wai (hereafter called “the Proposed Development”).

1.1.1. BeeXergy Consulting Limited was appointed by DeSPACE (International) Limited (the Town Planner) to conduct a Sewerage Impact Assessment (SIA) for the Proposed Development to support the application under Section 16 of the Town Planning Ordinance. The latest architectural drawings and technical information on the Project Site were largely provided by the Project Architect.

1.2 PROJECT LOCATION

1.2.1. The Project Site is approximately 1844m², currently bounded by abandoned fishponds to the north and west, Kam Pok Road East to the south. **Figure 1** shows the location of the Project Site and its surrounding area.

1.3 DESCRIPTION OF THE SUBJECT SITE AND PROPOSED DEVELOPMENT

1.3.1. The Project Site area is approximately 1,844m². The Proposed Development is a 3-storey building consisting of RCHE dormitory and communal area. The master layout plan provided by the Project Architect is enclosed in **Appendix A**.

2 SEWERAGE IMPACT ASSESSMENT

2.1 SCOPE OF WORKS

2.1.1. The objective of this SIA is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewage flow arising from the Proposed Development during its operation stage or not and to recommend appropriate mitigation measures to alleviate unacceptable sewerage impact, if any.

2.2 EXISTING SEWERAGE FACILITIES

2.2.1. The existing sewerage record from the Lands Department (LandsD) and Drainage Service Department (DSD) are obtained for this SIA and attached in **Figure 2**. There are no existing manholes located within the Project Site. The public sewerage facility located closest to the Project Site is Nam Sang Wai Sewage Pumping Station which is located approximately 800m away from the boundary of the Project Site.

- 2.2.2. A site survey to identify the existing site condition and surrounding environment was conducted on 06 May 2025. The existing public sewerage system identified along Kam Pok Road East could serve the Project Site. The location of the proposed termination manhole and connection are shown in **Figure 3**.
- 2.2.3. A new terminal manhole (namely S1) will be built to collect the sewage generated from the Proposed Development and connect to the existing sewer via a 225mm diameter sewer pipe. The capacity check of the sewer will start from the proposed terminal manhole S1.

2.3 ASSESSMENT CRITERIA, METHODOLOGY, AND ASSUMPTIONS

- 2.3.1. The Unit Flow Factors and Global Peaking Factor are adopted from the figures in the Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (Version 1.0)¹ (GESF) issued by the Environmental Protection Department (EPD) in March 2005 to estimate the sewage flows generated from the Project Site.
- 2.3.2. The Unit Flow Factors and Catchment Inflow Factors as shown in **Table 2.1** below are adopted in the assessment and the surrounding catchments are shown in **Figure 4**.

Table 2.1 Unit Flow Factors and Catchment Inflow Factors Extracted from GESF

Parameter	Value	Justification
<i>Population</i>		
Residents in Proposed Development	208 people	208 beds
Employees in Proposed Development	90 people	Advised by Project Proponent
<i>Unit Flow Factors</i>		
Residents and Visitors in Proposed Development	0.19m ³ /day	“Institutional and special class” based on EPD’s GESF Table T-1.
Employees in Proposed Development	0.28m ³ /day	J11 “Community, Social & Personal Services” based on EPD’s GESF Table T-2.
<i>Catchment Inflow Factor (P_{CIF})</i>		
Discharge from the Project Site and all Catchments	1.0	Yuen Long Catchment based on EPD’s GESF Table T-4.

¹ http://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/guide_ref/files/gesf.pdf

- 2.3.3. With reference to Table T-5 of GESF, a global peaking factor of 8 and 6 (including stormwater allowance) are adopted according to the contributing population.
- 2.3.4. With reference to Table 5 in the Sewerage Manual (Part 1)² issued by the DSD in May 2013, slimed sewer of k_s of 0.6mm under “Poor” condition is assumed for both the sewers from the Subject Site and existing sewerage system in the worst-case scenario. The Colebrook-White Equation will be used to analyse the flow conditions. Equation (ii) for circular pipes flowing partially full is adopted to estimate the sewage flow for the Subject Site and following sewers.

2.4 RESULTS AND DISCUSSION

- 2.4.1. The estimated average flow rate and total peak flow of the Proposed Development are approximately 64.7m³/day and 5.99L/s.
- 2.4.2. Sewage generated from the Proposed Development and surrounding catchment areas will be connected at the downstream of sewage network. The cumulative flow is generally no more than 20% of sewer capacity and no adverse sewerage impacts to the existing sewerage system are identified. Therefore, no upgrading or improvement works of the sewerage system are required. Details of the sewage calculation are included in **Appendix D**.

² http://www.dsd.gov.hk/EN/Files/Technical_Manual/technical_manuals/Sewerage_Manual_1_Eurocodes.pdf

3 CONCLUSION

- 3.1.1. A Social Welfare Facility (Residential Care Home for the Elderly) is proposed to develop at various lots in D.D. 104, Nam Sang Wai. This is the SIA to support the application under Section 16 of the Town Planning Ordinance.
- 3.1.2. Based on the SIA results, it is found that the existing sewerage system serving the area has sufficient capacity to cater for the sewage generation from the proposed development and the surrounding catchment areas. Adverse sewerage impacts are not anticipated, and thus no upgrading or improvement works are required.

FIGURE 1
LOCATION OF THE PROJECT SITE AND ITS
SURROUNDING AREA

LEGEND:

 Site Boundary



	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

Drawing Title
 PROPOSED DEVELOPMENT LOCATION

Drawing No. FIGURE 1	Rev. 0
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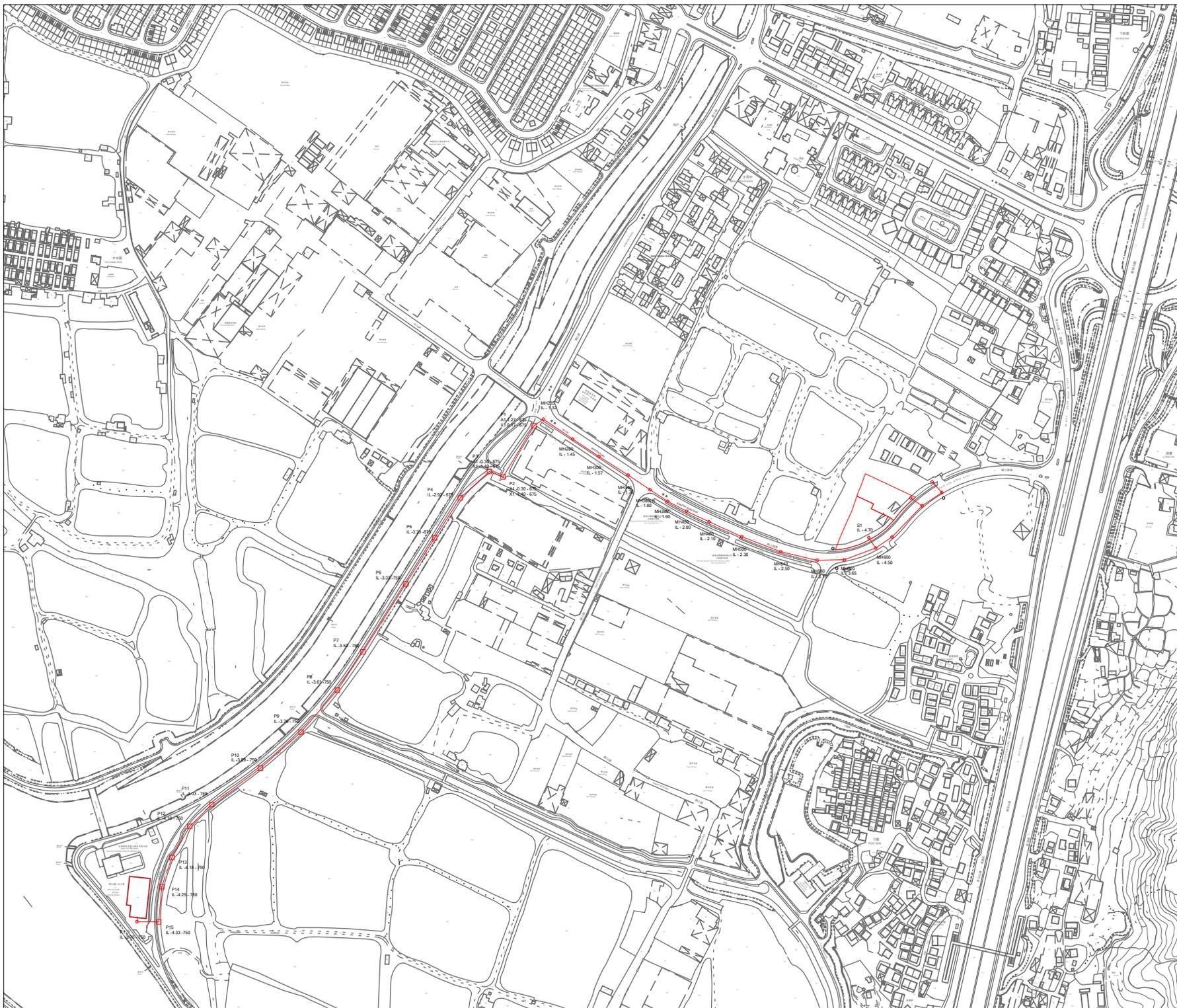
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FIGURE 3

**PROPOSED TERMINAL MANHOLE AND
CONNECTION**

LEGEND:

- Site Boundary
- Manhole



	Prepared	Checked	Approved
Initial	LY	YS	HM
Date	20250516	20250516	20250516

Project Title
 Proposed Social Welfare Facilities (Residential Care Home for the Elderly(RCHe)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

Drawing Title
 PROPOSED TERMINAL MANHOLE AND CONNECTION

Drawing No. FIGURE 3	Rev. 0
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Scale:
 A4 - 1:5500

APPENDIX A

MASTER LAYOUT PLAN

NOTES:

LEGEND:

-  THE SITE
-  SHARED EVA
-  GOVERNMENT LAND
-  OVERHEAD LINES
-  EXISTING NOISE BARRIER

REV	DATE	DESCRIPTION	BY	CHKD
5.5.2025		CONCEPT DESIGN	KC	PC

Do not scale from drawings. All dimensions must be checked and verified on site before any works are undertaken. Any discrepancies must be reported in writing to Architect.

CLIENT

TOWN PLANNER

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ARCHITECT

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PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

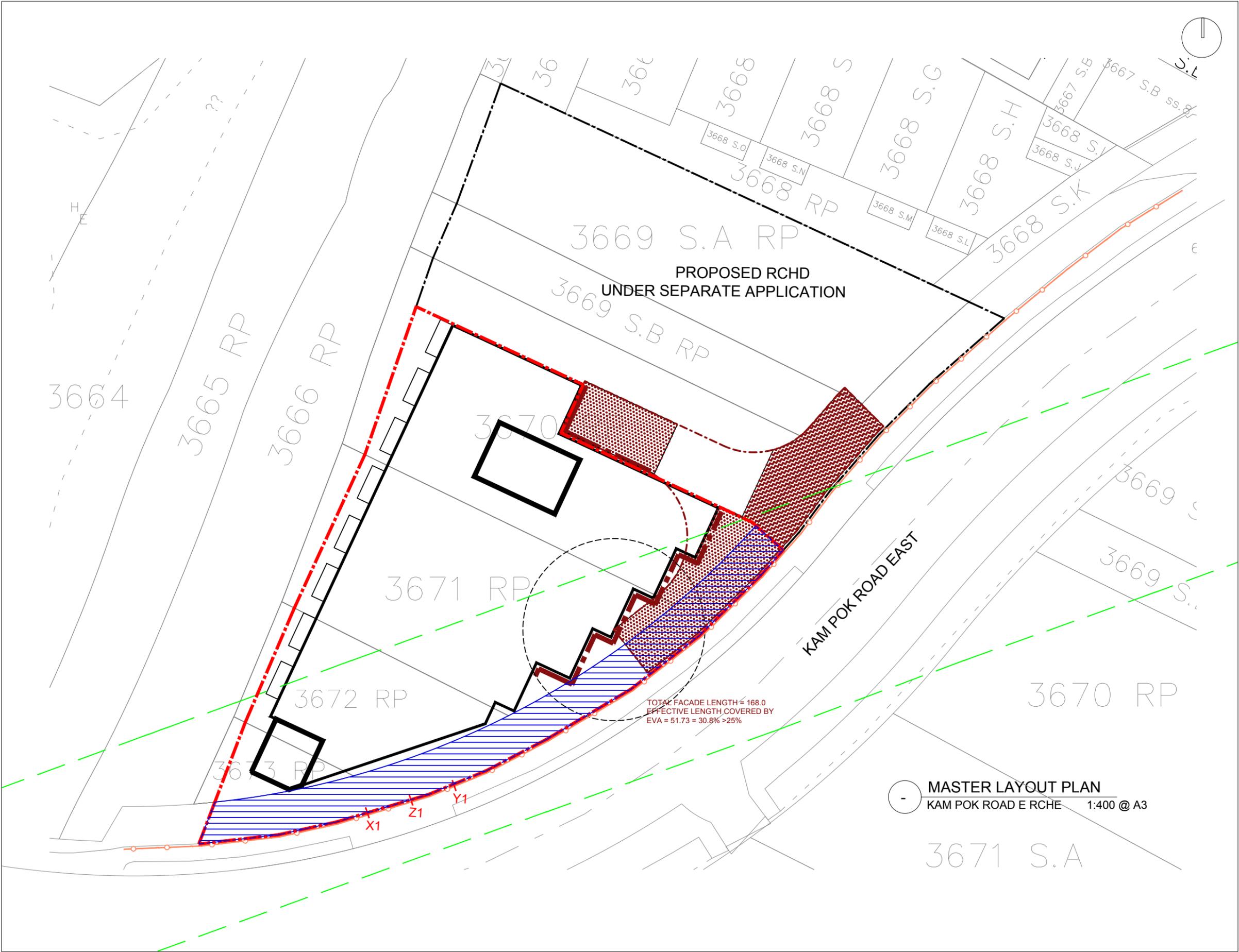
DRAWING : MASTER LAYOUT PLAN

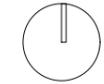
SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

FIGURE 2 MAY 2025





NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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TOWN PLANNER

DeSPACE (International) Limited



ARCHITECT

Vessel International Limited
Syn Plus Design Limited



PROJECT : Proposed Social Welfare Facilities (Residential Care Home for the Elderly (RCHE)) in "Village Type Development" Zone, Various Lots in D.D. 104 and Adjoining Government Land, Nam Sang Wai, Yuen Long

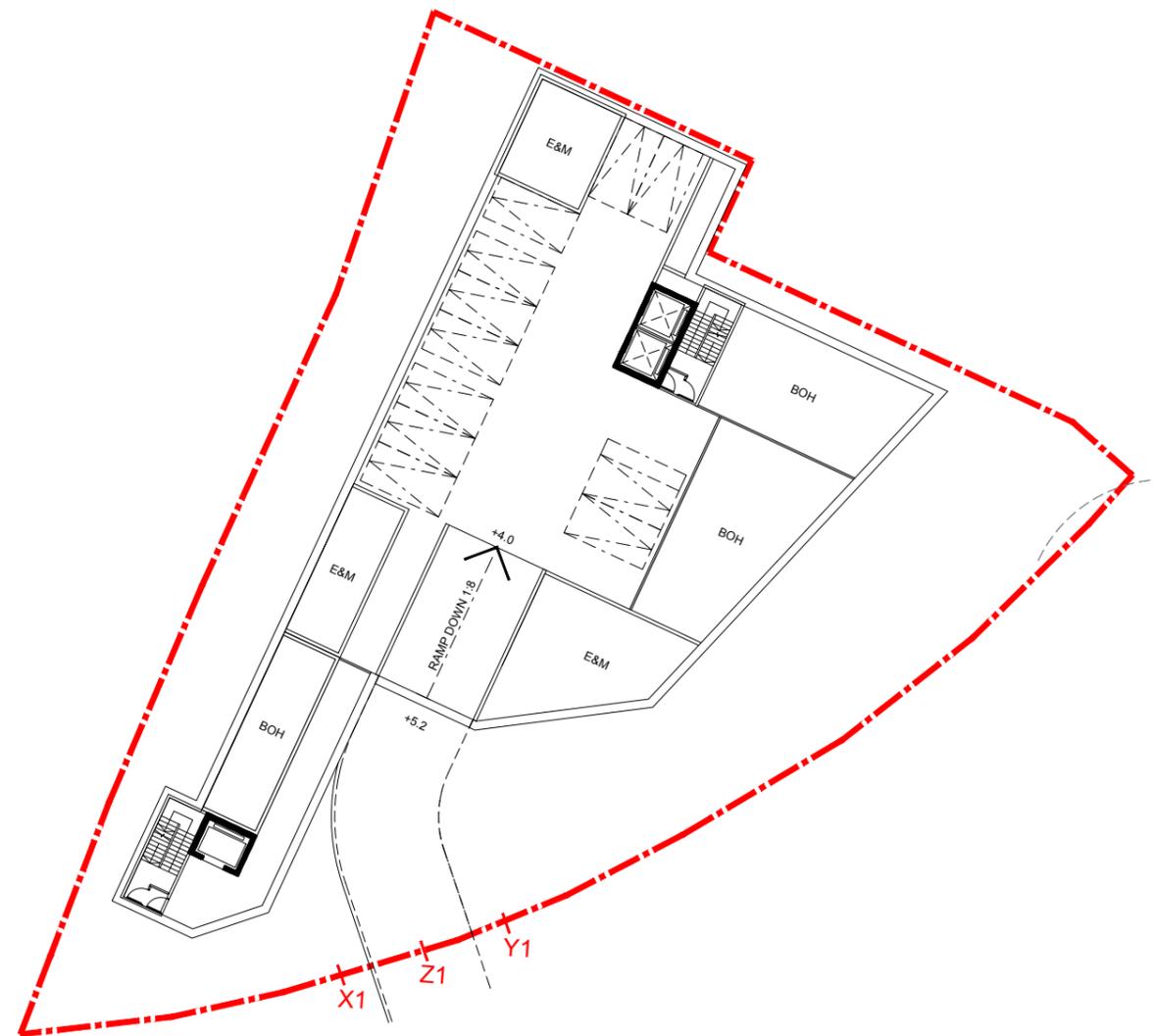
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B102 MAY 2025



BASEMENT FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

NOTES:

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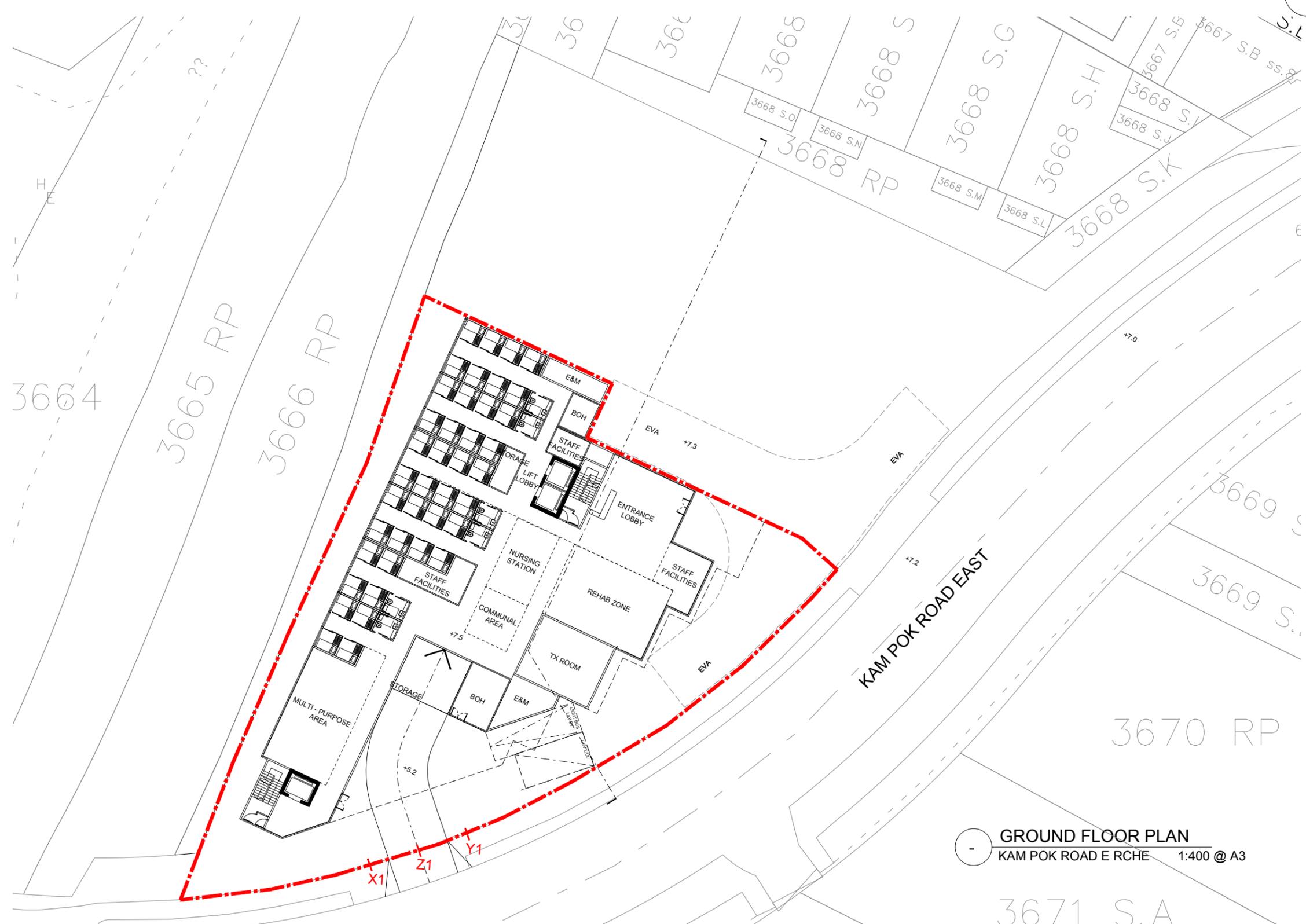
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

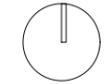
Drawing No. : Date:

CP-B103 MAY 2025



GROUND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3

3671 S.A



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
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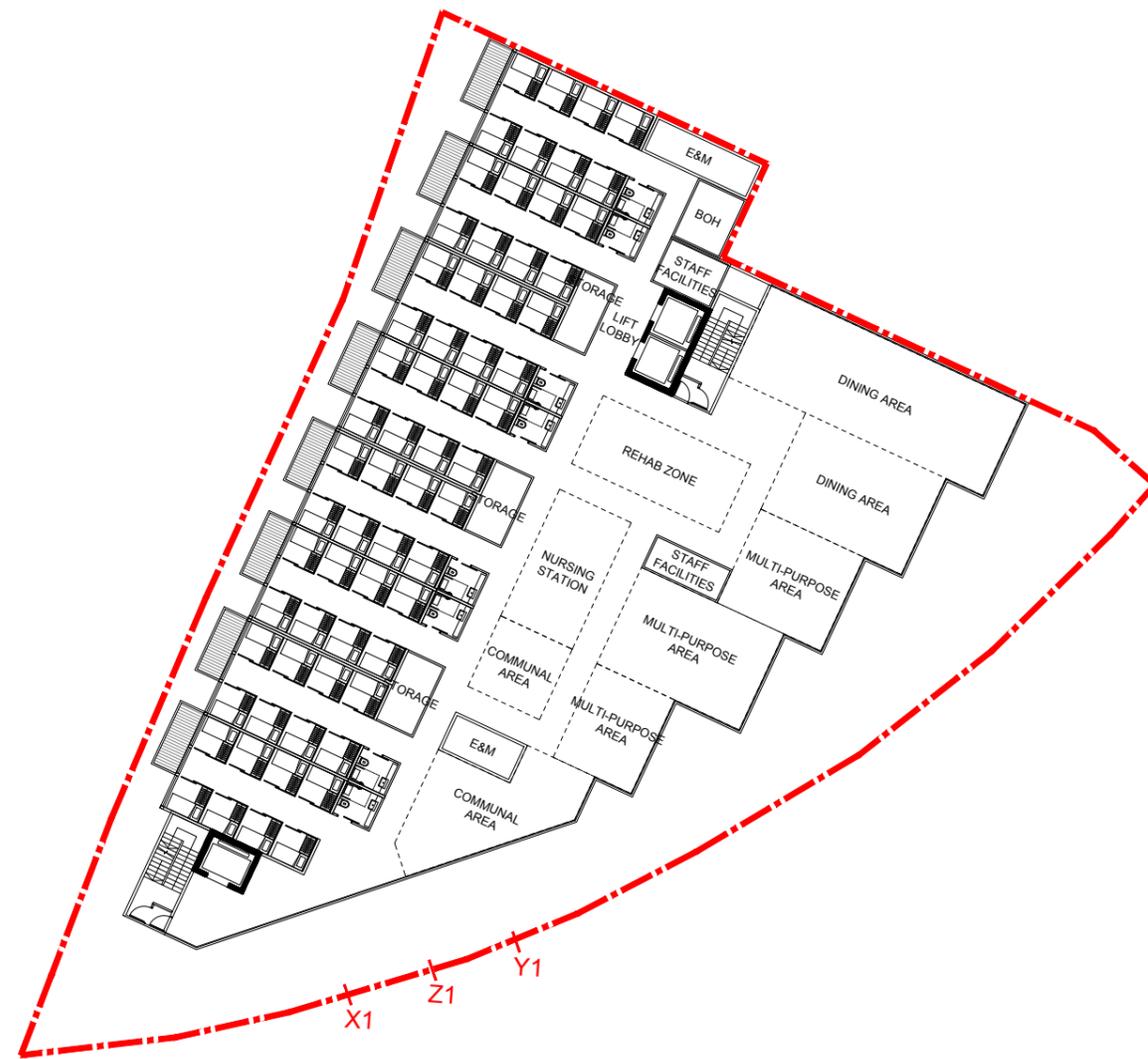
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B104 MAY 2025



1ST FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

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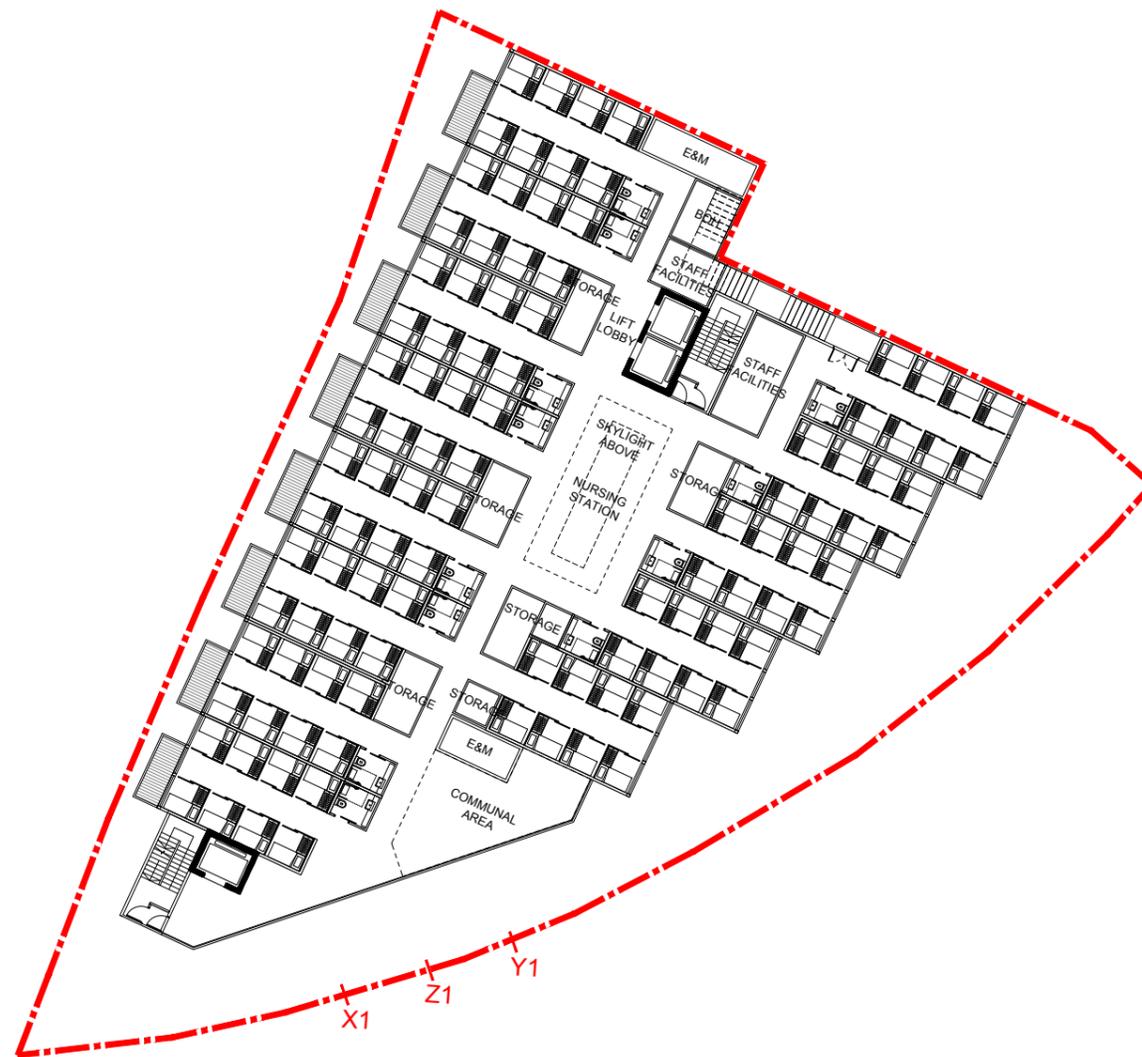
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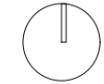
PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B105 MAY 2025



2ND FLOOR PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

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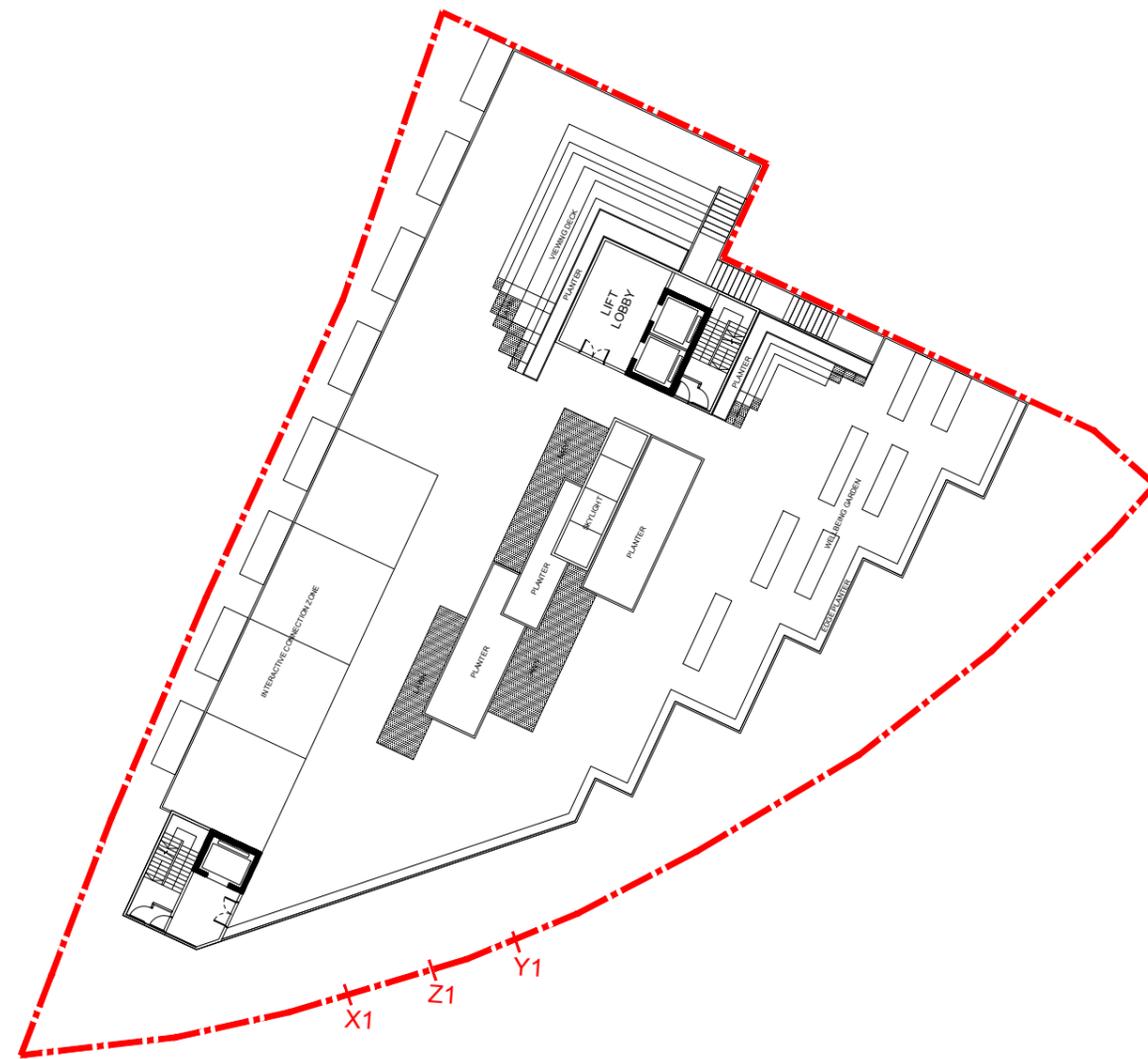
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SCALE : 1:400 @A3 Rev: —

PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B106 MAY 2025



ROOF PLAN
KAM POK ROAD E RCHE 1:400 @ A3



NOTES:

REV	DATE	DESCRIPTION	BY	CHKD
-	5.5.2025	CONCEPT DESIGN	KC	PC

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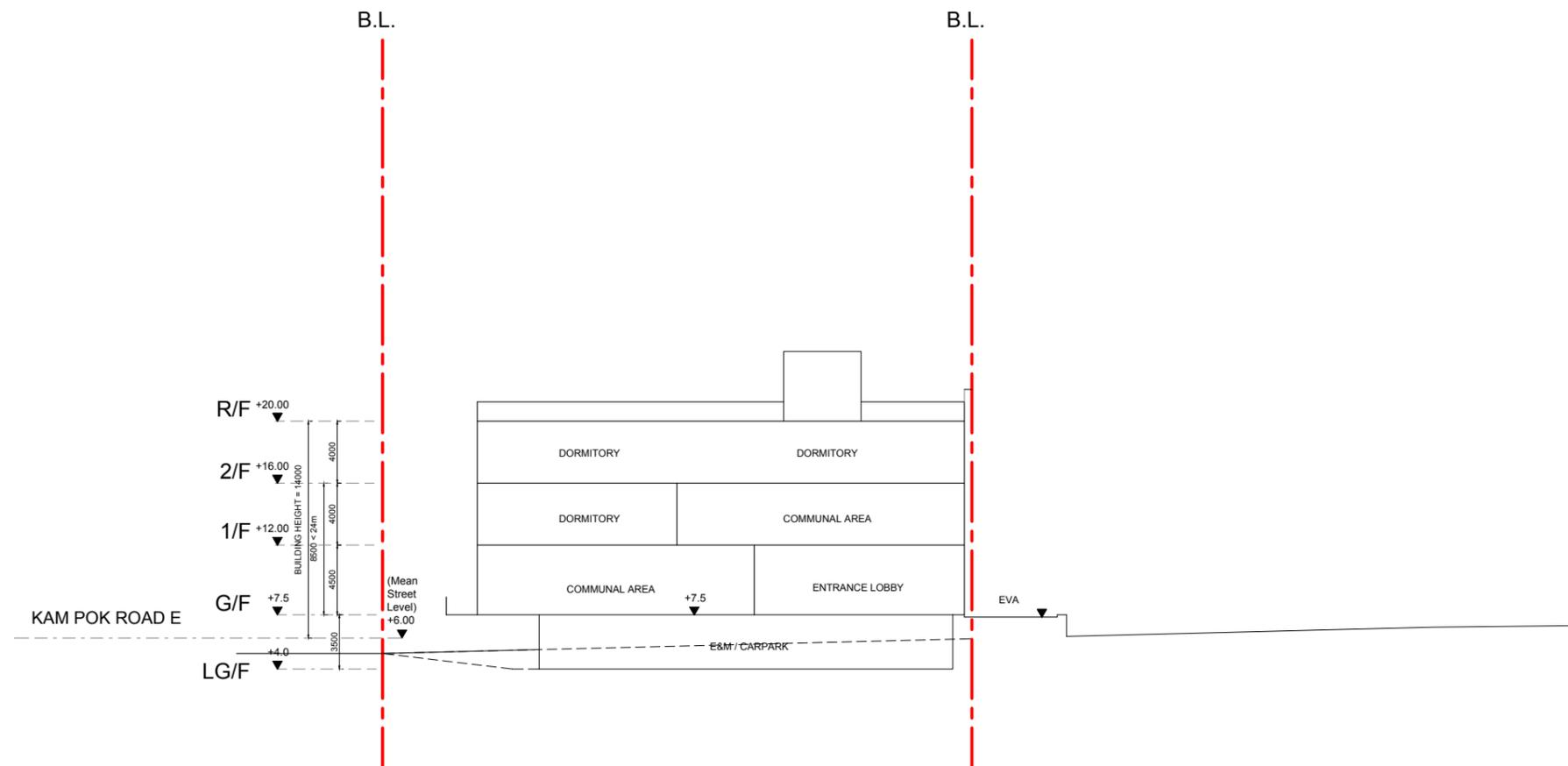
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PROJECT NO: 25001_KPR

Drawing No. : Date:

CP-B201 MAY 2025



SCHEMATIC SECTION
KAM POK ROAD E RCHE 1:400 @ A3

APPENDIX B
SEWAGE CALCULATION AND HYDRAULIC
CAPACITY CHECK

APPENDIX B - CALCULATION OF SEWAGE FLOW

Development	GFA (m ²)	No. of Flat	Occupancy Density ^{(a), (b)} (Number of Persons) (Workers per GFA in 100m ²)	Estimated Population	Unit Flow Factor (m ³ /day)	Estimated Average Dry Weather Flow (m ³ /day)	Catchment Inflow Factor	Estimated Average Dry Weather Flow X Catchment Inflow Factor (m ³ /day)	Remarks
1) Proposed Development									
Residents in Proposed Development	3850	-	-	208	0.19	39.520	1.0	39.520	Estimated Population: The proposed development scheme will provide 208 bed spaces. Unit Flow Factor: 0.190m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Employees in Proposed Development		-	-	90	0.28	25.200		25.200	Estimated Population: Number of staff advised by Project Proponent . Unit Flow Factor: 0.280m ³ /day for 'Institutional and special class' based on EPD's GESF Table T-1
Total Average Daily Dry Weather Flow of Proposed Development (m³/day)								64.720	

Appendix B - Hydraulic Capacity of the Proposed and Downstream Sewers

Manhole Reference	Manhole Reference	Pipe Dia. mm	Pipe Length m	stream Invert Level mPD	Downstream Invert Level mPD	g ⁽¹⁾ m/s ²	k _s ^{(1),(2)} m	s ⁽¹⁾	v ⁽¹⁾ m ² /s	v ^{(1),(2)} m/s	A m ²	Q ⁽⁴⁾ m ³ /s	rated Caps L/s	ADWF m ³ /day	Contributing Population	Peaking Factor	Peak Flow L/s	Capacity %	Compliance	Remarks
S1	MH660	225	27.0	4.700	4.500	9.81	0.0006	0.0074	1.31E-06	1.1196	0.0398	0.0445	44.52	64.72	298	8	5.99	13.5%	Yes	Project Site
MH660	MH620	225	42.0	4.500	3.650	9.81	0.0006	0.0202	1.31E-06	1.8611	0.0398	0.0740	74.00	64.72	298	8	5.99	8.1%	Yes	Project Site
MH620	MH580	225	31.0	3.650	3.150	9.81	0.0006	0.0161	1.31E-06	1.6597	0.0398	0.0660	65.99	64.72	298	8	5.99	9.1%	Yes	Project Site
MH580	MH540	225	38.0	3.150	2.500	9.81	0.0006	0.0171	1.31E-06	1.7097	0.0398	0.0680	67.98	64.72	298	8	5.99	8.8%	Yes	Project Site
MH540	MH500	300	46.0	2.500	2.300	9.81	0.0006	0.0043	1.31E-06	1.0286	0.0707	0.0727	72.71	64.72	298	8	5.99	8.2%	Yes	Project Site
MH500	MH460	300	40.0	2.300	2.100	9.81	0.0006	0.0050	1.31E-06	1.1042	0.0707	0.0781	78.05	64.72	298	8	5.99	7.7%	Yes	Project Site
MH460	MH420	300	27.0	2.100	2.000	9.81	0.0006	0.0037	1.31E-06	0.9482	0.0707	0.0670	67.02	64.72	298	8	5.99	8.9%	Yes	Project Site
MH420	MH380	300	24.0	2.000	1.900	9.81	0.0006	0.0042	1.31E-06	1.0066	0.0707	0.0712	71.16	64.72	298	8	5.99	8.4%	Yes	Project Site
MH380	MH380(1)	300	23.0	1.900	1.800	9.81	0.0006	0.0043	1.31E-06	1.0286	0.0707	0.0727	72.71	64.72	298	8	5.99	8.2%	Yes	Project Site
MH380(1)	MH340	300	29.0	1.800	1.700	9.81	0.0006	0.0034	1.31E-06	0.9144	0.0707	0.0646	64.63	64.72	298	8	5.99	9.3%	Yes	Project Site
MH340	MH300	300	38.0	1.700	1.570	9.81	0.0006	0.0034	1.31E-06	0.9107	0.0707	0.0644	64.37	64.72	298	8	5.99	9.3%	Yes	Project Site
MH300	MH260	300	35.0	1.570	1.450	9.81	0.0006	0.0034	1.31E-06	0.9117	0.0707	0.0644	64.44	64.72	298	8	5.99	9.3%	Yes	Project Site
MH260	MH235	300	39.0	1.450	1.320	9.81	0.0006	0.0033	1.31E-06	0.8987	0.0707	0.0635	63.53	64.72	298	8	5.99	9.4%	Yes	Project Site
MH235	P1	300	13.0	1.320	0.170	9.81	0.0006	0.0885	1.31E-06	4.6970	0.0707	0.3320	332.01	64.72	298	8	5.99	1.8%	Yes	Project Site
P1	P2	675	66.0	0.170	-1.400	9.81	0.0006	0.0238	1.31E-06	4.0451	0.3578	1.4475	1447.52	64.72	298	8	5.99	0.4%	Yes	Project Site
P2	P3	675	16.0	-1.400	-2.610	9.81	0.0006	0.0756	1.31E-06	7.2258	0.3578	2.5857	2585.73	64.72	298	8	5.99	0.2%	Yes	Project Site
P3	P4	675	43.0	-2.610	-2.920	9.81	0.0006	0.0072	1.31E-06	2.2194	0.3578	0.7942	794.19	64.72	298	8	5.99	0.8%	Yes	Project Site
P4	P5	675	52.0	-2.920	-3.200	9.81	0.0006	0.0054	1.31E-06	1.9158	0.3578	0.8856	885.57	64.72	298	8	5.99	0.9%	Yes	Project Site
P5	P6	750	60.0	-3.200	-3.330	9.81	0.0006	0.0022	1.31E-06	1.2920	0.4418	0.5708	570.80	64.72	298	8	5.99	1.0%	Yes	Project Site
P6	P7	750	88.0	-3.330	-3.520	9.81	0.0006	0.0022	1.31E-06	1.2897	0.4418	0.5698	569.79	64.72	298	8	5.99	1.1%	Yes	Project Site
P7	P8	750	50.0	-3.520	-3.630	9.81	0.0006	0.0022	1.31E-06	1.3020	0.4418	0.5752	575.23	64.72	298	8	5.99	1.0%	Yes	Project Site
P8	P9	750	61.0	-3.630	-3.760	9.81	0.0006	0.0021	1.31E-06	1.2813	0.4418	0.5660	566.04	64.72	298	8	5.99	1.1%	Yes	Project Site
P9	P10	750	59.0	-3.760	-3.890	9.81	0.0006	0.0022	1.31E-06	1.3031	0.4418	0.5757	575.68	64.72	298	8	5.99	1.0%	Yes	Project Site
P10	P11	750	67.0	-3.890	-4.030	9.81	0.0006	0.0021	1.31E-06	1.2685	0.4418	0.5604	560.43	64.72	298	8	5.99	1.1%	Yes	Project Site
P11	P12	750	34.0	-4.030	-4.100	9.81	0.0006	0.0021	1.31E-06	1.2591	0.4418	0.5562	556.24	64.72	298	8	5.99	1.1%	Yes	Project Site
P12	P13	750	40.0	-4.100	-4.180	9.81	0.0006	0.0020	1.31E-06	1.2407	0.4418	0.5481	548.13	64.72	298	8	5.99	1.1%	Yes	Project Site
P13	P14	750	34.0	-4.180	-4.250	9.81	0.0006	0.0021	1.31E-06	1.2591	0.4418	0.5562	556.24	64.72	298	8	5.99	1.1%	Yes	Project Site
P14	P15	750	39.0	-4.250	-4.330	9.81	0.0006	0.0021	1.31E-06	1.2567	0.4418	0.5552	555.21	64.72	298	8	5.99	1.1%	Yes	Project Site
P15	E1	750	24.0	-4.330	-4.380	9.81	0.0006	0.0021	1.31E-06	1.2666	0.4418	0.5596	559.58	64.72	298	8	5.99	1.1%	Yes	Project Site

Note:

(1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2) The mean velocity (V) is calculated by the Colebrook-White Equation for circular pipes:

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

where V = mean velocity (m/s)

g = gravitational acceleration (m/s²)

D = internal pipe diameter (m)

s = slope

k_s = roughness coefficient(m)

v = kinematic viscosity of fluid (m²/s)

(3) The value of k_s = 0.6mm is used for the calculation of existing pipe for conservative approach and 0.6mm for proposed new clayware pipe in poor condition based on DSD's "Sewerage Manual" Table 5: Recommended roughness values

(4) Peak flow (Q) is calculated by Q = V x A