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URBAN AND REGIONAL PLANNING, DEVELOPMENT CONSULTANCY, MASTER PLANNING, URBAN DESIGN, ARCHITECTURE, LANDSCAPE ARCHITECTURE, PROJECT MANAGEMENT AND SOCIAL DEVELOPMENT

Reference SYRKTS/JANICE/07
Date 16 February 2026

By HAND and EMAIL

The Secretary, Town Planning Board
c/o Planning Department
15/F North Point Government Offices
333 Java Road, North Point,
HONG KONG

Dear Sir / Madam,

SECTION 12A PLANNING APPLICATION
TOWN PLANNING ORDINANCE (CHAPTER 131)

PROPOSED AMENDMENT TO THE APPROVED KWU TUNG SOUTH OUTLINE ZONING PLAN NO. S/NE-KTS/22 FROM "AGRICULTURE" ZONE AND "GREEN BELT" ZONE TO "GOVERNMENT, INSTITUTION OR COMMUNITY" ZONE AT VARIOUS LOTS IN D.D. 94, 98, & 100 AND ADJOINING GOVERNMENT LAND, KWU TUNG SOUTH, NEW TERRITORIES (TPB Ref. Y/NE-KTS/18)

We write with regards to the captioned Planning Application submitted to the Town Planning Board ("**TPB**") on 23 October 2025 and received by TPB on 18 November 2025 and subsequent Supplementary Information Paper ("**SIP**") submitted to TPB on 24 December 2025.

Comments were received from various Government Departments, including Agriculture, Fisheries and Conservation Department ("**AFCD**"), Buildings Department ("**BD**"), Drainage Services Department ("**DSD**"), Environmental Protection Department ("**EPD**"), Highways Department ("**HyD**"), Lands Department ("**LandsD**"), Water Supplies Department ("**WSD**"), Transport Department ("**TD**"), Urban Design Unit ("**UDU**") and Landscape Unit ("**LU**"), Urban Design & Landscape Section and Fanling, Sheung Shui & Yuen Long East District Planning Office of Planning Department ("**PlanD**"). Please find our responses provided in the enclosed Responses-to-Comments ("**R-to-C**") table at ***Attachment 1*** which has fully addressed the comments from the above-mentioned Government Departments.

Additionally, in response to the comments received from Government Departments, the Applicant has further reviewed the Rezoning Site boundary to incorporate the areas of the two (2) indicative link bridges (as previously shown on Government land in the MLP) into the Rezoning Site. As such, the Rezoning Site Area has been updated to approx. 128,232sqm. Accordingly, relevant Figures and Development Parameters provided within the Supplementary Planning Statement have been updated and provided in ***Attachment 2*** and the updated Architectural Drawings provided in ***Attachment 3.*** Reference to the Development Parameters and Architectural Drawings under the Technical Assessments should make reference to ***Attachments 2 and 3*** of this Letter.

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TOWNLAND

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The Secretary, Town Planning Board
c/o Planning Department

In response to Departmental comments, Replacement Pages to the Visual Impact Assessment, Revised Air Ventilation Review, Revised Environmental Assessment, Revised Sewerage Impact Assessment, Revised Water Supply Impact Assessment, Replacement Pages to the Landscape Master Plan and Broad Brush Tree Survey, Revised Drainage Impact Assessment and Replacement Page to the Ecological Review are provided in ***Attachments 4-11***.

Please note that these responses are clarification purposes only and there are no material changes to the S12A Planning Application or the conclusion of the Technical Assessments.

We trust the information provided fully addresses the issues raised by the relevant Departments. Should there be any queries, please do not hesitate to contact the undersigned or Ms Janice Wong.

Yours faithfully,
FOR AND ON BEHALF OF
TOWNLAND CONSULTANTS LIMITED

Vincent Lau
Director

VIN/JANICE/yv

Enc SIP

cc Client / Team
Ms. LAW Yuk Ling, Kirstie, Senior Town Planner/ Fanling, Sheung Shui 2
Ms. SIU Wai Yin, Florence, Town Planner / Fanling, Sheung Shui 3

Attachment 1

Responses-to-Comments Table

ATTACHMENT 1

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
Responses to Comments Table

	Comments/ Suggestions	Applicant/ Consultant's Responses
A.	**Comments from Urban Design Unit, Urban Design & Landscape Section of Planning Department received from Planning Department on 22.12.2025:** ***(Contact person: Ms. LEE Wing Ki, Nicole, Tel no.: 3565 3945)***	
	VIA Please explore the following VPs: *Short ranged VP*	
1.	Sheung Shui Hang Tau Village Sitting-out Area No. 2,	This Vantage Point has been supplemented in the VIA as VP9. Although the northern portion of the Indicative Development Scheme is partially visible from this location, the visual impact of this VP is considered *slightly / moderately adverse* and does not alter the conclusion of the VIA (***Attachment 4*** refers).
	Medium to long ranged VPs	
2.	Ngau Tam Shan, and	This Vantage Point has been supplemented in the VIA as VP10. This elevated VP is located around 1200m from the southern edge of the Indicative Development Scheme, which forms a small component of this panoramic view looking down the Beas River Valley in a northerly direction. The visual impact of this VP is considered *slightly adverse* and does not alter the conclusion of the VIA (***Attachment 4*** refers).
3.	Lam Tsuen Country Park/ Kai Kung Leng.	This Vantage Point has been supplemented in the VIA as VP11. This elevated VP is located around 2600m from the southern edge of the Indicative Development Scheme, which forms a small component of this panoramic view looking down the Beas River Valley in a northerly direction. The visual impact of this VP is considered *slightly adverse* and does not alter the conclusion of the VIA (***Attachment 4*** refers).
	AVA	
(a)	The following points are unclear in the Air Ventilation Review:	
i.	'400m track with ball courts' is adopted in the Air Ventilation Review, but this facility is not mentioned in planning statement nor architectural drawings.	Please be advised that the '400m track with ball courts' refers to the Sports Ground in the Supplementary Planning Statement (SPS) and the Architectural Drawings. The naming has been updated in the revised Air Ventilation Review (***Attachment 5*** refers).
ii.	S Wind (Figure 4b) – the breezeway on the right of the figure appeared to be encroaching onto the edge of middle/high school block, effectiveness of identified breezeway in the indicative scheme should be ensured.	The south-to-north arrow is slightly shifted to the west in the revised Figure 4b and 4c of the revised Air Ventilation Review (***Attachment 5*** refers). There is an about 7m wide air path (without obstruction along south to north) as per the revised drawing. Since the effective wide is about 7m, it is indicated as an air path rather

Comments/ Suggestions		Applicant/ Consultant's Responses
		than breezeway in the revised Air Ventilation Review.
iii.	SSW Wind (Figure 5b) – the breezeway appeared to be overlapping with the ancillary staff dormitory, effectiveness of identified breezeway in the indicative scheme should be ensured.	While the ancillary staff dormitory is located on the breezeway at the windward side and is anticipated to impact the air movement along the breezeway, the relevant portion of the ancillary staff dormitory is approximately 15.5m in height (28.5mPD at main roof level while ground is at 13mPD). The height-width ratio for the staff dormitory to the building at the leeward is larger than 7, which is considered sufficient. Therefore, although the ancillary staff dormitory will slightly obstruct the wind circulation along the breezeway, the impact shall be considered insignificant due to the large height-width ratio at the leeward. Please refer to the revised Figure 5b in the revised Air Ventilation Review (***Attachment 5*** refers).
B.	**Comments from Environmental Protection Department received from Planning Department on 22.12.2025:** ***(Contact person: Ms. Abbey Lau, Tel no.: 2835 1300)***	
	Environmental Assessment Report	
	<u>Air Quality</u>	
1.	Section 3.2: Please discuss the buffer distance requirements of vehicular, industrial, odour and dusty emissions sources in HKPSG.	The buffer distance requirements of vehicular, industrial, odour and dusty emissions sources in HKPSG have been updated in Section 3.2 of the revised EA (***Attachment 6*** refers).
2.	Section 3.3: Please identify the fresh air intakes and openable windows of the air sensitive uses of the proposed development as ASRs. Please also identify if there are any planned ASRs.	The representative ASRs for the construction phase were identified as provided in Table 3.4 and Section 3.3 of the revised EA (***Attachment 6*** refers). For the fresh air intakes and openable windows of the air sensitive uses of the proposed development, it is discussed in Section 3.6.3 of the revised EA and no air sensitive uses (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance. In conclusion, there would be no air sensitive uses within the above-mentioned 5m buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Indicative Development Scheme and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.
3.	Table 3.3: Please provide assessment heights for the ASRs.	Assessment Height for the ASRs has been updated in renumbered Table 3.4 of the revised EA (***Attachment 6*** refers).
4.	Table 3.4:	
-	Please update the table with 2024 air quality data.	2024 air quality data have been updated in the renumbered Table 3.5 of the revised

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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Comments/ Suggestions		Applicant/ Consultant's Responses
		EA (***Attachment 6*** refers).
-	Please check if annual FSP exceeded AQO before rounding to integer values.	Annual FSP exceeded AQO has been bolded as exceedance in the renumbered Table 3.5 of the revised EA (***Attachment 6*** refers).
-	Please add a footnote to explain why there is no data for annual RSP, FSP, NO2 and peak season O3 for North AQMS in 2020.	Please be advised that the numbers in brackets is the number of exceedances allowed per calendar year.
5.	Table 3.5:	
-	The exceedances in 8-hour and peak season O3 are not bolded. Please rectify.	The exceedances in 8-hour and peak season O3 has been bolded in renumbered Table 3.6 in the renumbered Table 3.5 of the revised EA (***Attachment 6*** refers).
-	Please include all the grids inside the assessment area.	All the grids have been provided in Figure 3.1 of the revised EA (***Attachment 6*** refers).
-	Please specify the level of the PATH data.	Level (L1) has been specified in renumbered Table 3.6 of the revised EA (***Attachment 6*** refers).
6.	Section 3.5.1:	
-	Please confirm whether demolition, excavation, or land formation works are involved in the development. If so, describe the scale of these works and evaluate their impacts	Please be advised while the site is currently predominantly occupied by agricultural and vegetated or vacant land, demolition of existing temporary structures, open storage yards and squatters and site formation work is likely anticipated when implementing the Indicative Development Scheme. The need for site excavation will depend on the scale of foundation work and structures, to be further reviewed at the detailed design stage. In this regard, there maybe potential impacts from the criteria pollutants (e.g. nitrogen oxides (NOx), sulphur dioxide (SO2), and carbon monoxide (CO)). Emission from diesel trucks for the haulage of materials and construction plants will contain high percentage of smoke particulate and unburned hydrocarbons in comparison with petrol driven vehicles. In all circumstances, the contractor will be required to observe all relevant regulations and maintain all equipment in good condition to avoid any excessive emission. Under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (NRMMs) (including mobile generator, air compressor, excavator, crawler crane, bulldozer and etc.) with a proper label are allowed to be used in the construction site. Exempted NRMMs shall be avoided as far as practicable to minimize the fugitive dust and gaseous emissions. Travelling of the dump trucks is another potential source of construction dust. As this planning stage, there is no detailed information on the construction program. However, our assumption of the potential impacts have made reference to other similar scale

Comments/ Suggestions		Applicant/ Consultant's Responses
		projects with a site area of approx. 12 ha and depth of filling, the number of on-site diesel/petroleum fuelled machinery (10-15 machineries) to be used for construction works (i.e. site clearance, formation and excavation), subject to detailed design. Please refer to updated Sections 3.5.1 and 3.5.2 of the revised EA for details (***Attachment 6*** refers).
-	Please also include the measures for the mitigating the gaseous emissions from the NRMM and PMEs during construction phase.	Please refers to the response in the Column above in response to Comment B6 bullet point 1.
7.	Section 3.6:	
-	Please confirm whether the tunnel portal and/or ventilation building of the Northern Metropolis Highway lies within the assessment area. If so, include them in the assessment.	According to the available information from Highways Department, there is no detailed design / relevant information regarding the tunnel portal / ventilation building of the Northern Metropolis Highway provided tentatively. Relevant assessment will be conducted in detailed design stage upon obtaining relevant information.
-	Please check whether the latest alignment of the San Tin Technopole Interchange is available, as a large portion of the proposed development falls within its indicative location. An additional buffer may be required.	According to the available information from Highways Department, the latest alignment of the San Tin Technopole Interchange is not available tentatively. Relevant assessment will be conducted in detailed design stage upon obtaining relevant information.
-	Please check whether the proposed public road is collocated with ASR A13.	Location of A13 has been revised in Figure 3.1 of the revised EA (***Attachment 6*** refers).
-	Please include the assessment for the new public road and the widening of the existing public road if these works are part of the project. If they are not, state this clearly.	The new public road is a part of the project, and the corresponding assessment has been updated in Section 3.6 and Figure 3.3 of the revised EA, which indicates the 5m buffer distance requirement is met for existing air sensitive uses / air sensitive receiver (***Attachment 6*** refers).
-	Please discuss if there are chimneys or other polluting uses within the proposed development.	In addition, according to the latest design and available information, no chimney or other polluting uses within the Indicative Development Scheme and 200m assessment area is proposed. As such, it is anticipated that the Indicative Development Scheme and existing air sensitive receivers would not be subject to adverse industrial emission impact. Please refer to Section 3.6.1 of the revised EA (***Attachment 6*** refers).
-	Please identify if there are any planned chimneys within the assessment area.	In addition, according to the latest design and available information, there are no planned chimney or other polluting uses within Indicative Development Scheme or located within the 200m assessment area. As such, it is anticipated that the Indicative Development Scheme and existing air sensitive receivers would not be

Comments/ Suggestions		Applicant/ Consultant's Responses
		subjected to adverse industrial emission impact. Please refer to Section 3.6.1 of the revised EA (***Attachment 6*** refers).
-	Please discuss the odour impact to and from the proposed development.	The review on odour impact has been supplemented in Sections 3.6.5 and 3.6.6 of the revised EA (***Attachment 6*** refers).
8.	Section 3.6.2: Please obtain confirmation from the Transport Department regarding the classification of the roads.	Please be advised that we are currently obtaining confirmation from Transport Department (TD). TD's confirmation on the classification of the roads will be provided once available.
9.	Table 3.6: Please measure the shortest distance to the ASRs when the distance to the site does not meet HKPSG requirements.	With reference to the renumbered Table 3.7 in the revised EA regarding the shortest distance between Kerb Side of Concerned Road Links and the site boundary, please be advised that while a portion of the site is within 5m buffer distance for the Proposed Public Road, no air sensitive uses of the Indicative Development Scheme (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within the 5m buffer. In all, there would be no air sensitive uses within the above-mentioned 5m buffer zones from Proposed Public Road, Private Roads (P1 & P2) and Hang Tau Road, and 20m buffer zones from San Tin Section of Northern Metropolis Highway. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future occupants of Indicative Development Scheme and existing air sensitive receivers is not anticipated to subject to insurmountable vehicular emission impact. Figure 3.3 in the revised EA has been updated for better presentation of buffer distance from the surrounding roads (***Attachment 6*** refers).
10.	Please supplement the conclusion at the end of the chapter.	Please refer to updated Section 3.7 of the revised EA (***Attachment 6*** refers).
11.	Figure 3.1: Please overlay PATH grid onto the figure.	Figure 3.1 has been updated in the revised EA (***Attachment 6*** refers).
12.	Figure 3.3: Please present the ASRs of the proposed development on Figure 3.3 and compare them against the buffer distance requirements.	Please be advised that no air sensitive uses (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance. Therefore, there would be no air sensitive uses within the above-mentioned 5m buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future occupants of Indicative Development Scheme and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact. Figure 3.3 of the EA has been updated for better presentation of buffer distance from the surrounding roads (***Attachment 6*** refers).
	<u>Noise</u>	

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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Comments/ Suggestions		Applicant/ Consultant's Responses
13.	NSRs and the representative NSRs within the assessment area should be identified and listed in the Noise Impact Assessment chapter. Map(s) should be provided to indicate their location.	Summary of representative noise sensitive receivers has been updated in Section 2.2, Table 2.1 and Figure 2.1 of the revised EA (***Attachment 6*** refers).
14.	Road Traffic Noise Impact Assessment: Traffic forecast data with TD's agreement should be adopted. Consultant should provide written confirmation from the respective competent party (e.g. traffic consultant) that the TD-endorsed methodology has been strictly adopted in preparing the traffic forecast data and hence to confirm the validity of traffic data.	Road Traffic Noise Impact Assessment will be carried out in detailed design stage and noise mitigation and requirements covered by the land exchange process.
15.	Fixed Noise Impact Assessment: Besides the air-conditioning and ventilation system within the development site, the noise generated from the activities and PA system at the outdoor sports grounds should also be assessed. Appropriate noise mitigation measures (NMM) should be proposed to address the identified fixed noise impact, if any.	In order to ensure that the fixed sources noise generated by the Indicative Development Scheme would not cause excessive impact to the neighbouring noise sensitive uses, the ventilation and air conditioning systems for the carpark, potential noise sources from the Indicative Development Scheme (e.g. public address systems (PA systems) and sports activities, plant room etc. will be carefully designed and installed to comply with relevant fixed source noise standards under Chapter 9 of HKPSG. It is understood that loudspeakers of sports ground are not for continuous announcement, and of short durations in general (< 0.5min). With the proper design of the potentially noisy facilities to control and suppressed the generated noise level, such as the spectator stands designed with canopy and orientated to reduce angle of view from neighbouring noise sensitive uses to potential noise sources from Indicative Development Scheme, no adverse noise impact due to operation of the Indicative Development Scheme is anticipated. Please refer to Section 2.4 of the revised EA for details (***Attachment 6*** refers).
16.	Construction Noise Impact Assessment: Please consider to review the potential construction noise impact assessment and to propose the appropriate NMM.	Review on construction noise has been supplemented in Section 2.5 of the revised EA (***Attachment 6*** refers).
	<u>Land Contamination</u>	
17.	Section 4.3.4:	
-	Suggest to revise as "Site **<u>re-appraisal</u>** ~~visit~~ shall be conducted ~~again~~ **<u>when the site is accessible</u>** it is available or in the detailed design stage. ~~No construction work shall be carried prior to the EPD's approval of the site appraisal.~~"	Revised accordingly in Section 4.3.4 of the revised EA (***Attachment 6*** refers).

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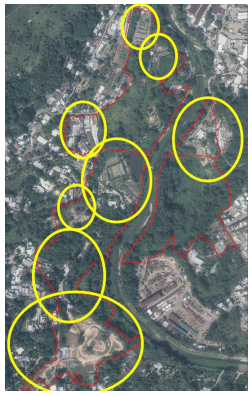
Comments/ Suggestions		Applicant/ Consultant's Responses
-	Please indicate the area of "whole portion of the east" in the aerial photo.	"East" and "West" of the Site are marked on the Appendix 4.1 Aerial Photo of the revised EA (***Attachment 6*** refers).
18.	Section 4.3.5: Please indicate the area of "west of the Application site".	"East" and "West" of the Site are marked on the Appendix 4.1 Aerial Photo of the revised EA (***Attachment 6*** refers).
19.	Sections 4.3.3 - 4.3.5: Most of the areas identified with temporary structures were not inspected and review. Please supplement. In case the areas are not accessible at the moment, please specify for review in site re-appraisal. The areas are marked but not limited to below: 	Please be advised that some areas of the Site are currently inaccessible at the moment, thus site-reappraisal shall be conducted when the site is accessible or in the detailed design stage. Please refers to Sections 4.3.4 and 4.3.5 of the revised EA for details (***Attachment 6*** refers).
20.	Table 4.2: It is noted that information from FSD is pending. Please supplement and review when they are ready.	The reply from FSD is supplemented in Table 4.2 of the revised EA (***Attachment 6*** refers).
21.	Section 4.3.7: Suggest to revies as "No record **of chemical waste producer** was ~~recorded~~ **found** in the Territory Control Office."	Section 4.3.7 of the EA has been revised accordingly (***Attachment 6*** refers).
22.	Section 4.3.8: Suggest to revise as "…due to chemical ~~waste~~ **spill** is not expected within the Subject Site."	Section 4.3.7 of the EA has been revised accordingly (***Attachment 6*** refers).
23.	Section 4.4: The conclusion is not conclusive without the review on the temporary structure. Please review and supplement as per the comments above.	Section 4.4.1 of the EA has been revised accordingly (***Attachment 6*** refers).
	Waste Management	
24.	Section 5.3.1: Please specify whether or not the project is a designated project under EIAO.	Please be advised that the project is not a designated project under EIAO and relevant description has been supplemented in revised Section 5.3.1 of the EA

Comments/ Suggestions		Applicant/ Consultant's Responses
		(***Attachment 6*** refers).
25.	Section 5.4.3: Please remove the sentence "as far as possible".	Relevant sentence is removed in the revised Section 5.4.3 of the EA accordingly (***Attachment 6*** refers).
26.	Section 5.4.4: Please remove the sentence "as much as possible".	Relevant sentence is removed in the revised Section 5.4.4 of the EA accordingly (***Attachment 6*** refers).
27.	Sections 5.4.10 and 5.4.13: Please summaries these two paragraphs into a single one.	Combined accordingly. Please refer to the revised Section 5.4.10 of the EA (***Attachment 6*** refers).
28.	Section 5.4.17: Please supplement the justifications for "there are no buildings/structures were built before 1980s.".	Please note that the Site was mainly a natural terrain in 1982. The relevant Justification has been supplemented in the revised Section 5.4.16 (Former Section 5.4.17) of the EA (***Attachment 6*** refers).
29.	Section 5.5.4: Suggest to revise as "Chemical ~~and oily~~ wastes generated from…should be disposed of ~~as chemical waste~~ in strict compliance with…".	Section 5.5.4 of the EA has been revised accordingly (***Attachment 6*** refers).
30.	Section 5.5.7: Suggest to revise as "…when chemical waste **is expected to be** produced."	Section 5.5.7 of the EA has been revised accordingly (***Attachment 6*** refers).
31.	Sections 5.5.10 – 5.5.11: Please specify the source of any guidelines or references if these paragraphs cite published materials.	The source of guidelines / reference have been specified in Section 5.5.9 of the EA (***Attachment 6*** refers).
	Water Quality	
32.	Section 6.7.1: Please include the design capacities for the two STPs, ensuring they cater to the peak flow from the proposed development.	The design capacities of the 2 STPS have been supplemented in the revised Section 6.7.1 of the EA (***Attachment 6*** refers).
	Sewerage Impact Assessment Report	
1.	It is noted that two local STPs are proposed for development. Please be reminded that:	
-	The design, installation, operation and maintenance of the local STPs should follow the "Guidelines for the Design of Small Sewage Treatments Plants".	Noted.
-	The capacity of the proposed sewage treatment facilities should be designed all time for handling the peak flow of the proposed development.	Noted.

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-	The equalization tanks should be used in handling the excess flow over the peak flow.	Noted.
-	Backup pumps and tanks should be available for any emergency events.	Noted.
-	Please seek advice from DSD on the discharge of treated effluent to downstream drainage system, including DIA report and discharge location.	Noted. Please be advised that both the SIA and DIA in support of the captioned S12A Planning Application have been circulated to DSD for review.
2.	Table 1.1:	
-	Please provide reference or details for estimating students, staff and dormitory residents of the proposed school development (e.g. the planning statement, indicative development scheme, assumptions on residents per room, etc.).	The estimated nos. of students, staff, dormitory residents and the area requirements are provided as per the school operator's brief and their operational needs. The estimation has made reference to the future increasing demands for international school places in Northern Metropolis based on the latest policy initiatives and statistical data and other comparable large-scale international school developments in Hong Kong, such as King George V School and its affiliated Kowloon Junior School which are of approx. 2800 students in total.
-	Please include the estimated employees other than teaching and non-teaching staff, such as canteen and ancillary tuck shop employees.	There are an estimated 70 staff including staff of canteen and ancillary tuck shop, cleaning and maintenance/ gardening staff, etc. Following the Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (Version 1.0) prepared by EPD, the total staff for non-teaching calculated is 230. As 230>70, 230 of non-teaching staff is adopted as a conservative approach.
3.	Section 2.2.3: Apart from the J10 unit flow factors, please list all unit flow factors adopted in the SIA report (e.g. domestic flow UFF and the J11 community, social and personal service, etc.)	All unit flow factors are supplemented in the revised Section 2.2.3 of SIA (***Attachment 7*** refers).
4.	Table 2.1:	
-	For the phase "Design flow for …", it is better using "Unit Flow Factors of…" with the unit "m3/person/day".	Table 2.1 of the SIA has been revised accordingly (***Attachment 7*** refers).
-	Please check and revise the water volume for the swimming pool and revise the calculation of the backwash generation rate. All backwash from swimming pool should be handled by the local STP as both ADWF and peak flow.	Volume and backwash generation rate from swimming pool are revised and hence the flow rate from the proposed development is also updated accordingly (***Attachment 7*** refers).

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Comments/ Suggestions		Applicant/ Consultant's Responses
-	For the turnover rate, the remark should be revised that it is regulated by the CAP132CA, Section 9 Swimming Pools Regulation, with covered swimming pool.	Table 2.1 of the SIA has been revised accordingly (***Attachment 7*** refers).
-	Please rename the last row of the backwash generation rate calculation (unit l/s) as "Instant Peak Flow".	Table 2.1 of the SIA has been revised accordingly (***Attachment 7*** refers).
-	Please review the unit of Unit Flow Factors for dormitories to m3/person/day.	Table 2.1 of the SIA has been revised accordingly (***Attachment 7*** refers).
-	Please include the total peak flow from the proposed development for sewer and two local STPs design according to the "Guidelines for the Design of Small Sewage Treatments Plants".	Peak flow from the Indicative Development Scheme has been supplemented accordingly in the revised Table 2.1 of the SIA (***Attachment 7*** refers).
-	Please clarify if the following types of wastewater will be generated:	
i.	A/C system bleed-off water from E&M Room	A/C system bleed-off water from E&M Room shall be discharged through drainage system and therefore, it is not included in the calculation.
ii.	Firewater system/firewater testing	Firewater testing will only be conducted annually for checking and firewater system will only be operated during emergency. Hence, it is not included in the calculation.
5.	Section 2.5.2, Table 2.2 and Section 3.1.2: Please include the peak flow for the sewer and two local STPs designs according to the "Guidelines for the Design of Small Sewage Treatments Plants". Please ensure the design capacity of the local STPs and sewers caters to the peak flow.	Information of Peak Flow has been supplemented in the revised Section 2.5.2, Table 2.2 and Section 3.1.2 of the SIA (***Attachment 7*** refers).
6.	Section 3.1.2: Please update the estimated ADWF based on the comments provided above.	Section 3.1.2 of the SIA has been revised accordingly (***Attachment 7*** refers).
7.	Appendix 1.1:	
-	Please mark the two proposed local STPs and treated effluent discharge points on the master layout plan.	The indicative locations of the two proposed STPs are marked in Appendix 2.2 of the SIA. The treated effluent discharge points will be provided in the detailed design stage.
-	Please seek advice from DSD on the discharge of treated effluent to downstream drainage system, including DIA report and discharge location.	Noted. Please be advised that SIA and DIA in support of the captioned S12A Planning Application have been circulated to DSD for review.
8.	Appendix 2.1:	

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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-	Please include the swimming pool backwash in the total flow and peak flow of the proposed development.	Calculation of swimming pool backwash is updated. Please refer to the revised Appendix 2.1 of the SIA for details (***Attachment 7*** refers).
-	Please check and revise the wordings and unit according to the above comment on Table 2.1.	Appendix 2.1 of the SIA has been revised accordingly (***Attachment 7*** refers).
-	Please ensure data in Table 1 (Appendix 2.1) matches the data in Table 2.1 of the main text.	Noted.
	Planning Statement	
1.	Table 5.1:	
-	The total number of units of Ancillary Student Dormitories and Ancillary Staff Dormitories is 350 and 571 respectively. Based on the remarks of the table, the estimated number of residents in the accommodation should be 1400 students and 1142 staff, totalling 2542 residents. This does not match the data in Table 1.1 of the EA and SIA reports (i.e. 2243 residents). Please verify and revise accordingly.	Please be advised the remarks (6) of the Table 5.1 indicate an average nos. of staff per room and is indicative only. Varying types of unit ranging from 1-6 persons per unit will be adopted for staff accommodation. Based on preliminary estimate, approx. 843 persons will reside within the staff accommodation. In this regard, the estimated no. of approx. 2243 residents assumed under the EA and SIA reports is correct.
-	Please confirm the consistency of planning data between the planning statement and the EA and SIA reports (e.g. number of people, GFA, etc.)	Noted.
C.	**Comments from Water Supplies Department received from Planning Department on 22.12.2025:** ***(Contact person: Ms. WONG Sin Yan, Tel no.: 2152 5752)***	
	<u>Major Comments on the Application/ Main Reasons of Objection:</u>	
	<u>General comments</u>	
1.	Please provide detailed waters supply scheme for the west and east portion by highlighting the proposed size and the connection point.	The proposed size and the connection point are supplemented in the revised Section 2.4.2 of the WSIA (***Attachment 8*** refers).
2.	Please carry out the full hydraulic calculation to demonstrate the adequacy of the existing water network	Hydraulic calculation for the existing water network are demonstrated in Table 4a and 4b of the revised WSIA (***Attachment 8*** refers).
3.	Please explore the feasibility of supplying recycled water instead of fresh water for flushing and provide the cost effective analysis.	The feasibility of supplying recycled water instead of fresh water for flushing and provide the cost effective analysis will be conducted during detail design stage.
	<u>Appendix 2.2</u>	

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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1.	Please state how to derive the estimated of total number of students and staff by GFA.	Please be advised that the estimated total number of students and staff are not derived by GFA and are assumed based on the school operator's brief and operational needs.
2.	For Table 2a, please consider using residential R2 Type for non-domestic dormitory – 0.23 m3/h/d for freshwater and 0.104 m3/h/d for flushing.	According to WSD DI1309, Residential R2 Type for non-domestic dormitory – 0.30 m3/h/d for freshwater and 0.07 m3/h/d for flushing are adopted. Please refer to the revised Table 2a of the WSIA (***Attachment 8*** refers).
3.	For swimming pool, please state the assumptions of 3,750 m3/day adopted.	Assumption of 3750 m3/day swimming pool is stated in the revised Table 2a of the WSIA (***Attachment 8*** refers).
4.	Please state water demand of irrigation for golf and planting areas	Water demand calculation of irrigation is supplemented in the revised Table 2a of the WSIA (***Attachment 8*** refers).
5.	There are inconsistencies for all Table 4b. Please review.	Please refer to the revised Table 3a, 3b, 3c, 4a and 4b in the Appendix 2.2 of the WSIA (***Attachment 8*** refers).
	Other Detailed Comments (if applicable):	
1.	Existing water mains as shown in the enclosed sketch are inside the proposed lot and will be affected. The applicant is required to either divert or protect the water mains found on site.	Noted.
2.	If diversion is required, existing water mains instead the proposed lot are needed to be diverted outside the site boundary of the proposed development to lie in Government land. A strip of land of minimum 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request will have to be borne by the grantee/applicant; and the applicant shall submit all the relevant proposal to WSD for consideration and agreement before the works commence.	Noted.
	If diversion is not required, the following conditions shall apply:	
(a)	Existing water mains are affected as indicated on the site plan and no development which requires resitting of water mains will be allowed.	Noted.
(b)	Details of site formation works shall be submitted to the Director of Water Supplies for approval prior to commencement of works.	Noted.
(c)	No structures shall be built or materials stored within 1.5 metres from the centre line(s) of water main(s) shown on the plan. Free access shall be made available at all times for staff of the Director of Water Supplies	Noted.

Comments/ Suggestions		Applicant/ Consultant's Responses
	or their contractor to carry out construction, inspection, operation, maintenance and repair works.	
(d)	No trees or shrubs with penetrating roots may be planted within the Water Works Reserve or in the vicinity of water main(s) shown on the plan. No change of existing site condition may be undertaken within the aforesaid area without prior agreement of the Director of Water Supplies. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barrier must extend below the invert level of the pipe.	Noted.
(e)	No planting or obstruction of any kind except turfing shall be permitted within the space of 1.5 metres around the cover of any valve or within a distance of 1 metre from any hydrant outlet.	Noted.
(f)	Tree planting may be prohibited in the event that the Director of Water Supplies considers that there is any likelihood of damage being caused to water mains.	Noted.
D.	**Comments from Buildings Department from Planning Department on 02.01.2026:** ***(Contact person: Mr. CHENG Hang On, Colin, Tel no.: 2626 1477)***	
1.	The site shall be provided with means of obtaining access thereto from a street and emergency vehicular access (EVA) in accordance with Regulations 5 and 41D of the Building (Planning) Regulations [B(P)R] respectively.	Noted.
2.	The site does not abut on a specified street of not less than 4.5m wide and its permitted development intensity shall be determined under Regulation 19(3) of the B(P)R at the building plan submission stage.	Noted.
3.	Having noted that carparks, loading and unloading areas are proposed on ground floor, criteria under PNAP APP-2 shall be complied with if GFA of these areas is to be disregarded under Regulation 23 (3) (b) of the B(P)R;	Noted.
4.	The Applicant should be reminded that the proposed development should follow and comply with the pre-requisite for gross floor area (GFA) concession in PNAP APP-151 and the SBD guideline stipulated in PNAP APP-152 during the preparation of detailed building design if GFA concession will be applied (i.e. excluding green/ amenity features	Noted.

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	and non-mandatory/ non-essential plant rooms and services from GFA calculations);	
5.	The proposed international school development is subject to the issue of a licence/registration, please be reminded that any proposed structures on the application site intended to be used for such purposes are required to comply with the building safety and other relevant requirements as may be imposed by the licensing authority;	Noted.
6.	Before any new building works (including containers / open sheds as temporary buildings, demolition and land filling, etc.) are to be carried out on application site, prior approval and consent of the BA should be obtained, otherwise they are UBW under the BO. An Authorized Person should be appointed as the co-ordinator for the proposed building works in accordance with the BO;	Noted.
7.	The applicant's attention is also drawn to the provision under regulations 40 and 41 of the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations in respect of disposal of foul water and surface water respectively;	Noted.
8.	All habitable rooms shall be provided with prescribed windows in accordance with Regulation 30 and 31 of the B(P)R;	Noted.
9.	The open space provision should not be less than the requirements as stipulated in the second schedule of B(P)R;	Noted.
10.	For UBW erected on leased land, enforcement action may be taken by the Buildings Department to effect their removal in accordance with the prevailing enforcement policy against UBW as and when necessary. The granting of any planning approval should not be construed as an acceptance of any existing building works or UBW on the application site under the BO;	Noted.
11.	Any temporary shelters or converted containers for office, storage, washroom or other uses are considered as temporary buildings are subject to the control of Part VII of the B(P)R; and	Noted.
12.	Detailed checking under the BO will be carried out at building plan submission stage.	Noted.

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E.	**Comments from Lands Department from Planning Department on 02.01.2026:** ***(Contact person: Ms. CHENG Hang Yu, Kennis, Tel no.: 2675 1508)***	
1.	The subject site comprises various private lots in D.D. 94, D.D. 98 and D.D. 100 as well as adjoining Government land. For private lots, except Lot No. 42 s.A in D.D. 100 which is a mixed old schedule agricultural and house lot held under Block Government Lease, the remaining private lots are old schedule agricultural lots held under Block Government Lease. Besides, no grant of access to the lots has been granted.	Noted.
2.	The applicant should also be noted that there are temporary structures (held under Modification of Tenancy and/or licenses) and STLAS (i.e. simplified temporary land allocations), etc. on the affected Government land which may lead to clearance issues. Furthermore, based on desktop study, the site may involve existing grave(s).	Noted. Squatters / temporary structures on Government Land will be handled at the later stage.
3.	Lot No. 5 s.H in D.D.100 is included in the rezoning site as per Figure 2.3 of Supporting Planning Statement ("SPS") but is found missing in Table 2.1 of SPS. The applicant is requested to clarify.	Please be clarified that Lot No. 5 s.H in D.D.100 is included in the Rezoning Site. Table 2.1 of the SPS is updated accordingly (***Attachment 2*** refers).
4.	Lot No. 41 s.A in D.D.100 (located in the middle of the rezoning site) is excluded from the subject site. Nonetheless, according to the architectural drawings in the submission, this private lot in fact would form as an integral part of the proposed school development. The applicant is again requested to clarify.	Please be clarified that Lot No. 41 s.A in D.D.100 is not included in the rezoning site boundary and only comprise approx. 1.84 sqm. The applicant will further study the inclusion of the subject lot at the subsequent detailed design stages.
5.	By and large, a land exchange is required for implementation of the rezoning proposal. Should the subject rezoning application be approved, the lot owner should apply to LandsD for a land exchange for implementation of the proposed development scheme. In this connection, the private lots in the subject rezoning boundary are not owned by one single party. The applicant should be reminded that land exchange application should be submitted by all owners of the concerned lots. Also, the titles have to be unified prior to surrender of those private lots to the Government.	Noted.
6.	Generally, with a view to ensuring the compliance with any proposed additional conditions under lease, it is the requirement of LandsD that any proposed additional conditions would only be considered to be	Noted.

Comments/ Suggestions		Applicant/ Consultant's Responses
	incorporated under lease provided that there is a relevant bureau / department requesting for or in support of such additional conditions. Such bureau / department would be responsible for monitoring the grantee's compliance with such additional conditions. In the absence of such bureau / department's request or support, no additional conditions would be proposed and incorporated under lease for the proposed work / requirements.	
7.	In the event the subject application under S.12A of the Town Planning Ordinance ("TPO") is accepted or partially accepted by the Town Planning Board ("TPB") with a set of clear development parameters (including but not limited to the proposed user, gross floor area and car parking provisions, as appropriate) defined / firmed up and further submission to the TPB (including application(s) for permission under S.16 of the TPO after the corresponding amendment to the Outline Zoning Plan ("OZP") has been made) is not required, the applicant may submit request for streamlined processing of land exchange application. Depending on the circumstances of each case, LandsD at its sole and absolute discretion may, upon receipt of such valid request and subject to payment of the administrative fee(s) (including fee payable to the Legal Advisory and Conveyancing Office, if required) by the applicant, commence the streamlined processing of the land exchange application on a without prejudice and non-committal basis while PlanD is taking forward the relevant OZP amendment.	Noted.
8.	The applicant is reminded that once the accepted or partially accepted proposal is reflected in the OZP and approved under S.9 of the TPO, a formal application for land exchange by applicant to LandsD is still required. Every application submitted to LandsD will be considered on its own merits by LandsD at its absolute discretion acting in its capacity as a landlord and there is no guarantee that the land exchange application (alongside with the inclusion of the concerned Government land (amounting to around 20% of the subject site area)) will eventually be approved by LandsD. If the application for land exchange (if submitted) is approved by LandsD, it will be subject to such terms and conditions as may be imposed by LandsD at its absolute discretion, including payment of premium and administrative fee(s). Approval of the subject application shall not pre-empt the consideration and	Noted.

Comments/ Suggestions		Applicant/ Consultant's Responses
	decision of the approving authority for the land exchange, if submitted by the applicant.	
9.	The site area figures mentioned in the submission as well as ownership particulars have not been verified. The same would be verified at the land exchange stage (if submitted).	Noted.
10.	According to the architectural drawings and Traffic Review, vehicular access would rely on some proposed roads (falling outside the application site). In general, if the proposed access involves other private lots, no resumption of land will be invoked except by works department of Government. The applicant is requested to clarify whether the said proposed road works would involve solely Government land or also involve any private lots (which may have implication of the need / applicability to invoke resumption of private lots) and in particular whether any of those private lots are under the applicant's ownership or not. In any event, the applicant should be reminded that there is no commitment on using Government land for vehicular access of the proposed development.	Noted. Please be advised that lay-by on Government Land only is proposed.
11.	Also, presumably, the proposed roads are for public use and accordingly comments from TD and HyD are critical. In particular, the applicant's proposed road works should form part of the subject rezoning application so as to provide a full picture for the TPB to consider. And it is considered prudent and advisable to ensure the technical viability of the applicant's proposed road works before submitting the proposed development scheme to TPB. In this connection, please be appreciated that this office would defer to the concerned technical departments to advise your side regarding the technical viability and the infrastructure capacity, etc.	Noted. Please be advised that Transport Department and Highways Department have been consulted regarding the subject S12A Planning Application.
12.	According to the Traffic Review, the applicant proposes (by way of "Option I ") to have public road partially falling within the subject site boundary. Please again seek comments from TD and HyD on such "Option 1 ".	Noted.
13.	For the two proposed link-bridges across Sheung Yue River, comments from TD, HyD, DSD and any other relevant Government departments should be sought. Besides, the applicant is requested to confirm whether it is necessary to occupy any piece of Government	Please note that the captioned S12A Planning Application has been circulated to relevant Government departments, including Transport Department, Highways Department and Drainage Services Department. Please note that the design of the of the link bridges is still subject to detailed design of the Indicative Development Scheme and will be covered by the land exchange process. Occupation for

Comments/ Suggestions		Applicant/ Consultant's Responses
	land for the erection of such link-bridges or alternatively it suffices to occupy some level of air stratum to accommodate the link-bridges.	Government Land adjacent to both sides of Sheung Yue River will be required (some are for the bridges) by the Applicant.
14.	In view of the proposed rezoning to "G/IC" zone, the applicant is requested to confirm whether any part of the facilities within the proposed scheme would not be operated by the applicant itself but instead is intended to be handed over to any Government department(s). Alternatively, your side may wish to re-confirm with the concerned bureau / department whether any of those facilities within the proposed scheme is required by them.	Please note that the proposed international school is for a private international school use to be operated by the educational provider/operator BASIS International School. Relevant bureau / departments will be consulted as necessary in the subsequent stages.
15.	According to the landscape proposal, about 1,300 trees would be felled. The applicant is reminded that compensatory plantings should be provided within private lot(s) and no Government land should be involved for compensatory tree planting. Moreover, unless otherwise specified, LandsD would not process tree preservation and removal proposal submitted for planning application.	Noted.
F.	**Comments from Fanling, Sheung Shui & Yuen Long East District Planning Office of Planning Department on 13.01.2026:** ***(Contact person: Ms. SIU Wai Yin, Florence, Tel no.: 3168 4042)***	
	General	
1.	Kwu Tung South is an important agricultural area in Hong Kong and The application site is located in an area with active cultivated agricultural land and fallow land with good agricultural infrastructures. Also, the western portion of the rezoning site mostly falls within Phase 2 of the Agricultural Park (Agri-Park) area. Since the application site involve rezoning a significant area of agricultural land, the applicant is requested to justify -	
	- the amount of land required for the proposed international school, i.e. whether there are any comparable examples in Hong Kong that could resemble international schools of such scale, or if not, how is the proposed international school different from those currently operating in Hong Kong;	The Proposed International School is a responsive and pioneering initiative with immediate action to the National and Hong Kong Government Policy Initiatives, to support the GBA regional development perspective on the industrial innovation shift and to promote a "shared technology and humanity" international education in the Northern Metropolis. While the site area of the Proposed International School is comparatively larger in the local context, it is considered of regional importance to advance the technological innovative transformation shift brought by the Northern Metropolis together with the designated San Tin Technopole and the Northern Metropolis University Town (NMUT), thereby demanding the need for a new K-12

<table>
<tr><th colspan="2">Comments/ Suggestions</th><th>Applicant/ Consultant's Responses</th></tr>
<tr><td></td><td></td><td>education in an "technology-driven" learning environment of an international vision and culture.

International school developments targeting regional spatial scale are also not unprecedented, with reference to the global precedents of international schools in the chart below of similar student/staff population and scale. It is considered necessary for Hong Kong to have a similar scale of international school development to bring forth the vision of establishing as an international education hub with high competitiveness.

<table>
<tr><th>Name</th><th>Site Area (in hectares)</th><th>Student Population</th></tr>
<tr><td>Singapore American International School, Singapore</td><td>Approx. 15 ha</td><td>Approx. 4,000</td></tr>
<tr><td>International School of Beijing, China</td><td>Approx. 13 ha</td><td>Approx. 1,800</td></tr>
<tr><td>UWC South East Asia, Singapore</td><td>Approx. 11 ha</td><td>Approx. 3,000</td></tr>
<tr><td>International School of Kuala Lumpur, Malaysia</td><td>Approx. 10.5 ha</td><td>Approx. 1,700</td></tr>
<tr><td>Jakarta Intercultural School – Cilandak Campus, Indonesia</td><td>Approx. 19 ha</td><td>Approx. 2,500</td></tr>
<tr><td>Harrow International School Bangkok, Thailand</td><td>Approx. 14 ha</td><td>Approx. 1,700</td></tr>
<tr><td>International School Bangkok, Thailand</td><td>Approx. 15 ha</td><td>Approx. 1,800</td></tr>
</table></td></tr>
<tr><td></td><td>- the site selection process for the proposed international school development – whether there are other potential sites being considered and what are the rationale for identifying the application site with such coverage;</td><td>The Rezoning Site is considered the most suitable location to incubate younger talents and to implement an international school development of comparable size in Northern Metropolis of which the Applicant has consolidated a significant portion of private land holdings as illustrated in ***Attachment 12***. The Rezoning Site could leverage on its unique geographical advantage of its strategic GBA location in proximity to San Tin Technopole and the Ngau Tam Mei University Town (NMUT) supported by the planned infrastructure of Northern Metropolis Highway, creating direct synergy to facilitate the Government's vision of establishing as an international education hub in response to the latest pioneering National and Local policy initiatives, including the National 15th Five-Year Plan, the Northern Metropolis Development Strategy and recent Policy Addresses which collectively emphasises the role of the Northern Metropolis as a primary engine for strategic growth and</td></tr>
</table>

Comments/ Suggestions	Applicant/ Consultant's Responses
	delineating the Site's location in an Innovation and Technology zone. Scaling back or relocating the Site would undermine the unique opportunity to establish the critical educational infrastructure required to support the Northern Metropolis
- whether there is scope of reducing the application site such that more agricultural land could be reserved, e.g. through adopting innovative designs; if not, what are the considerations/reasons behind; and	With reference to our submitted Ecological Review, the Rezoning Site is not considered ecological sensitive, and the principle of avoidance, minimization and compensation will be adopted in construction and operation stages. Please note that the Rezoning Site is mainly occupied by temporary structures, fallow agricultural use and vacant land. The Rezoning Site, at this strategic location in the Northern Metropolis, will undergo noticeable changes in the planning context according to the National and Government planning initiatives in bringing forth Educational and I&T hub developments, including the planned infrastructure of the Northen Metropolis Highway, San Tin Technopole and the NUMT. Nonetheless, the Indicative Development Scheme has adopted innovative design which is rooted in respecting the natural topography and creating a harmonious riverside campus, inspired by the principles of natural integration. The building heights and layout are carefully considered to complement the existing and future visual context, providing ample space with incorporation of sustainable design for the students and staff within the campus for recreation and leisure use. Design mitigation measures such as green roofs and potential rooftop farming practices will be further explored to pay respect and compensate the potential agricultural land loss in the detailed design stage as the project progresses.
- whether there are any mitigation measures to minimise the impact to lose of farm lands, and measures to resolve the interface issue between the proposed school and Agri-Park and surrounding agricultural land.	As indicated, the Rezoning Site is mainly occupied by temporary structures, fallow agricultural use and vacant land. Interface between the Indicative Development Scheme and its surrounding (including the Agri-Park) have been duly considered. The building blocks adopt dynamic and fluid building forms that are broken down with varying building heights and are also thoughtfully designed to incorporate setbacks from the site boundaries as far as practicable to enhance visual permeability, soften the building mass and to minimise visual impact to the nearby residential settlements as much as practicable. Adequate design mitigation measures such as sensitive façade treatment and finishes and greening opportunities will be explored to minimize any adverse impact, subject to detailed design. The Proposed International School is considered compatible to its surrounding context and the Planned Agri-Park, which would mainly consist of farmland.

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2.	Please advise the expected completion year of the proposed school as such information is not available in the planning statement (except that 2036 was adopted as the expected completion year in para. 4.1of Traffic Review). *Specific* Planning statement	Please be advised that the Indicative Development Scheme is anticipated to commence operation in 2036, upon the commissioning of the Northern Metropolis Highway – San Tin Section, as detailed in Section 5.5 of the submitted SPS.
3.	Para. 5.1.3 of the Planning Statement states that the proposed development will accommodate about 3,000 students and 443 staff. 350 units of student accommodation for 1,400 students and 571 units of staff accommodation will be provided. Para. 6.2 of Landscape Proposal, however, states that the planned dormitory population is about 2,243 persons (1,400 students and 843 staff and household members). Please clarify the above discrepancies.	Please be advised that in addition to student accommodation for 1,400 students (provided in 350 units), varying types of units ranging from 1-6 persons per unit will be adopted for staff accommodation. Based on preliminary estimate, approx. 843 persons will reside within the staff accommodation. In this regard, the estimated no. of approx. 2243 residents assumed under the Technical Assessments is correct
4.	Please provide a plan demonstrating the land owned by the applicant, private land owned by others and government land (with area and % of ownership)	Please refer to the landownership figure provided in ***Attachment 12***. Please note that of the Rezoning Site, approx. 62.1% (75,958.2 sqm) consist of private land owned/partially owned by the Applicant, approx. 16.4% (20,057.6 sqm) consist of private land not owned by the Applicant, approx. 21.5% (26,243.6 sqm) is Government Land. Please note that Lot No. 899 RP in D.D.100 was a private lot not owned by the Applicant at the time of the S12A Planning Application submission but has now been partially acquired by the Applicant.
5.	Fig 2.2 – please rectify the annotation for "Cheung Lok" as "Cheung Lek"	Please refer to the updated Figure 2.2 of the SPS (***Attachment 2*** refers).
6.	Location Plan & Site Plan – the two propose bridges are not included in the application site. Please rectify.	The two proposed link-bridges have now been incorporated into the Rezoning Site. Please refer to the updated Figure 2.1 and Figure 2.2 of the SPS (***Attachment 2*** refers).
G.	**Comments from Landscape Unit, Urban Design & Landscape Section of Planning Department received from Planning Department on 14.01.2026:** ***(Contact person: Mr. NG Tat Yuen, Henry, Tel no. 3565 3950)***	
1.	We maintain that we have reservation on the application from landscape planning perspective. Our detailed comments on the RtoC are as follows: -	

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(a)	Item I(b), there is no information on how the adverse impacts on the existing distinctive landscape resources, including trees of particular interest (TPIs), can be mitigated by the proposed landscape measures in the longer term in Appendix 2 of the Supplementary Planning Statement;	The site and riverside include some larger trees which have been surveyed on an individual basis. Of these 55 nos. trees, only five (5) nos. meet one of the size criteria for definition as a TPI (DBH >1m), as defined under the TRAM guidelines (2023). Of these five (5) trees (T01, T02, T06, T13 and T50), four (4) nos. are at the riverside and are retained under the proposals, to help maintain the distinctive landscape resources of the area. As illustrated in the submitted tree photos and Tree Treatment Schedule in Appendix 2, the tree to be removed (T13), although a native species (*Cinnamomum camphora*) does not possess outstanding form and, although is borderline in meeting the trunk girth for a TPI (estimated 1.03m), it is well short of the height and spread requirements to denote a TPI by virtue of large size. As such it is unlikely that T13 would be defined as a TPI, in strict accordance with TRAM based definition criteria. As indicated in the Landscape Proposal and illustrated on the Landscape Master Plan, tree loss will be compensated at a 1:1 ratio, including the planting of native species at Heavy Standard size, to compensate for the loss of existing native trees in the longer term. This includes planting of native species such as *Cinnamomum camphora* and *Celtis sinensis*, to mitigate for some of the existing specimens of these species required to be removed to facilitate the development scheme.
(b)	Item I(c), there is no information/photos to support that the protected species (*Magnolia x alba*) are planted/cultivated and not covered by the Forestry Regulations (Cap 96A); and	*Magnolia x alba* is a hybrid, typically producing sterile fruit not conducive to natural propagation. This species is located as single specimens in six of the surveyed tree groups, typically growing in/near small holdings or public footpaths and serving an ornamental purpose. Please find the photographs in ***Attachment 13*** which support the conclusion that these small-sized trees are of planted/cultivated origin.
(c)	Item I(d), it is noted that localised tree removal is required in the vicinity of the bridge abutments and may cause adverse landscape impacts from the proposed cross-river links across Sheung Yue River. The details of the tree felling concerned and mitigation measures should be specified clearly.	Please be advised that the site boundary has been adjusted in the updated include the river bridge areas. As identified on the submitted Tree Group Recommendation Plan at ***Attachment 9***, the proposed alignment of the bridges will require the removal of four (4) individually surveyed trees adjacent to the riverside (T33, T34, T47 and T48), which are 3 nos of *Ficus virens* and 1 no of *Ficus macrocarpa.* Whilst of large size, with DBH ranging from 0.54m – 0.73m, height 13-14m and spread 12-16m, these would not be of sufficient stature to meet the requirements of a TPI in accordance with TRAM Guidelines. As noted, these localized tree impacts have been accounted for in the submitted Tree Recommendations and New Tree Planting Proposals (minimum 1,150 nos.) are proposed to compensate for such localized tree removal. The future riverside is intended to be a central parkland at the heart of the future campus, maintaining existing large trees where feasible and planting new trees to maintain the riverside landscape character in the longer term.

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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Comments/ Suggestions		Applicant/ Consultant's Responses
H.	**Comments from Traffic Engineering (NTW) Division of Transport Department received from Planning Department on 16.01.2026:** ***(Contact person: Mr. MA Yik Kau, Victor, Tel no.: 2399 2727)***	
1	It is noted that the proposed development is connected to other local roads in NTE, which may attract the traffic of NTE to/from NMH and San Tin Technopole in addition to the traffic generated/attracted by the proposed development. Please assess the traffic impact associated with the proposed public road connections.	It should be noted that the proposed public road (i.e. Options 1 and 2) does not form part of the Proposed School and is only identified as an opportunity to enhance accessibility between San Tin Technopole and Agricultural Park.
2.	In addition to carriageway, the applicant should also consider to connect the proposed footpath and cycle track in San Tin Technopole with the proposed development.	The Proposed School is far from San Tin Technopole, hence, the provision of footpath and cycle track connections may be difficult.
3.	Please submit public transport plan with relevant assessment and advise if there are any public transport facilities within the proposed development.	School bus services will be provided for the Proposed School. Applications for operation of Student Service (A03) will be submitted to Transport Department prior to commencement of operation of the Proposed School.
4.	Please provide the development programme for our reference.	The Proposed School **will only open for operation after commissioning of the San Tin Section of Northern Metropolis Highway**, which is scheduled for 2036.
I.	**Comments from Highways Department received from Planning Department on 21.01.2026, 29.01.2026 and 09.02.2026:** ***(Contact person: Mr. Iam Wai Hung, Freeman / Mr. LAM Chun Tom / Ms. LI Ping, Libby, Tel nos.: 3968 4313 / 2762 4090 / 2762 4112)***	
	Comments received on 21.01.2026	
1.	Please provide further information about the proposed public road connections under the subject planning application for our reference.	Please be advised that the proposed public road (i.e. Options 1 and 2) does not form part of the Proposed School but is identified as an opportunity to enhance accessibility between San Tin Technopole and Agricultural Park. Nevertheless, the Project Proponent will liaise with Highways Department at appropriate time on details of the proposed public road, including but not limited to design and management / maintenance responsibilities.
	Comments received on 29.01.2026	
2.	According to the traffic review, the applicant has proposed public roads connecting to the future San Tin Technopole, Northern Metropolis Highway (NMH), and Agricultural Park. Please approach the NMH project team directly for their advice, as we are not in a position to provide comments.	Noted.
3.	It is noted that the Traffic Impact Assessment (TIA) for the application remains outstanding as of the date of this email. The applicant is	Please be advised that a Traffic Review Report was submitted under this Section 12A Planning Application to TPB, which was received by TPB on 18 November

Comments/ Suggestions		Applicant/ Consultant's Responses
	reminded to submit the TIA to TD for review and comment.	2025. Please be assured that all comments received from the Transport Department regarding this planning application will be duly addressed.
4.	The applicant should ensure that the proposed roadworks are designed and constructed in accordance with the Transport Planning and Design Manual (TPDM) and the latest HyD standards, to the satisfaction of both TD and HyD. The detailed design should be circulated to TD and HyD for comments and approval.	Noted.
5.	Please note that HyD will only take up maintenance responsibility for public roads that fall under TD's management. *Comments received on 09.02.2026* Please find our comments below on the captioned planning application on the Proposed School from Northern Metropolis Highway (NMH) Project perspective for your consideration:	Noted.
6.	Para 2.5 of the Traffic Review Final Report The applicant's consultant proposed a road connection to connect the San Tin Technopole Interchange of NMH and the Proposed School. Please note that there is no such road connection nor slip road provision to/from the East of the San Tin Technopole Interchange proposed under the NMH project. That said, the T-junction at this interchange allows structural flexibility for future possible connection to/from the East of the interchange, be it the local road network near Ki Lun Tsuen or the subject planning application or any other future planning. Should the potential planning or developments justify such transport demand to connect to NMH in the future, the planning applicant should proceed with the proposal of a connection under their own project. Should the application be approved, the applicant is reminded to closely liaise with NMH project team/consultants/contractors regarding the interfaces between the NMH and the design and construction of the connection road to be carried out by the applicant.	Noted.
7.	Para 3.1 of the Traffic Review Final Report It stated that the Proposed School is expected to be completed in 2036, subject to the commissioning of the San Tin Section of NMH (emphasis added). We would like to state clearly that from NMH project perspective, there is no dependence between the completion of the	Noted.

Comments/ Suggestions		Applicant/ Consultant's Responses
	proposed school and the commissioning of the NMH (San Tin Section). It is the applicant's own judgement should they consider it relevant.	
8.	Table 4.3 of the Traffic Review Final Report Please note that "Northern Metropolis Highway – Investigation" commenced in March 2025, and the traffic impact assessment is being finalized.	Noted.
9.	Note (4) to Table 4.3 of the Traffic Review Final Report The note stated that the "Northern Metropolis Highway is a dual 3-lane expressway." Please be clarified that the Northern Metropolis Highway (San Tin Section) is a dual 3-lane **trunk road**.	Noted.
J.	**Comments from Drainage Services Department received from Planning Department on 27.01.2026:** ***(Contact person: Mr. LIU Qi, Tel no. 3965 8905)***	
	On DIA: Section 4.3	
1.	Peak runoff rates shown in Table 4-1 are inconsistent with the calculation shown in Annex 2. Please rectify.	Please refer to the revised Table 4-1 and Section 4.3 in the revised DIA (***Attachment 10*** refers).
	Figure	
2.	Please double check the title of Figure K4, which labeled "existing" drainage systems.	Figure K4 has been revised accordingly in the revised DIA (***Attachment 10*** refers).
	Annex 1	
3.	Please advise if any land filling and construction of boundary wall are proposed. If yes, please indicate the alignment of boundary wall as well as the existing and proposed ground levels on a layout plan, and assess whether the change of surface elevation and/or the erection of boundary wall will impede or alter the existing overland flow to River Beas.	Please kindly note that there construction of boundary wall is not proposed at the Indicative Development Scheme. Please refer to Annex 1 and Figure K2 of the revised DIA on the proposed ground levels and be advised that there will not be any changes in the direction of overland flow to River Beas, subject to further review at the detailed design stage.
4.	Refer to Section B-B', it is noted that there are two proposed link bridges across River Beas. Although no pier was proposed, more details of the two link bridges should be provided (e.g. site photos,	Please kindly refer to the Annex 1 of the revised DIA for the details of the proposed link bridges. Please note that the designs of the proposed link bridges are subject to further review at the detailed design stage.

Comments/ Suggestions		Applicant/ Consultant's Responses
	cross sections, soffit levels, deck levels, river bank levels, vertical clearance to the existing maintenance access, etc.).	
	Annex 3	
5.	Page 1 of 17 - Please include C7 and C8 in the table of catchment characteristic for easy reference, and clearly label the corresponding return period (e.g. 50yr end-century) in the table. Please also include the peak runoff for each catchment in the table.	Please refer to the revised Page 1 of Annex 3 of the revised DIA (***Attachment 10*** refers).
6.	Please include a table to indicate the corresponding catchments for each of the proposed pipes.	Please be advised that the table has been supplemented in Page 2 of Annex 3 of the revised DIA (***Attachment 10*** refers).
7.	Page 3 of 17 - Please advise if flow area reduction due to sedimentation has been incorporated for 1200mm RC for Catchment C4.	Please refer to the revised Page 4 of Annex 3 of the revised DIA (***Attachment 10*** refers).
8.	Page 4 of 17 - Please double check whether "peak runoff from C3" should instead refer to "C4".	Please refer to the updated Page 6 of Annex 3 of the revised DIA (***Attachment 10*** refers).
9.	Page 6 of 17 - Please confirm whether the dia 1500mm will intercept Catchment only C3 or both C3 and C2?	Both catchment C2 and C3 will be intercepted by the corresponding pipes and the size of the pipe has been revised. Please refer to the updated Page 12 of Annex 3 of the revised DIA (***Attachment 10*** refers).
10.	Peak runoff from C3 shown on page 4 is inconsistent with information shown on page 6. Please clarify.	Please refer to the revised Page 8 of Annex 3 of the revised DIA (***Attachment 10*** refers).
11.	Page 9 of 17 - proposed dia 1500mm is not found in Figure K4.	Please refer to the revised Pages 11 to 12 of Annex 3 of the revised DIA for the updated capacity check of Catchment C2 (***Attachment 10*** refers).
12.	Page 11 of 17 - Please advise if flow area reduction due to sedimentation has been incorporated for 1000mm RC for Catchment C1.	Please refer to the revised Page 14 of Annex 3 of the revised DIA (***Attachment 10*** refers).
13.	Page 14 of 17 - Please advise if flow area reduction due to sedimentation has been incorporated for 800mm RC for Catchment C6.	Please refer to the revised Page 18 of Annex 3 of the revised DIA (***Attachment 10*** refers).
14.	Page 16 of 17 - Please advise if flow area reduction due to sedimentation has been incorporated for 500mm RC for Catchment C5.	Please refer to the revised Page 20 of Annex 3 of the revised DIA (***Attachment 10*** refers).

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Comments/ Suggestions		Applicant/ Consultant's Responses
15.	Please explain why catchment C7 and C8 are not included in the capacity calculation. How will C7 and C8 be intercepted? Annex 4	Please be advised that the catchments within the Indicative Development Scheme have been updated and are proposed to be discharged to M.H.01, M.H.06, M.H.08 and M.H.15. Please refer to Figure K4 of Annex 3 of the revised DIA (***Attachment 10*** refers).
16.	Please provide reference source for the river cross section, including the specific location along the river where it was taken.	Please refer to Annex 5 of the revised DIA for the reference source (***Attachment 10*** refers).
17.	It is noted that the increase of flow represents almost 2.5% of the full-bore capacity of River Beas. Please advise if there will be any mitigation measure. **On SIA**	Please be advised that there are rectangular channels to divert the surface runoff from the catchment area adjacent to the Indicative Development Scheme as a mitigation measure. Additional measures such as a stormwater storage tank would be further reviewed at the detailed design stage and be considered if necessary.
18.	No further comment on the revised SIA.	Noted.
K.	**Comments from Agriculture, Fisheries and Conservation Department received from Planning Department on 27.01.2026:** ***(Contact person: Mr. LAU Yun Kwan, Tel no. 2150 6931)***	
	Our comments from agricultural perspective will be provided once available. In the meantime, please find our available comments as follows: **From nature conservation perspective**	Please note minor update to Table 1 to reflect the latest Rezoning Site Area and update to Table 2 rectifying typo (***Attachment 11*** refers).
1.	Our earlier comments remain valid. In particular, the ecological review provided is preliminary in nature and cannot support evaluations of potential ecological impacts arising from the proposed development at this stage. The applicant is advised to conduct a detailed ecological impact assessment including ecological baseline surveys covering the wet and dry seasons. In addition, the applicant should submit a working paper for ecological baseline surveys for AFCD's review before conducting the surveys, which should include investigating potential bird flight lines, if any, over the application site and its vicinity.	**Changes to the wider-area planning and land use context** The proposed G/IC Zone is located in Kwu Tung South area within conceptual boundary of the Northern Metropolis (item 3 below refers) and in close proximity to Government promoted IT hub. Major transport infrastructure developments will be available on or before 2036. Specifically, • The proposed San Tin Section of the Northern Metropolis Highway (NMH), with its alignment and expressway junction/exit numbered I/C 04 (according to EIA Study Brief No. ESB-373/2025) around 100m to the west of the proposed G/IC Zone, will not only significantly enhance the connectivity of the area with San Tin Technopole (around 0.6km from the proposed G/IC Zone) and Kwu Tung North New Development Area (around 1.3km from the proposed G/IC Zone), but also significantly transform the wider-area from rural and agricultural to a highly impacted area in the context of the NMH; and

Comments/ Suggestions		Applicant/ Consultant's Responses
		• The Agri-Park Phase 1, jointly developed by the AFCD and CEDD, located at 1km to the south of the proposed G/IC Zone, has commenced operation progressively since late 2022 (LC Paper No. CB(2)76/2025(01)). It aims to nurture agro-technology and knowledge on modern farm management, so as to enhance productivity and promote the modernization and sustainable development of local agricultural industry. According to Consultation Document for New Agricultural Policy: Sustainable Agricultural Development in Hong Kong (FHB and AFCD, 2014), the Agri-Park is intended to be a hub for commercial farming and advanced agricultural technology in Hong Kong. These above-mentioned major on-going and planned developments, in the broader context of the Northern Metropolis and closer integration with the Guangdong–Hong Kong–Macao Greater Bay Area (GBA), have already begun to transform the area from a predominantly rural setting into a highly impacted area and infrastructure-led landscape. **No ecological sensitive receivers identified** In various studies on ecological feasibility/capacity of the above-mentioned developments, no significant ecological sensitive receivers have been identified within the proposed G/IC Zone and its immediate vicinity. No existing egretries have been reported within/around the Application Site. No nearby streams have been included among the 33 Ecologically Important Streams (EIS) identified by AFCD. The nearest major designated/recognised conservation areas, from the proposed G/IC Zone, are Lam Tsuen Country Park (approximately 1.9 km to the south) and Long Valley Nature Park (approximately 1.8 km to the northeast). Overall, the available information indicates that the Application Site and its close surroundings are of relatively low ecological value and ecological sensitivity in the local and territorial context. **Wildlife species are largely common elsewhere in Hong Kong** According to the approved EIAs for nearby strategic and/or major infrastructure development projects, including North East New Territories New Development Areas (AEIAR-175/2013), San Tin/ Lok Ma Chau Development Node (AEIAR-302/2032), Northern Link (AEIAR-259/2024) and Development at Ngau Tam Mei Area (AEIAR-271/2025), most wildlife species recorded in the wider area mainly comprise species that are common and typical of disturbed, lowland habitats in Hong Kong. The applicant has acquired ecological knowledge of the site through desk-based study, project-specific site visits and on-ground observations, review of previous

Comments/ Suggestions		Applicant/ Consultant's Responses
		survey work and professional judgement. Given the important public interest to support San Tin IT technopole development, ancillary education infrastructure is essential for the talented migrants' settlement therein, the existing information is considered sufficient to confirm that no significant adverse ecological impacts are expected and to guide the development of appropriate mitigation measures for the proposed project during implementation stage. **Birds' movement based on approved comparable EIAs** From a bird conservation perspective, particularly for wetland and/or migratory birds, Long Valley Nature Park (the Park) is the key conservation resource in the broader area. The Park opened in late 2024 to protect Hong Kong's largest freshwater wetland system and to maintain important roosting, foraging and breeding habitats for waterbirds and migratory birds. The Park is separated from the Application Site by San Tin Highway, a significant infrastructure associated with moderate to high levels of human disturbance. Ecological connectivity between the two areas, where present, would most plausibly be associated with the Sheung Yue River system: its upstream section runs through/bisects the Application Site, while its downstream section runs along the western boundary of the Park. Comparable situations, where development occurs along the upstream section of a watercourse whose downstream section leads to important wetland habitats, are not uncommon in the Deep Bay area, for example the proposed Residential Development within "Recreation" ("REC") Zone at Various Lots in DD 104, Yuen Long, N.T. (AEIAR-182/2014) and the Comprehensive Development and Wetland Protection near Yau Mei San Tsuen (AEIAR-189/2015). In those EIA studies, the waterbirds were observed to fly main along Fairview Park Nullah and Ngau Tam Mei Main Drainage Channel, which function as movement corridors between downstream foraging areas (e.g. Mai Po) and roosting/breeding sites. Notably, no roosting or breeding sites have been recorded within, or in the vicinity of, the Application Site. Similarly, the approved EIA for the Yuen Long Barrage Scheme (AEIAR-228/2021) identified significant waterbird flightlines along major channels such as Shan Pui River and Kam Tin River. By analogy, if any regular flightlines occur in the vicinity of the Application Site, they are most likely to be associated with the Sheung Yue River as the principal linear water/ landscape feature facilitating movement. **Bird-friendly design in the subsequent stage** Given the potential functional importance of the Sheung Yue River as a movement corridor, the existing riparian zone and AFCD's mitigation areas will be retained and protected. A buffer of approximately 10–15 m will also be maintained on both sides

Comments/ Suggestions		Applicant/ Consultant's Responses
		of the river during detail design of the scheme of the proposed G/IC Zone. In addition, a site-specific ecological baseline survey including bird flightline survey, covering both the dry and wet seasons, will be undertaken at a subsequent stage to inform detailed design. The survey findings will be used to refine key design parameters, including (but not limited to) the disposition and heights of building blocks. Bird-friendly design measures will also be incorporated, such as the use of non-reflective/non-mirrored glazing and appropriate management of interior and exterior lighting, to further reduce any potential risk of bird collision. In light of the above points, the Proposed G/IC Zone is not expected to adversely affect waterbird use of the Sheung Yue River system.
	<u>From fisheries perspective</u>	
2.	Our previous comments from the fisheries perspective remain valid. The proponent shall conduct a fisheries impact assessment to identify and evaluate the potential and cumulative impacts of the proposed rezoning and development on fisheries, particularly on the existing fishponds within and adjacent to the application sites, and recommend possible measures to avoid, minimise, and mitigate the impacts on fisheries resources. The relevant report shall be submitted for further assessment.	Several fishponds are located within and in the vicinity of the Application Site. As these areas are largely covered by the 500m assessment area of the proposed NM Highway – San Tin Section (EIA Study Brief No. ESB-373/2025), the Applicant will make reference to the relevant EIA findings once they become publicly available. If it is found at the detailed design stage that any active fishponds would be directly affected by the Proposed School, the scheme will be revised in accordance with the established hierarchy of avoidance, minimisation and mitigation. Furthermore, if indirect impact to any active fishpond is identified based on the NM Highway EIA findings, appropriate mitigation measures will be incorporated to ensure that the construction and operation of the Proposed School do not adversely affect the operation of the fishpond(s).
3.	In addition, the proponent has stated that "the Site is strategically located within the Northern Metropolis". However, this does not appear to be accurate when compared with the boundaries indicated by the Northern Metropolis Office (https://www.nm.gov.hk/en/four-zones). The proponent is advised to review the relevant information and make any necessary revisions.	As indicated in the quoted information on the NMCO website, the development project boundary, alignment and station location of railway and major roads projects under-planning as shown are indicative only. The exact boundary, alignment and station location are subject to further review. Notwithstanding, with reference to the Northern Metropolis Action Agenda 2023, please be advised that the Site falls within the NM conceptual boundary and is within its "Innovation and Technology Zone". Please refer the diagrams below on the conceptual boundary of Northern Metropolis and the indicative location of the Site in the Northern Metropolis which were also furnished in Diagram 6.1 of the submitted SPS.

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		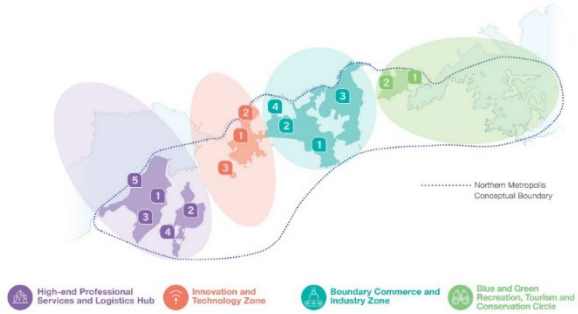 **Conceptual Boundary of Northen Metropolis and its Four Major Zones** (Source: Northern Metropolis Action Agenda 2023) **Indicative Location of Rezoning Site in the Northern Metropolis**
L.	**Comments from Transport Department received from Planning Department on 13.02.2026:** **(*Contact Person: Mr. TSANG Hong Chi, Tel no. 3842 6031*)**	
1.	No planned or committed development has been identified on the eastern side of the subject interchange of the Northern Metropolis Highway (NMH). Therefore, no connecting road is proposed from the interchange to the concerned area. It is thus considered that the applicant should be responsible for providing the necessary connecting roads to link with the interchange. Should the applicant	Noted.

Proposed Amendment to the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22 From "Agriculture" Zone and "Green Belt" Zone to "Government, Institution or Community" Zone at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories (TPB Ref. Y/NE-KTS/18)
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	wish to pursue such arrangement, they should liaise closely with the HyD's NMH project team to explore and reserve any potential connection points, as the interchange design is still in progress.	
2.	Considering the project location is close to strategic roadwork, and maximum traffic generation is near 900 pcu/hr (2-way), a two-tier transport model should be adopted to estimate the future traffic impact induced by the proposed development, especially to NMH. You are reminded to provide the methodology of developing the two-tier transport model.	According to the Final Report of "TD507/2023 Base District Traffic Models for the New Territories Area (2024 Update)" (the "BDTM Study") purchased from Transport Department, "the overall modelling approach for BDTMs adopts a two-tier modelling approach. The upper tier is the CTS Model, which is a strategic multi-modal model …". In view of the above, 2-tier transport model has been duly considered to assess the traffic impact of the Proposed School.
3.	Traffic assessment (i.e. RC and queue length) for San Tin Technopole Interchange taken into account the traffic generation from the proposed school should be included in the submission to demonstrate adequacy of the interchange.	Given that the design of San Tin Technopole Interchange is ongoing and is yet to be finalised, the Applicant will liaise with Highways Department at appropriate time to ensure that traffic generated by the Proposed School would be duly considered in the design.
4.	Since the traffic generation estimation is based on the assumption of staggered school hours, please clarify how the adoption of staggered school hours during the operational stage will be ensured. Otherwise, a sensitivity test that accounting for traffic generation from kindergarten, primary, middle/high school students during the same period should be conducted to demonstrate sufficient interchange capacity and acceptable queues length on the NMH slip road.	Noted and will be provided upon the approval of rezoning to the satisfaction of TD. Staggered school hour is commonly adopted to manage the surge of students arriving / leaving the campus and optimise the shared use of common facilities. Given that the Proposed School will adopt the "Staggered School Hour" policy, the conduct of sensitivity test is considered not necessary.
5.	Please provide justifications for the suitability of adopting the private school traffic generation rate from the BDTM study report for an international school.	Please be clarified that the Proposed School will operate as a Private School
6.	Table 4.3 – The traffic flows, v/c and implementation programme adopted do not align with NMH's latest traffic assessment results. Please double-check with the HyD's NMH project team.	Please note that the design year traffic flows are estimated with reference to the following: • 2036 and 2041 peak hour traffic models from the latest BDTM; and • traffic generation to / from the Proposed School.
7.	In your response to our previous comments Item (e), the proposed school is not intended to connect to the local road network. Please demonstrate with layout of the San Tin Technopole Interchange, how traffic generated from the school will be restricted from accessing the local road network.	Given that the design of San Tin Technopole Interchange is ongoing and is yet to be finalised, the Applicant will liaise with Highways Department at appropriate time on the detailed design.

Date: 16 February 2026

File Ref: SYRKTS

Attachment 2

Replacement Pages to
Supplementary Planning Statement

2 SITE CONTEXT

2.1 Site Location and Existing Use

2.1.1 The Rezoning Site is located in Kwu Tung South to the south of Fanling Highway on both sides of Sheung Yue River (Beas River). The Site is located in an area flanked by Ki Lun Shan (Hadden Hill) to the west, with Hang Tau Tai Po and Hang Tau Village to the east (***Figures 2.1*** and ***2.2*** refer).

2.1.2 The Rezoning Site, with an area of approx. 128,232m^2, is generally flat and predominantly occupied by clusters of vegetated or agricultural land, temporary structures for open storage/workshop uses, squatters and ruins. A few graves are also located within the Site.

2.2 Land Status

2.2.1 The Rezoning Site comprises various private lots in D.D.94, D.D.98 and D.D.100 and adjoining Government Land (***Figure 2.1*** refers). The private lots within the Rezoning Site (including purchase under negotiation) are listed in ***Table 2.1*** below.

Table 2.1 Private Lots within the Rezoning Site

D.D. 94	D.D. 98	D.D. 100
(**15** nos. of lot) 426 S.A, 426 S.B RP (Part), 428, 430, 432, 433 S.A, 433 S.B, 434, 437 RP, 438 S.A, 438 S.B, 439 S.A, 439 S.B, 440 RP, 901	(**8** nos. of lot) 563, 564, 565, 566, 583, 584, 585, 600	(**67** nos. of lot) 3 S.A, 3 S.B, 5 RP, 5 S.A, 5 S.B, 5 S.C, 5 S.D, 5 S.E, 5 S.F, 5 S.G, 5 S.H, 5 S.I, 5 S.J, 5 S.K, 5 S.L, 5 S.M, 8, 9 S.A&S.B, 10 S.A&S.B, 11, 12, 13, 15, 16, 17, 18, 19, 20 S.A&S.B, 21, 22, 23, 26 RP, 28, 30, 31 RP, 41 RP, 42 RP, 42 S.A, 43, 44, 884, 885, 887, 888, 889, 890, 892, 894, 895, 896, 899 RP, 901 RP, 903, 904, 905 S.A, 905 S.B (Part), 906, 907, 908, 909, 912, 913, 914, 915, 918, 919, 921 (Part)

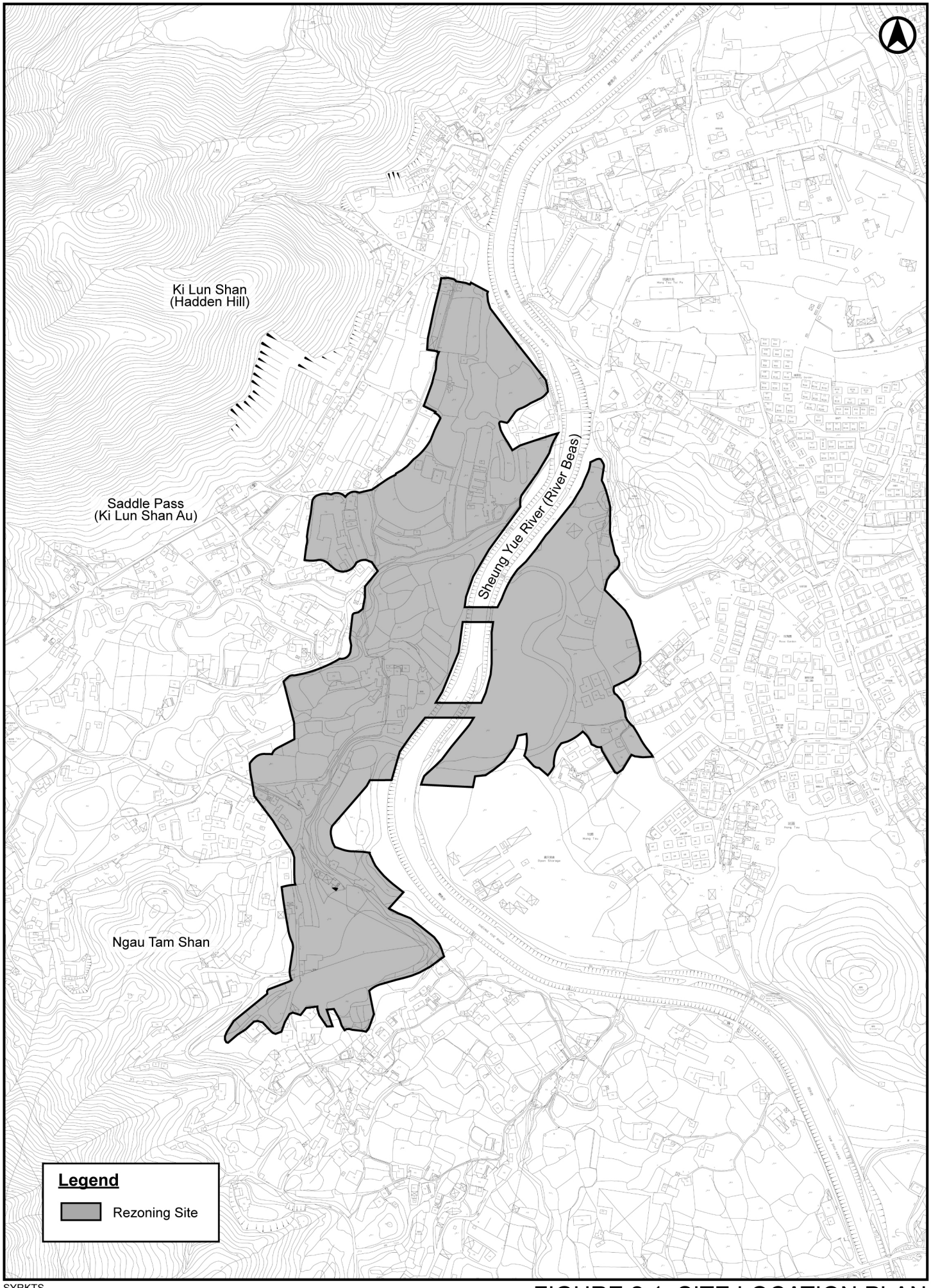
2.3 Surrounding Land Uses

2.3.1 The land use pattern around the Rezoning Site is predominantly rural in character, intermixed with low-rise residential developments and village houses, cultivated/fallow agricultural land, vegetated land, open storage yards and vacant land. Several graveyards can also be found within the Site (***Figure 2.2*** refers).

- To the immediate north of the Site are predominantly occupied by temporary structures mainly for open storage and warehouse uses, existing rural settlements, and fallow agricultural land, which fall within the "Agriculture" ("**AGR"**) zone. The Sheung Shui Hang Tau Village Sitting-out Area No. 2 is situated among the temporary structures.

- To the further north of the Site is a large-scale low-rise residential development known as Valais, which falls within the "Residential (Group C)2" ("**R(C)2**") zone. The planned Kwu Tung Station, which will be part of the East Rail Line and Northern Link ("**NOL**") and is scheduled to be completed in 2027, is also located further north of the Site.

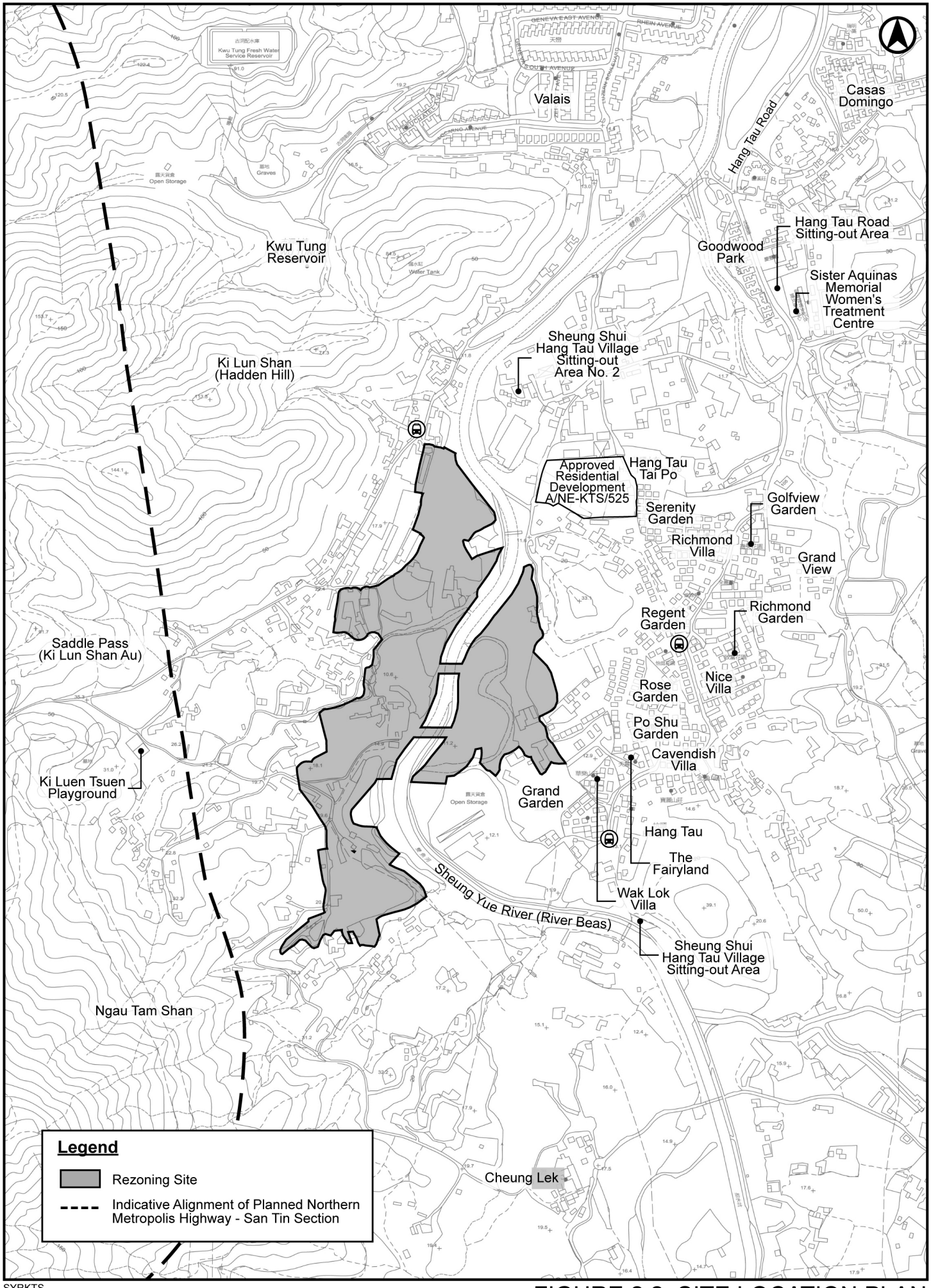
- To the northeast of the Site are occupied by existing rural settlements intermixed with temporary structures for open storage yard and open-air car parking area, which are zoned "Residential (Group D)" ("**R(D)"**) and "R(D)1" in Hang Tau Tai Po, including the approved residential development with forty-two (42) houses (TPB



SYRKTS

FIGURE 2.1 SITE LOCATION PLAN

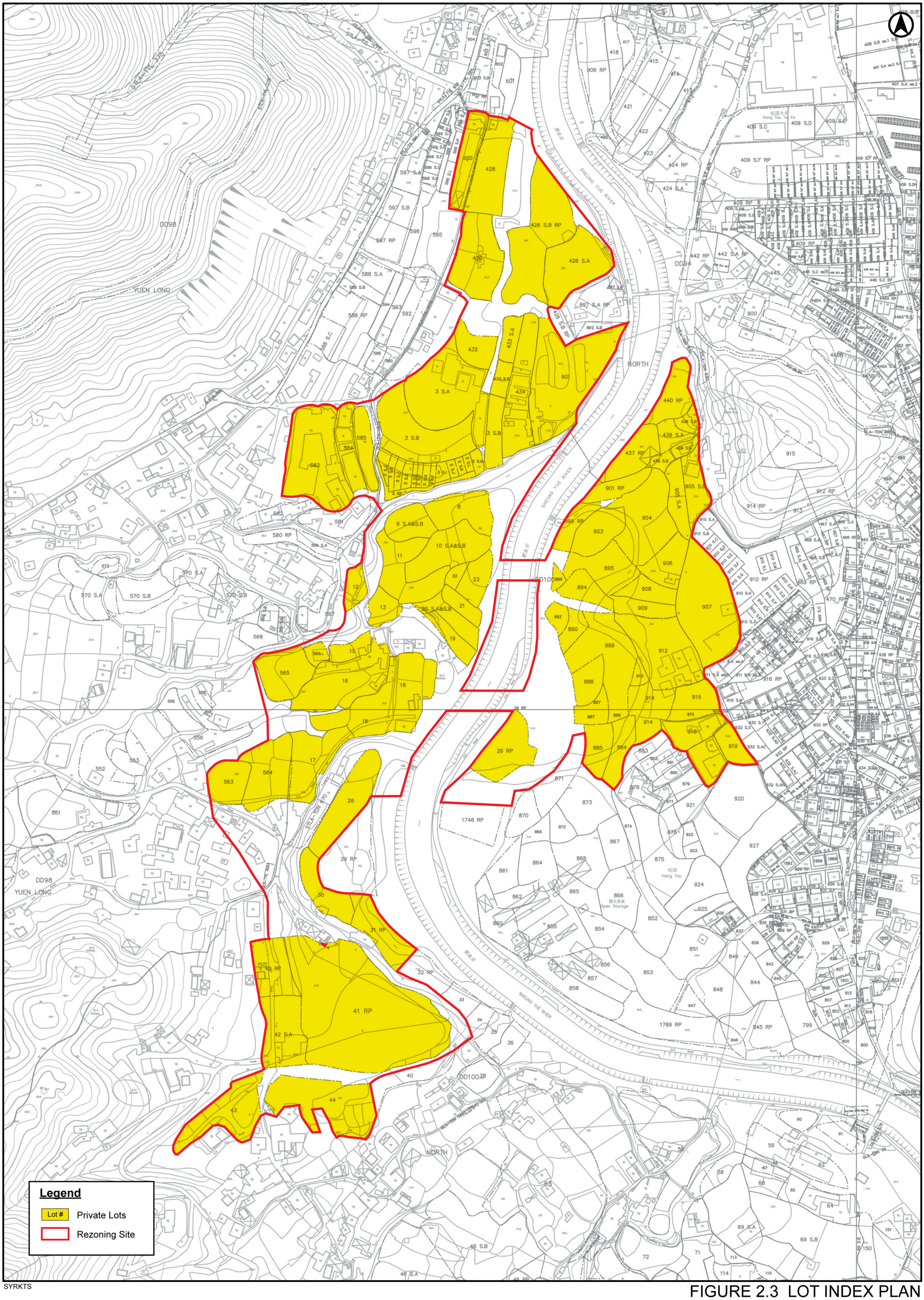
SCALE 1 : 5,000



SYRKTS

FIGURE 2.2 SITE LOCATION PLAN

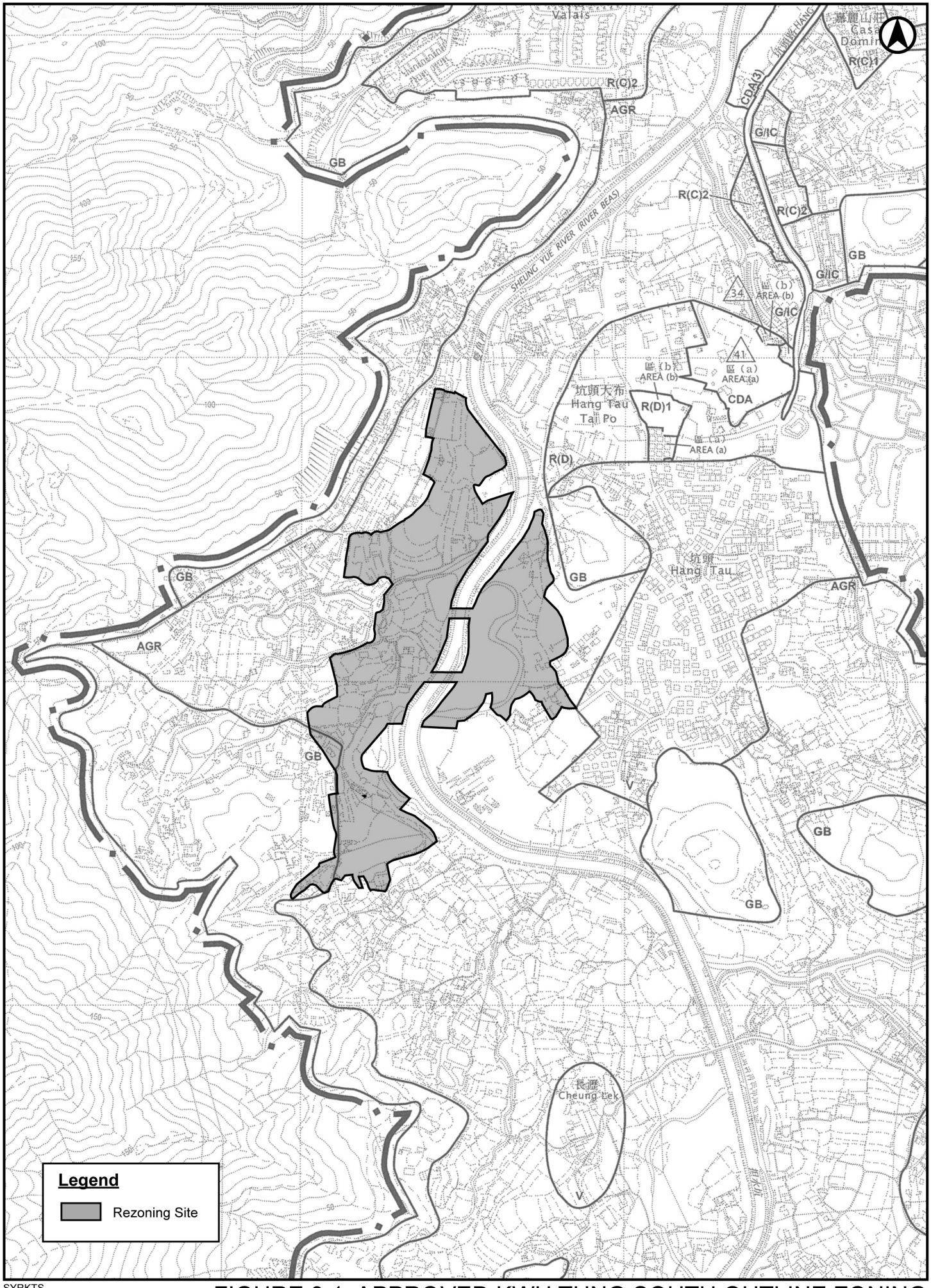
SCALE 1 : 7,500



SYRKTS

FIGURE 2.3 LOT INDEX PLAN

SCALE 1 : 2,500



SYRKTS

FIGURE 3.1 APPROVED KWU TUNG SOUTH OUTLINE ZONING PLAN NO. S/NE-KTS/22

SCALE 1 : 7,500

5 PROPOSED INDICATIVE DEVELOPMENT SCHEME

5.1 Indicative Development Scheme

5.1.1 The Applicant has prepared an Indicative Development Scheme under the Proposed "G/IC" zone to demonstrate the feasibility of establishing the Proposed School at the Rezoning Site.

5.1.2 The Proposed School will be implemented in a "through-train" mode, with kindergarten, primary and middle/high school facilities with ancillary student and staff accommodation, sports, cultural, art and sciences education facilities. The Indicative Development Scheme yields a total GFA of approx. 171,000m^2 including approx. 103,750 m² for school development and ancillary educational facilities and approx. 67,250 m^2 for ancillary staff and student dormitories.

5.1.3 In line with the low-rise topography of Kwu Tung South, the Indicative Development Scheme consists of twenty-four (24) structures of varied building heights with not more than 10 storeys (not more than 53.5mPD) and adopts a total Plot Ratio ("**PR**") of approx. 1.33 and a Site Coverage ("**SC**") of approx. 30.5% for non-domestic portion and approx. 6.7% for dormitory portion. The Indicative Development Scheme will accommodate a total of approx. 3,000 Students and 443 Teaching and Supporting Staff. Ancillary Student Accommodation for about 1,400 Middle/High School Students will be provided within approx. 350 units (average 4-student dormitory units) while 571 units of ancillary staff accommodation will be provided.

5.2 The Education Provider/Operator and Education Programme

5.2.1 The Proposed School will be operated by BASIS International School, offering an innovative and transformative learning environment designed to redefine early childhood and K-12 education. Adopting the internationally recognised BASIS Curriculum, it combines the strengths of liberal arts and STEM education to cultivate critical thinking, creativity, and problem-solving skills. Developed in the United States, the BASIS Curriculum is academically rigorous, aligning with global standards while fostering inquiry-based learning and interdisciplinary connections. It emphasises strong foundations in mathematics, science, and the humanities, complemented by arts, physical education, and character development. With its proven track record in preparing students for top universities worldwide, the BASIS model ensures that students are equipped not only with academic excellence but also with the adaptability and resilience needed to thrive in a rapidly changing global environment. Small class teaching of average 25 students per classroom will be adopted to encourage classroom interaction and enhance students' learning efficiencies.

5.3 The Proposed Architectural and Design Concept

5.3.1 In formulating the Indicative Development Scheme for the Rezoning Site, careful consideration has been given to both the building design and overall layout. The objective is to establish the Rezoning Site into an international school development that is compatible with the surrounding environment. The key design concepts that have guided the planning process include:

Creating a student-focused educational campus

5.3.2 The campus layout is carefully designed with flexibility as a core principle, allowing for adaptable restructuring of teaching facilities to accommodate evolving educational needs and technological advancements. This approach ensures the creation of a student-focused educational campus that remains responsive to future learning requirements while being compatible with long-term planning objectives of the

Building Height Profile

5.4.4 The Indicative Development Scheme adopts a low-density development strategy, with a stepped and varied building height profile designed to respond sensitively to the site's natural topography. Building heights are carefully modulated to descend gradually toward the riverbanks, internal circulation routes, and surrounding green landscape, facilitating a seamless transition between built form and the existing environment.

5.4.5 At the western portion, the primary educational blocks are arranged against the backdrop of the wooded valley slopes. The clustering of different building typologies and heights in this area creates a visually interesting composition that mirrors the undulating terrain and the winding course of the river. In several locations, building massing steps down towards the riverside to soften the development edge and improve visual permeability, ensuring that the overall campus form remains integrated within its natural setting.

5.4.6 Located at the periphery of the campus, the staff and student dormitories are similarly designed with varying building heights, from three (3) storeys to a maximum height of nine (9) storeys, serving as a transition from the educational facilities to the surrounding areas.

5.5 Implementation Programme

5.5.1 The Indicative Development Scheme is anticipated to commence operation in 2036, upon the commissioning of the Northern Metropolis Highway – San Tin Section.

5.6 Technical and Accommodation Schedule

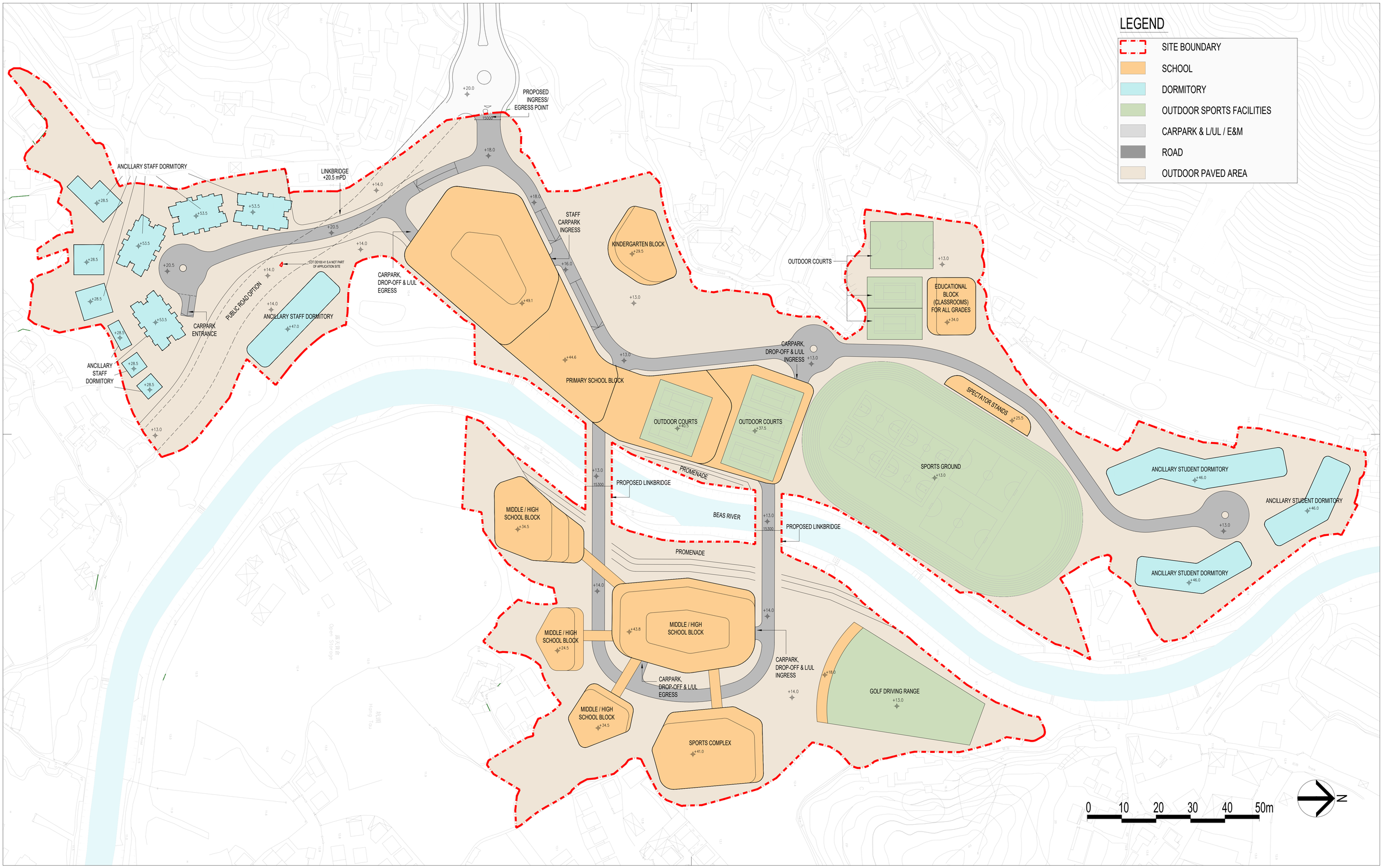
5.6.1 The Technical and Accommodation Schedule provided at ***Table 5.1*** summarises the major development parameters of the Indicative Development Scheme, while the Architectural Drawings of the Indicative Development Scheme are furnished in ***Appendix 1***.

Table 5.1: Technical and Accommodation Schedule

Development Parameters	Indicative Development Scheme
Rezoning Site Area	Approx. 128,232m^2
Site Formation Level[1]	Approx. 9-20.5mPD
Total Plot Ratio	Approx. 1.33
Total GFA[2]	Approx. 171,000 m^2
- Non-domestic (School Development and Ancillary Facilities)	Approx. 103,750 m^2
- Domestic (Ancillary Staff and Student Dormitories)	Approx. 67,250 m^2
Total Site Coverage	
- Non-Domestic (School Development and Ancillary Facilities)	Approx. 30.5 %
- Domestic (Ancillary Staff and Student Dormitories)	Approx. 6.7 %
Total No. of Structures / Blocks	24
Building Height	
- No. of Storeys	Not more than 10[3]
- Height of Structures (at main roof level) (m)	Approx. 4m – 39.5 m
- Height of Structures (at main roof level) (mPD)	Approx. 18mPD – 53.5mPD[1]
Total No. of Classrooms	141 [4]
- Kindergarten	30
- Primary School	46
- Middle/ High School	65
Total No. of Units	Approx. 921
- Ancillary Student Dormitories [5]	Approx. 350
- Ancillary Staff Dormitories [6]	Approx. 571
Total No. of Students	Approx. 3,000
- Kindergarten	Approx. 600
- Primary School	Approx. 1,000
- Middle / High School	Approx. 1,400

Attachment 3

Revised Architectural Drawings



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RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

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Project Title

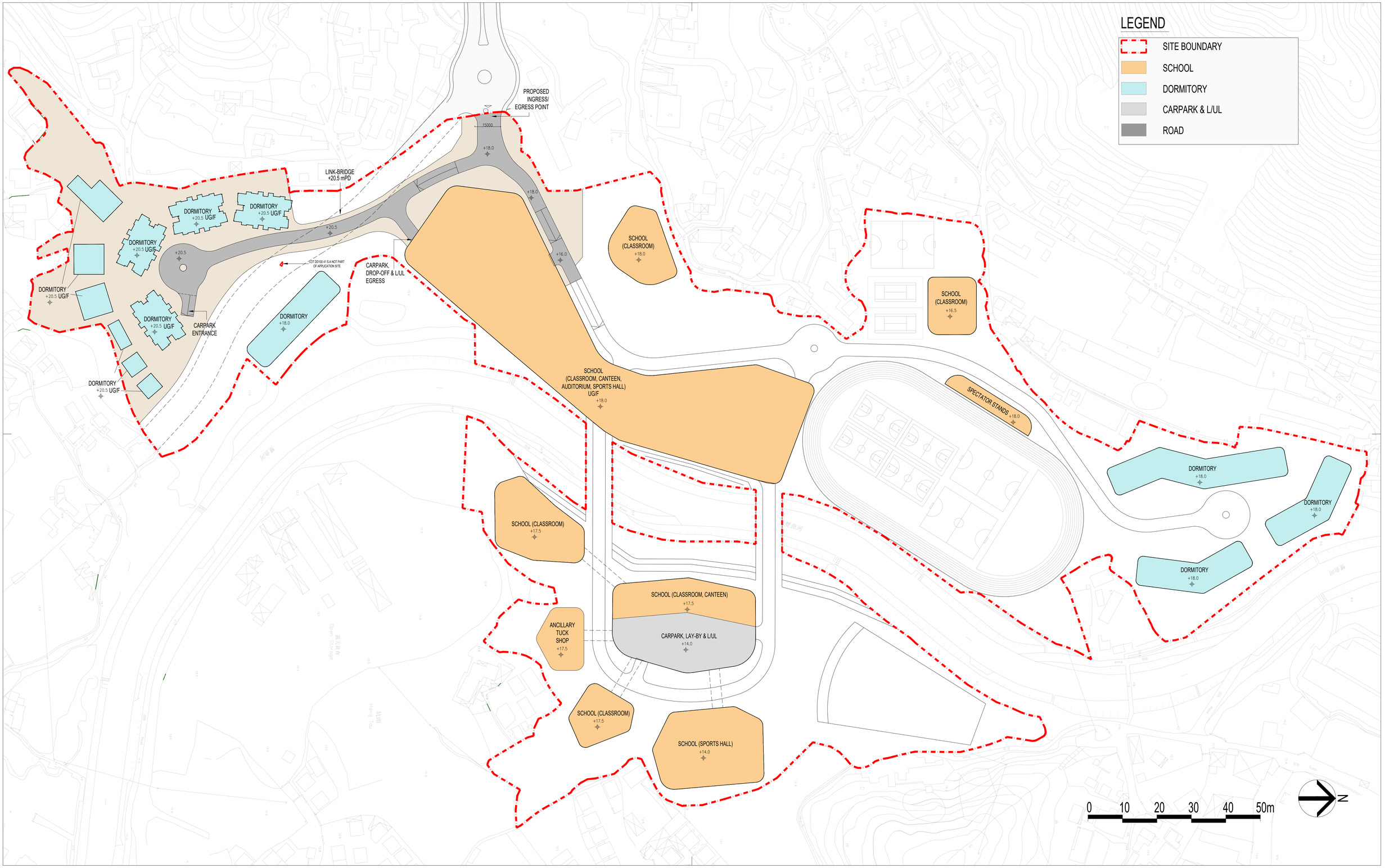
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



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Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

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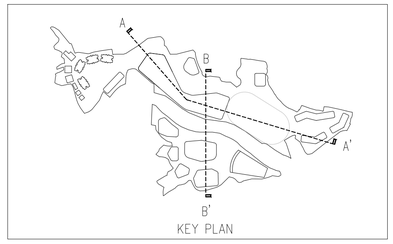
Drawing No. A/GBP_03

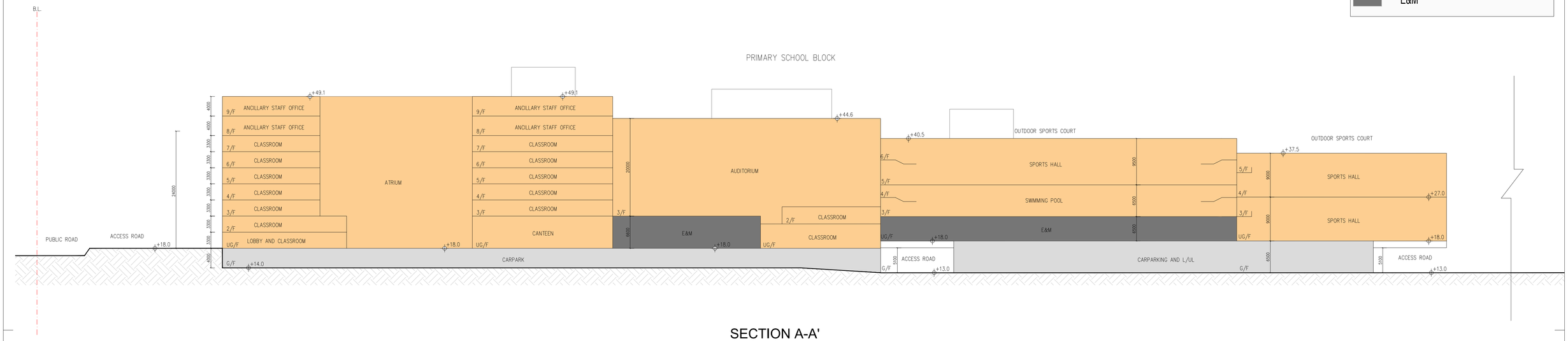
Drawing Purpose



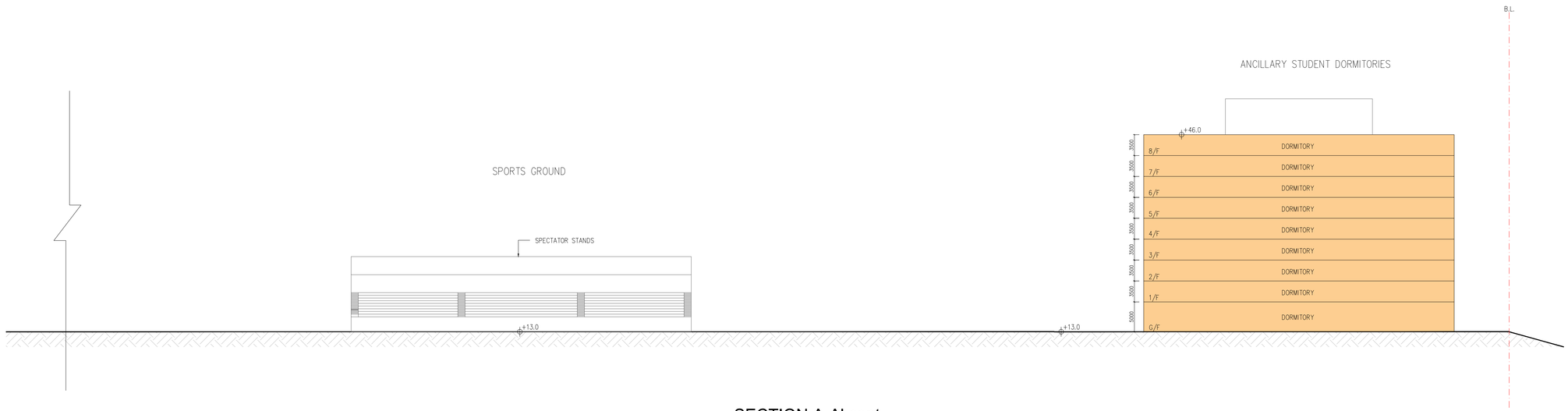
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



SECTION A-A' cont

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Drawing Title
SECTION A-A

Project No. 25018NT
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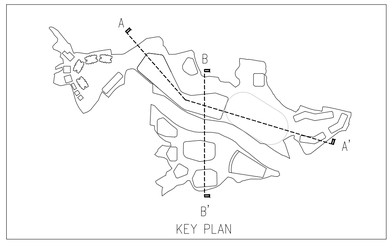
Drawing No. A/GBP_05

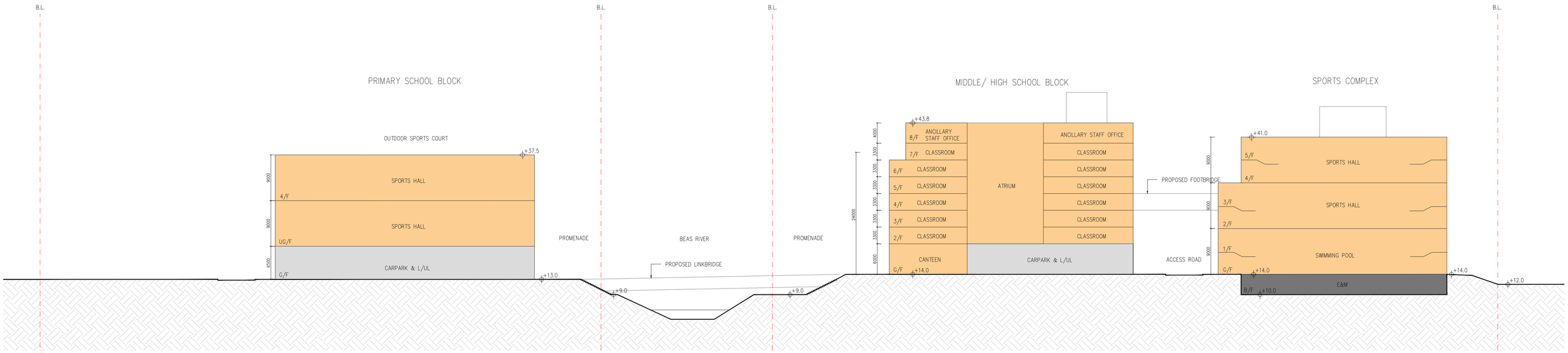
Drawing Purpose



KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION B-B'

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Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Attachment 4

Replacement Pages to the Visual Impact Assessment

Table of Contents

1.0 Introduction
2.0 Existing Site Description
3.0 Description of the Proposed Scheme
4.0 Baseline Conditions
5.0 Visual Impact Assessment
6.0 Visual Mitigation Measures
7.0 Appraisal of Visual Change
8.0 Conclusion

Figures

Figure 3.1 - 3.2 Proposed Scheme: Urban Design Considerations
Figure 4.1 – 4.3 Visual Elements
Figure 4.4 – 4.5 Visual Envelope and Visually Sensitive Receivers
Figures 7.1 Location of Photomontage Vantage Points
Figures 7.2 - 7.18 Photomontages

1.0 Introduction

1.1 SCENIC Landscape Studio Limited have been commissioned to undertake a Visual Impact Assessment ("VIA") for a planning application for a Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories (hereafter referred to as the Application Site).

1.2 This application proposes the establishment of a new international school at Ki Lun Tsuen, strategically positioned adjacent to the emerging San Tin Technopole. The San Tin Technopole is envisioned as a critical node for the city's future growth, designed to attract local and international technology enterprises, start-ups, and research talent from across the globe. The school site has a unique setting that balances environmental serenity with accessibility to these cutting-edge industries. As the development of San Tin Technopole accelerates, the provision of a quality international school will enhance the attractiveness of San Tin as a family-friendly destination for tech professionals and contribute to the sustainable, vibrant growth of the Northern Metropolis.

1.3 The visual impact assessment (VIA) aims to assess the potential visual impacts of the proposed scheme under application. This report will demonstrate that the proposals can be accommodated within the existing landscape and visual context without generating significant adverse visual impacts on this part of the Sheung Yue River / River Beas Valley.

1.4 The VIA assesses the source and magnitude of the proposed development on the existing visual character and amenity within the context of the site and its environs. The report concludes by making specific recommendations for alleviating any potential visual impact caused by the proposed development. The report is prepared in accordance with TPB PG-No. 41 'Guidelines on submissions of Visual Impact Assessment for Planning Applications to the Town Planning Board'.

2.0 Existing Site Description

2.1 The Application Site is located to the western side of the village of Hang Tau, Tai Po, covering an area of approximately 128,232 m^2. The overall site is an irregular, elongated shape and comprised two sections located on the eastern and western sides of the Sheung Yue River / River Beas, bounded by Hang village to the east, and Ki Lun village to the west. The site also includes the two proposed link bridges. The site area on the western side of the river generally slopes upwards with a cross fall of an east - west incline. At the southern portion existing site levels range from approximately +20.4 down to +11.2mPD near the riverside and at the central portion from around +18.8 down to +9.9mPD. At the northern portion the slopes are less pronounced, ranging between +14.4 down to +8.8mPD. On the eastern side of the river the land is generally flatter and more low lying, with levels ranging from +11.6 down to +8.8mPD.

2.2 The majority of the site is zoned as Agriculture (AGR), with a small portion at the south-west corner zoned as Green Belt (GB). The site currently contains a mix of land uses, including small holdings, orchards and wooded areas at the higher elevated parts and agricultural fields, ponds and some overgrown areas at the lower lying parts adjacent to the river. There are several existing trees on the site, with a mix of mature, native trees notable along the river corridor, but also weed trees, and tree groups comprising both native and exotic species, including several fruit trees.

3.0 Description of the Proposed Scheme

3.1 Under the current application, the proposed International School development consists of a campus set out in functional clusters of buildings and proposed land uses along an approximately 800m long section of the meandering River Beas. Land on both sides of the river is utilized, with a primary school and sport complex forming the core of a building cluster set out along the western side of the river and a middle school and departmental school buildings forming part of the development on the eastern side of the river. At the northern and southern ends of the site clusters of dormitory buildings

are proposed, with the southern cluster of blocks with Max. B.H. +53.5mPD and the northern area of student and staff accommodation with B.H. +46mPD.

3.2 Road access to the site is from the western side of the river, where a new public road from the San Tin Technopole Development and the Northern Metropolis Highway is proposed. The main entrance from this external public road at the central western edge of the site leads to a north to south orientated boulevard which forms a spine road connecting all the development areas on the western bank of the river. At the central section of the site, this road joins two east to west routes forming a loop road which crosses the river at two proposed bridges. These cross-river links provide convenient connections between the main school-related facilities on either side of the river at the central section of the proposed scheme.

3.3 The central portion of the scheme includes development proposals on both sides of the river. The northern section is dedicated to outdoor sports facilities, with a sports field and a running track and a sports education area on the western side of the river and a proposed golf driving range on the eastern side. To the south of these recreational spaces the main school facilities are proposed. On the eastern side of the river middle / high school blocks (B.H. +43.8mPD, +41.0mPD, +34.5mPD, and +24.5mPD) occupy the river frontage and southern part. To the west a stepped development block (B.H. +49.1mPD, B.H. +44.6mPD, B.H. +40.5mPD -and +37.5mPD) are proposed.

3.4 The development is set back from the river edge to create a riverside park and continuous waterfront greenery, open space and pedestrian connections from north to south, through the centre of the campus. The disposition of the proposed buildings across the site includes a variety of heights and building forms, reflecting the different building typologies required for the campus area. The main development blocks on the western side of the river are set against the wooded valley side slopes, with clustering of different building typologies to create an interesting development form which responds to the surrounding terrain and meandering river frontage. The forms of several blocks also step down towards the riverside to create a more subtle transition between the existing landscape and the development proposals.

3.5 The urban design considerations for the proposed scheme are shown in **Figures 3.1**. and **3.2**.

Other Planned and Committed Developments

San Tin Technopole Development

4.13 The planned San Tin Technopole Development is located due west of the Application site. Whilst the site and this major development are separated by the uplands of Ngau Tam Shan (+337 mPD) and Ki Lun Shan / Hadden Hill (+222mPD), the low point between these peaks (Saddle Pass / Ki Lun Shan Au) is located adjacent to the Application Site. Owing to the high-rise nature of the Technopole Development, with building heights up to +200mPD, some visibility of Technopole from the Sheung Yue River / River Beas Valley is anticipated.

4.14 The planning of the San Tin Technopole Development will strike a balance between development and nature conservation. The development area comprises mainly the I&T Park and the San Tin Town Centre for providing diverse employment opportunities and various types of housing, as well as commercial uses, open space and community and infrastructural facilities. Major planning themes of the Technopole include:

- Developing a World Class I&T Hub - Together with the HSITP at the Lok Ma Chau Loop, the Technopole will supply about 300 ha of information and technology (I&T) uses;
- Ecological Conservation – The proposals include the establishment of the Sam Po Shue Wetland Conservation Park (SPS WCP). The park is located along the core section of the flight path for migratory birds, in close proximity to the Mai Po Nature Reserve and other wetlands and has large areas of productive fishponds. Within the proposed area, 328 ha will be used for the implementation of ecological and fisheries enhancement measures for the development at STLMC area of the Technopole, while the remaining 10 ha is tentatively reserved for eco-education, eco-recreation and eco-tourism facilities. The proposals will enhance the ecological function and capacity of 288 ha of wetlands and fisheries resources of 40 ha of fishponds with active conservation management and modernised aquaculture to compensate for the loss of wetland habitats and fisheries resources arising from the development of the Technopole.
- Balanced, Vibrant and Liveable Community – The area will provide about 50,000 to 54,000 new flats of different housing to help address the housing shortage in the territory. The proposals also include provisions of land for government, institution and community (GIC) facilities and open space have adopted the ratio of 3.5m^2 per person

4.15 The building layout for the San Tin Technopole Development is based on the Landscape Master Plan contained in the approved EIA for Agreement No. CE 20/2021 (CE) First Phase Development of the New Territories North – San Tin / Lok Ma Chau Development Node – Investigation and the Building Heights from the Draft San Tin Technopole Outline Zoning Plan (S/STT/1) dated 8th March 2024.

Kwu Tung North NDA

4.16 The Kwu Tung North (KTN) New Development Area (NDA) is located to the north of the Application Site and forms a component part of the future Northern Metropolis. The NDA is planned as a mixed-use development node with a focus on residential, commercial, research and development (R&D), and agricultural uses. It will also incorporate retail and service facilities, community and government spaces, and land for ecological conservation. The KTN NDA is located northwest of Fanling/Sheung Shui New Town and is designed to integrate with the existing area to form a larger FL/SS/KT New Town. The KTN NDA has a comprehensive network of recreation and green spaces comprising regional, district and local open spaces. The ecologically important Long Valley area (about 37 ha) is planned as "Long Valley Nature Park" (LVNP) which will be a "green lung" contributing to a quality living environment for the NDA. Apart from the LVNP, which showcases the harmonious blending of farming activities with nature conservation, about 45 ha of land to the north and south of the LVNP is also retained for agricultural uses.

4.17 The KTN NDA is located to the north of the Fanling Highway and is not considered a major visual consideration in the current assessment, in relation to the selected Vantage Points in proximity to the

site. However, from elevated vantage points from the south of the proposed development the KTN NDA will form the backdrop of the view and therefore the proposals are modelled for the purpose of representing a base case for the assessment, based on the RODP contained in the Approved EIA under Agreement No. CE 61/2007 (CE).

Fanling North NDA

4.18 The FLN NDA is proposed to be developed as a 'Riverside Community' making the best use of its beautiful riverside scenery and hilly backdrop to create a comfortable living environment with a mix of residential, retail and services and agricultural uses, community and government facilities.

4.19 Two district nodes with a mix of residential use, retail, social and community facilities, PTI and public open space are planned in the eastern portion to the immediate north of the existing market town of Luen Wo Hui and in the western portion to the north of Tin Ping Shan Tsuen respectively to serve as major activity nodes of the FLN NDA. To create a social and recreational hub easily accessible by the future residents and the existing communities in Fanling / Sheung Shui New Town, the current Shek Wu San Tsuen area, which is centrally located, will be developed into the Central Park with social welfare and recreational facilities in the vicinity, forming the civic core of the area. The north-western portion of the NDA is planned for various uses, including logistics facilities, bus depots, public heavy goods vehicle park and expansion for Shek Wu Hui Sewerage Treatment Works.

4.20 As the FLN NDA is largely concealed behind existing high-rise development at Fanling it is not considered a major visual consideration in the current assessment, although from elevated vantage points from the south of the proposed development the FLN NDA will form part of the backdrop of the view. The proposals are therefore modelled for the purpose of representing a base case for the assessment, based on the RODP contained in the Approved EIA under Agreement No. CE 61/2007 (CE).

Northern Metropolis Highway

4.21 The approximately 23-km Northern Metropolis Highway consists of four sections, namely the Tin Shui Wai Section, San Tin Section, Kwu Tung Section and the New Territories North (NTN) New Town Section, from west to east, linking the development nodes of the Northern Metropolis (including Ngau Tam Mei, San Tin Technopole, Kwu Tung North/Fanling North and New Territories North (NTN) New Town). The NMH will enhance accessibility to the new development areas and further enhance cross-boundary road connections for passengers and goods, enabling members of the public and visitors to travel conveniently to and from various major land boundary control points in the Northern Metropolis.

4.22 The Application site is adjacent to the San Tin section of the Highway, which is scheduled for completion in or before 2036, at which point it will form the major access route to the site. Prior to this, upgrading of the existing road network shall be undertaken to facilitate access to the proposed initial phases of the development.

Agricultural Park in Kwu Tung South

4.23 This proposed development is located to the south of the Application Site and aims to promote the modernisation and sustainable development of local agriculture. The development proposals comprise the construction of related infrastructure (such as irrigation, permanent basic lodging and storage facilities) and access roads including two vehicular bridges connecting with the existing Tsiu Keng Road. Most of the Agri-Park area will be used for agricultural activities, while the remaining part will be used for building infrastructural facilities and roads for supporting the Agri-Park. Considering its proposed scale, the Agri-Park is planned to be implemented in two phases. Phase 1 will be developed in a relatively small-scale (with an area of about 11 ha), with a view to enabling commissioning for use as early as possible.

Vantage Points

4.26 The Vantage Points (VPs) are identified as views from key strategic and popular local vantage points, as well as viewing locations from the village areas adjacent to the Application Site. For the purposes of this assessment and in accordance with current approaches the VPs are based on publicly accessible and popular locations. Priority is given during the selection to public viewpoints, open spaces and key pedestrian routes.

4.27 Based on the targeting of publicly accessible locations the representative VPs are listed below with a brief description of the existing view and their locations presented as **Figure 7.1 Location of Photomontage Vantage Points**.

- **Vantage Point 01**: View looking West from Hang Tau Tsuen Hall;
- **Vantage Point 02**: View looking southwest from roadside public footpath along Hang Tau Road, opposite Hang Tau Road Public Toilets;
- **Vantage Point 03:** View looking southeast from Kwu Tung Hang Village Rest Area;
- **Vantage Point 04**: View looking east from Ki Lun Tsuen Playground;
- **Vantage Point 05**: View looking northwest from a riverside footpath next to Sheung Shui Hang Tau Village Sitting Out Area;
- **Vantage Point 06**: View looking south from Kwu Tung Road South;
- **Vantage Point 07**: View looking southeast towards the site from Hadden Hill;
- **Vantage Point 8**: View looking northwest from Cheung Lek Sitting Out Area;
- **Vantage Point 9**: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2;
- **Vantage Point 10**: View looking northeast from the summit of Ngau Tam Shan;
- **Vantage Point 11**: View looking north from a ridgeline trail in Lam Tsuen Country Park;

4.28 Some of these locations are over a relatively short distance from the Application Site owing to the screening effect of the existing development, landform and mature vegetation in the immediate surroundings. More distant vantage points from popular public areas are also illustrated to help define the nature of impacts (if any) on the wider visual context of the site.

7.0 Appraisal of Visual Changes

7.1 The visual change is defined as the impact remaining after all practical methods of mitigation have been implemented. A series of computer-generated images or photomontages from the vantage points indicated on **Figure 7.1** are presented as **Figures 7.2** to **7.12**. The locations have been selected to demonstrate the range of viewing angles and viewing distances in relation to identified VPs, demonstrate the schemes 'fit' into the existing and future sub-urban context; and also demonstrate the degree of visibility from surrounding locations.

7.2 The photomontages show the existing situation, the baseline scheme (as per approved S12A) and the Proposed Scheme following the implementation of the proposed mitigation measures. Where the proposals are not visible, or views partially obscured a red dashed line is used to indicate their approximate location.

7.3 The text below provides a brief description of each of the views selected for the photomontages and provides an appraisal of visual changes (visual composition, visual obstruction, the effect on public viewers and the effect on visual resources) in accordance with TPB PG-No. 41.

- **Vantage Point 01**: View looking West from Hang Tau Tsuen Hall;
- **Vantage Point 02**: View looking southwest from roadside public footpath along Hang Tau Road, opposite Hang Tau Road Public Toilets;
- **Vantage Point 03:** View looking southeast from Kwu Tung Hang Village Rest Area;
- **Vantage Point 04**: View looking east from Ki Lun Tsuen Playground;
- **Vantage Point 05**: View looking northwest from a riverside footpath next to Sheung Shui Hang Tau Village Sitting Out Area;
- **Vantage Point 06**: View looking south from Kwu Tung Road South;
- **Vantage Point 07**: View looking southeast towards the site from Hadden Hill;
- **Vantage Point 8**: View looking northwest from Cheung Lek Sitting Out Area;
- **Vantage Point 9**: View looking northeast from Sheung Shui Hang Tau Village Sitting-out Area No. 2;
- **Vantage Point 10**: View looking southwest from the summit of Ngau Tam Shan.
- **Vantage Point 11**: View looking north from a ridgeline trail in Lam Tsuen Country Park;

7.4 **Vantage Point 01: View looking west from Hang Tau Tsuen Hall** (**Figures 7.2** refers). At an elevation of approximately +15.5mPD and at a distance of 220m, this vantage point represents views from village areas to the east of the Application Site, with reference to the public facility of the Village Hall at the centre of Hang Tau Tsuen. As described previously, owing to the density of the development, views from within such village areas are often limited to the dwellings at the periphery of the settlement. The view illustrates this point, where the dense housing development within the village largely screens views to the proposed development beyond. In this view the tight cluster of three storey houses effectively screens views towards most of the Application site.

7.5 *Sensitivity of Public Viewers: Low*
Whilst Hang Tau Road is the main transport artery through the village and the Village Hall is an important public node within the settlement, the nature of the view is highly developed and urban; with the view dominated by hard elements and minimal greenery and planting. As such the visual sensitivity of this VP is considered to be low.

7.6 *Visual Composition*: Not entirely apparent
The visual composition of the Proposed Scheme would not be entirely apparent from this location owing to the screening effect of existing village development. A very small part of the upper floors of the proposed sport complex is visible through gaps in the housed, with the majority of the development screened from view.

7.56 *Effect on Public Viewers*: Negligible
With the implementation of the proposed development there will be no impact on public viewers.

7.57 *Effect on Visual Resources*: None
The visual resources apparent in this view will not be affected by the proposals.

7.58 *Overall visual Impact*: Negligible
Due to the screening effect of the existing landform and vegetation there will be no impact on this view.

7.59 **Vantage Point 09: View looking northeast from Sheung Shui Hang Tau Village Sitting-out Area No. 2 (Figures 7.13** and **7.14** refer). This vantage point, at an elevation of approximately +14.8mPD and located at a distance of approximately 160m, is available to residents and the public using the sitting out area facilities within Hang Tau Village. The view is selected to illustrate views from the existing village areas to the immediate north of the proposed development. The existing view is relatively enclosed by riverside development, with glimpsed views of the backdrop of mountain peaks including Ngau Tam Shan (+337mPD) and Kai Keng Leng (+585mPD) and the spurs and ridgelines associated with these upland formations.

7.60 *Sensitivity of Public Viewers:* Medium
This vantage point is available to residents and users of this Sitting Out Area. The existing riverside setting with a mountain backdrop is an attractive composition. The degree of visibility towards the Application Site is partially screened and there are alternative views along the river channel to the north and as such the sensitivity would be considered medium.

7.61 *Visual Composition*: Not entirely apparent
The visual composition of the Proposed Scheme would not be entirely apparent from this location owing to the screening effect of intervening structures, landform, vegetation and mature trees along the riverside and within the existing village. Nevertheless, owing to the proximity of this vantage point to the northern part of the development the middle and upper floors of the development would be visible, with glimpsed views of the southern part of the scheme between existing trees.

7.62 *Visual Obstruction*: Moderate
Whilst only the northern portion of the development is prominent within the scene, this building mass does obstruct the ridgeline backdrop of the view, including obscuring the summit of Ngau Tam Shan.

7.63 *Effect on Public Viewers*: Moderate
The ridgeline backdrop is an attractive part of the view, however the sitting out area is contained by existing boundary structures, whilst in the base case view elements of the San Tin Technopole and proposed warehouse development at the edge of Hang Tau village are visible within the background of the scene.

7.64 *Effect on Visual Resources*: Moderate
As noted above, from this vantage point the proposed development obstructs a key section of the hillside backdrop and breaks the ridgeline of both Ngau Tam Shan and Kai Keng Leng. This is considered to have a Moderate impact on visual resources within the context of the overall view.

7.65 *Overall Visual Impact*: Slightly / Moderately Adverse
Owing to the proximity of this vantage point to the proposed development the middle and upper portions of the development at the northern end of the site would be visible along the river corridor. The development also blocks views to key sections of the ridgeline backdrop. However, there is already significant development in the foreground areas and large scale proposed development such

as the San Tin Technopole are also visible in the base case view. As such the overall impact of the proposed development is judged Slightly/Moderately Adverse.

7.66 **Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan (Figures 7.15** and **7.16** refer). At an elevation of approximately +337mPD and at a distance of about 1200m hikers using a seasonal trail to summit of Ngau Tam Shan enjoy panoramic views over the north of the Beas River valley against a backdrop of towards Sheng Shui and Fanling and the view of the valley from this elevated vantage point also illustrates that this is a developed landscape near the existing high rise urban centre of Sheng Shui and Fanling. The development of Kwu Tung North and Fanling North NDA's will add to the density of this backdrop development in the future. To the South of the Fanling Highway the approved development under s12A Applications No.Y/NE-KTS/12, No.Y/NE-KTS/14 and No.Y/NE-KTS/15 (up to +75mPD) and No.Y/NE-KTS/13 (up to +40.3mPD) will add to the extent of development within the landscape and will form the base case scenario for the assessment. The development is set towards the edge of the valley and is therefore less prominent than some of these other proposed medium-rise developments within the valley floor.

7.67 *Sensitivity of Public Viewers: Medium*

Whilst the surrounding mountain scenery is an attractive element of the view there is already significant development in the lowland areas, although there are also views over Fanling Golf Course. There would be some change in the visual character of this part of the valley environment owing to the introduction of new middle rise development on the eastern margins of the river corridor. There are alternative panoramic views to the east and northeast. Given the availability to relatively few hikers the visual sensitivity of this VP is considered to be Medium.

7.68 *Visual Obstruction*: Small blockage of view

The panoramic view over the valley would be partially affected by the imposition of this development on the valley floor some distance away from this elevated vantage point. The visible sections of the development proposals would obscure views of small holdings and existing wooded areas along the riverside.

7.69 *Effect on Public Viewers*: Slight

It should be noted that this elevated view from a remote hillside overlooking the valley would be experienced by a relatively few public viewers. Given the panoramic nature of the view the development would have a limited effect on the sense of openness and is of a visually compatible in scale relative to existing and approved developments within the valley floor.

7.70 *Effect on Visual Resources*: Small

The implementation of the Proposed Scheme would obscure views a small portion of the developed and vegetated valley floor. A similar landscape extends across much of the northern part of the Beas River Valley, so this loss is not considered significant. Owing to the small scale of potential impact relative to the overall extent of such visual resources in this wide, panoramic view, the effect on existing visual resources is considered small.

7.71 *Overall Visual Impact*: Slightly Adverse

The visible portion of the scheme is a small component of this panoramic view, which is viewed against a backdrop of the skyline of Fanling and Sheung Shui. When considering the base case, the development is not unprecedented, but will in effect add to the increase in building scale within the valley as represented by the approved developments under Applications Nos. Y/NE-KTS/12, Y/NE-KTS/14, Y/NE-KTS/15 and Y/NE-KTS/13 located to the northern and central part of the view. The base case view is nevertheless already relatively developed and so the overall impact is assessed to be Slightly Adverse.

7.72 **Vantage Point 11: View looking north from a ridgeline trail in Lam Tsuen Country Park (Figures 7.17** and **7.18** refer). At an elevation of approximately +450mPD and at a distance of about 2600m hikers using this ridgeline trail enjoy panorama views over the Beas River valley against a backdrop

hills and development towards Sheng Shui and Fanling and the more distant skyline of Shenzhen. Whilst it is the most distant of the vantage points considered in the assessment, the elevated and panoramic view over this area provides a good overview of the development context of the proposals. Whilst the Beas River Valley has moments of tranquil and natural quality the view of the valley from this elevated vantage point also illustrates that this is a developed landscape near the existing high rise urban centre of Sheng Shui and Fanling. The development of Kwu Tung North and Fanling North NDAs will add to the density of this distant development in the future. To the South of the Fanling Highway the approved development under s12A Applications No.Y/NE-KTS/12, No.Y/NE-KTS/14 and No.Y/NE-KTS/15 (up to +75mPD) and No.Y/NE-KTS/13 (up to +40.3mPD) will add to the extent of development within the landscape and will form the base case scenario for the assessment.

7.73 *Sensitivity of Public Viewers: Medium*

Whilst the surrounding mountain scenery is an attractive element of the view there is already significant development in the lowland areas. There would be small change in the visual character of this part of the valley environment owing to the introduction of new middle rise development on the eastern side of the River Beas Valley. There are alternative panoramic views in multiple directions from this ridgeline vantage point. Given the availability to relatively few hikers the visual sensitivity of this VP is considered to be Medium.

7.74 *Visual Obstruction*: Small blockage of view

The panoramic view over the valley would be partially affected by the imposition of this development on the valley floor some distance away from this elevated vantage point. The visible sections of the development proposals would obscure views of small holdings and existing wooded areas along the existing riverside.

7.75 *Effect on Public Viewers*: Slight

It should be noted that this elevated view from a ridgeline overlooking the valley would be experienced transiently by relatively few public viewers. Given the panoramic nature of the view the development would have a limited effect on the sense of openness and is of a visually compatible in scale relative to existing and approved developments within the valley floor.

7.76 *Effect on Visual Resources*: Small

The implementation of the Proposed Scheme would obscure views a small portion of the developed and vegetated valley floor. A similar landscape extends across much of the northern part of the Beas River Valley, so this loss is not considered significant. Owing to the small scale of potential impact relative to the overall extent of such visual resources in this wide, panoramic view, the effect on existing visual resources is considered small.

7.77 *Overall Visual Impact*: Slightly Adverse

The visible portion of the scheme is a small component of this panoramic view, which is viewed against a backdrop of the skyline of Fanling and Sheung Shui and is a relatively minor addition to the proposed NDAs at Kwu Tung North and Fanling North which would be prominent visual elements in the base case view. As such the overall impact is assessed to be Slightly Adverse.

8.0 Conclusion

8.1 In general, the existing landscape and visual amenity is characterised by a sub-urban context of the valley floor, active and abandoned agricultural land, occasional wooded knolls, and light industrial uses bounded by 3-storey village development and some private residential developments. A detailed review of the Application Site and its immediate context has revealed that the visual envelope and the primary and secondary zones of visual influence are largely contained near the Application Site. This is due to the low-lying nature of the valley floor, and a combination of the existing landform, the presence of wooded knolls and the density of the existing mature tree growth and the proximity of existing village development which serve to contain and, in some locations, obscure views.

8.2 The proposed School development consists of a campus set out in functional clusters of buildings and proposed land uses along an approximately 800m long section of the River Beas. The development is set back from the river edge to create a continuous riverside park with extensive greenery, open space and pedestrian connections from north to south, through the centre of the campus. The disposition of the proposed buildings across the site includes a variety of heights and building forms, reflecting the different building typologies required for the campus area. The eastern side of the river is lightly developed, with the central area occupied by a sports field and a running track. The western side, set against the wooded valley side slopes, is more densely developed, with clustering of different building typologies to create an interesting development form which responds to the surrounding terrain and meandering river frontage. The forms of the various blocks also step down towards the riverside to create a more subtle transition between the existing landscape and the development proposals.

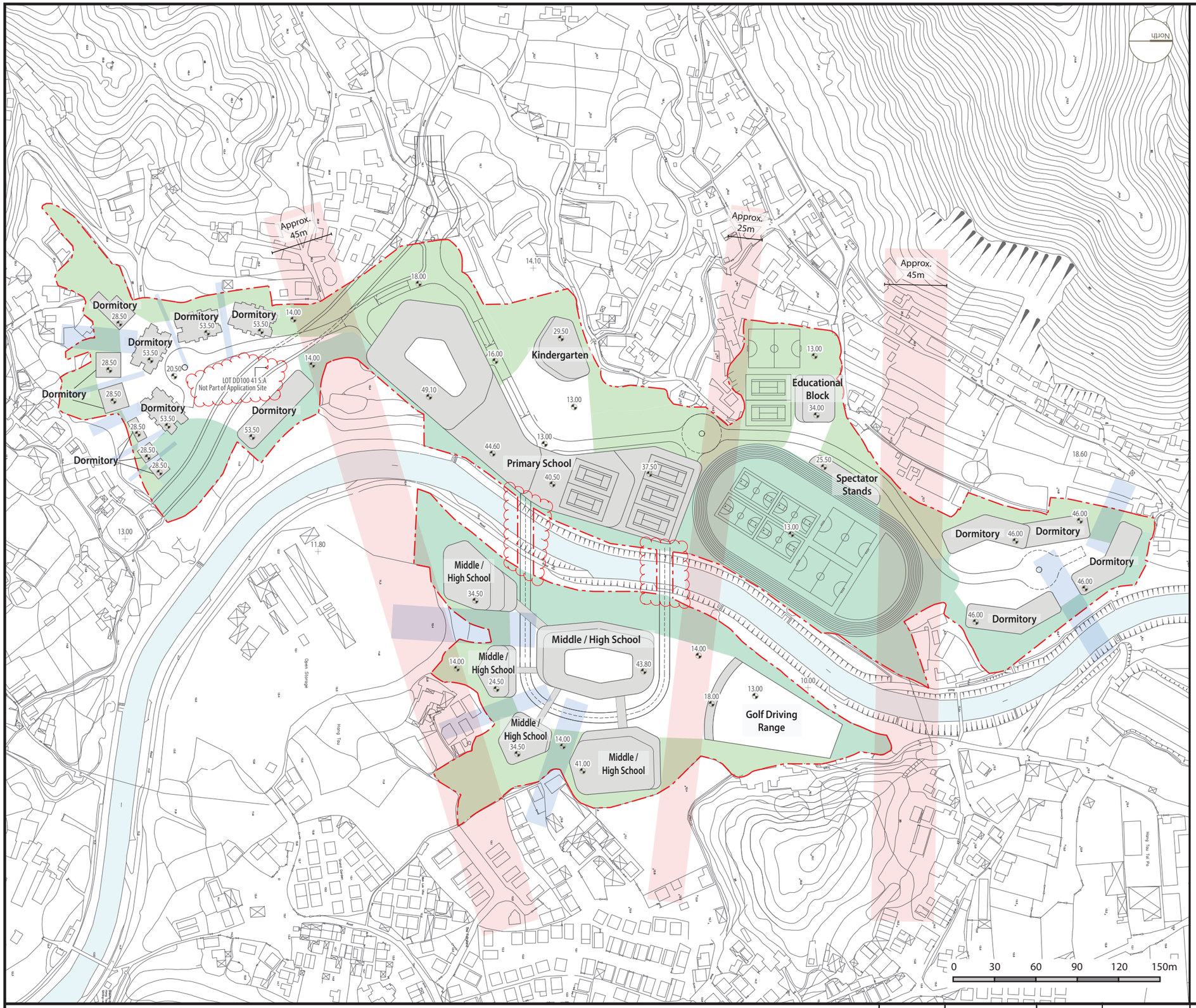
8.3 The selection of vantage points has been comprehensive covering all the potential viewing angles from publicly accessible locations. As is clearly demonstrated by the photomontages there are few locations from where the Proposed Scheme can be seen in its entirety. In most locations views of the proposals are largely obscured by intervening landform, mature vegetation and built structures. In the few locations where there will be views of the proposals these are largely partial or glimpsed with a small part of the scheme being visible.

8.4 The photomontages show a scheme which although located within a sub-urban environment fits comfortably within its context. This 'comfortable fit' is in part due to the architectural enhancement measures designed into the Proposed Scheme which have been described above and partly due to its setting and the lack of visual access. It would be unrealistic to think that there would be no adverse impacts however this must also be considered in terms of the nature and extent of existing and future views.

8.5 The assessment makes a comparison with a base case scenario, which includes approved but yet to be implemented developments within the local areas. For four of the selected public vantage points the predicted visual impacts will represent no or negligible impact, as the development is fully or almost fully screened by a combination of existing landform and vegetation, existing and future development. However, the relative assessed impacts from seven of the ten vantage points, typically in close proximity to the site, are considered to be slightly adverse (four VPs) and slightly / moderately adverse (three VPs), in comparative terms.

8.6 Given the factors described above together with the adoption of a responsive architectural design the implementation of the Proposed Scheme would not significantly detract from the existing landscape and visual amenity of the local area. Given the factors described above the proposals are considered to be visually compatible with their future context.

Visual Impact Assessment Figures



LEGEND

- Application Site Boundary
- xx.xx — Existing Levels (+mPD)
- xx.xx — Proposed Levels (+mPD)
- Proposed Building
- Proposed Visual Corridor
- Proposed Building Separation
- Proposed Building Setback (Riverside)
- Proposed Building Setback (Hillside)

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Proposed Scheme: Urban Design Considerations

SCALE	A.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO. Figure 3.1		REV	D

SCENIC Landscape Studio Limited
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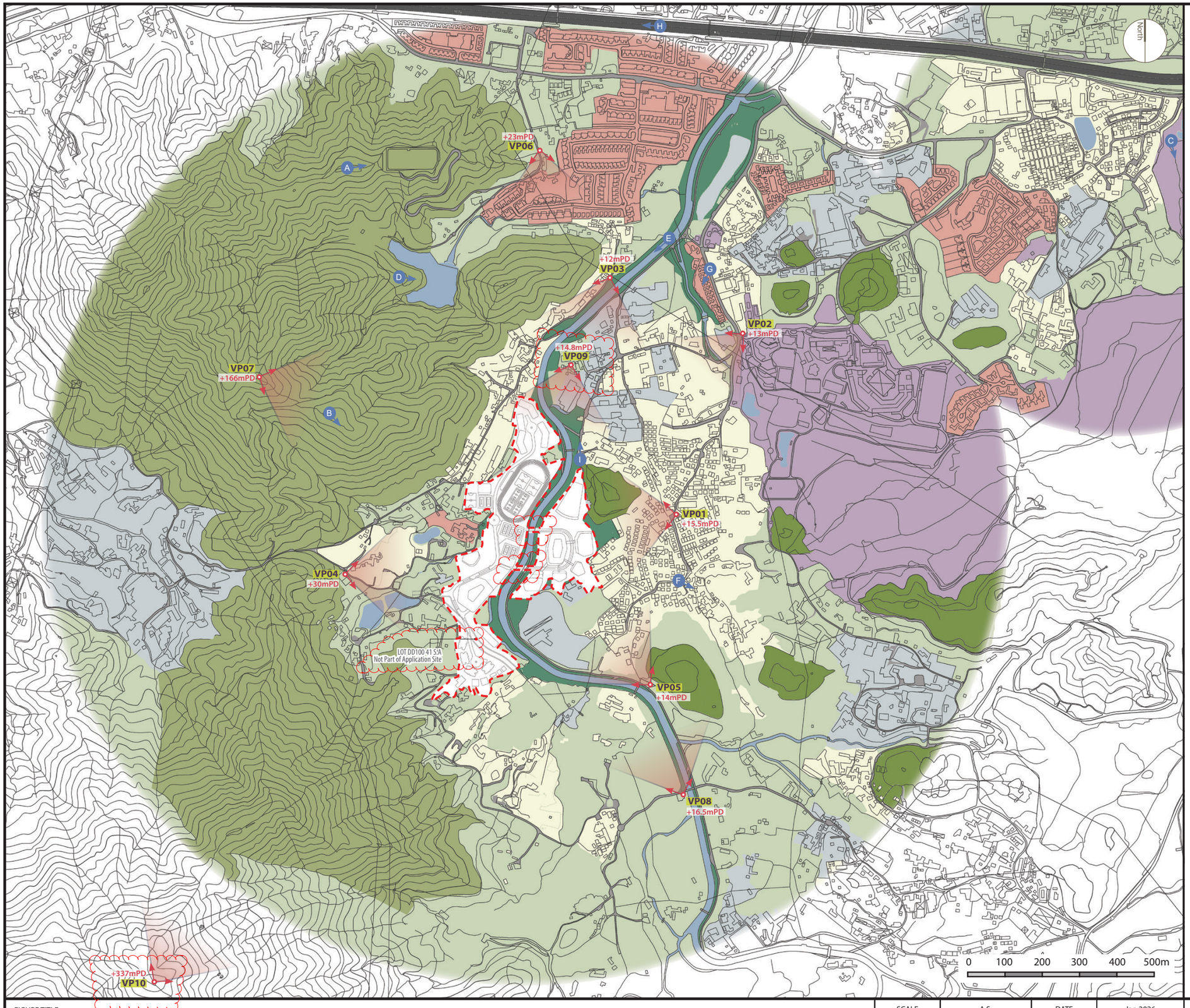

LEGEND

- Application Site Boundary
- Proposed Scheme
- Fields of View towards the Proposed Development
- VP — Key Public Vantage Points
- +5.4mPD — Approximate Height in mPD
- A — Location of photographs of Visual Elements
- Fanling Highway
- Village Type Development
- Private Residential Development
- Grassy Hillsides
- Valley floor Open Land Uses (Agricultural / Plantation)
- Riverside Plantation
- Hillside Secondary Woodland / Wooded Knolls
- Water Course / Water Body
- Recreational Landscapes
- Open Storage / Light Industrial Area

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Elements

SCALE	A.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH

FIGURE NO. Figure 4.1 REV C

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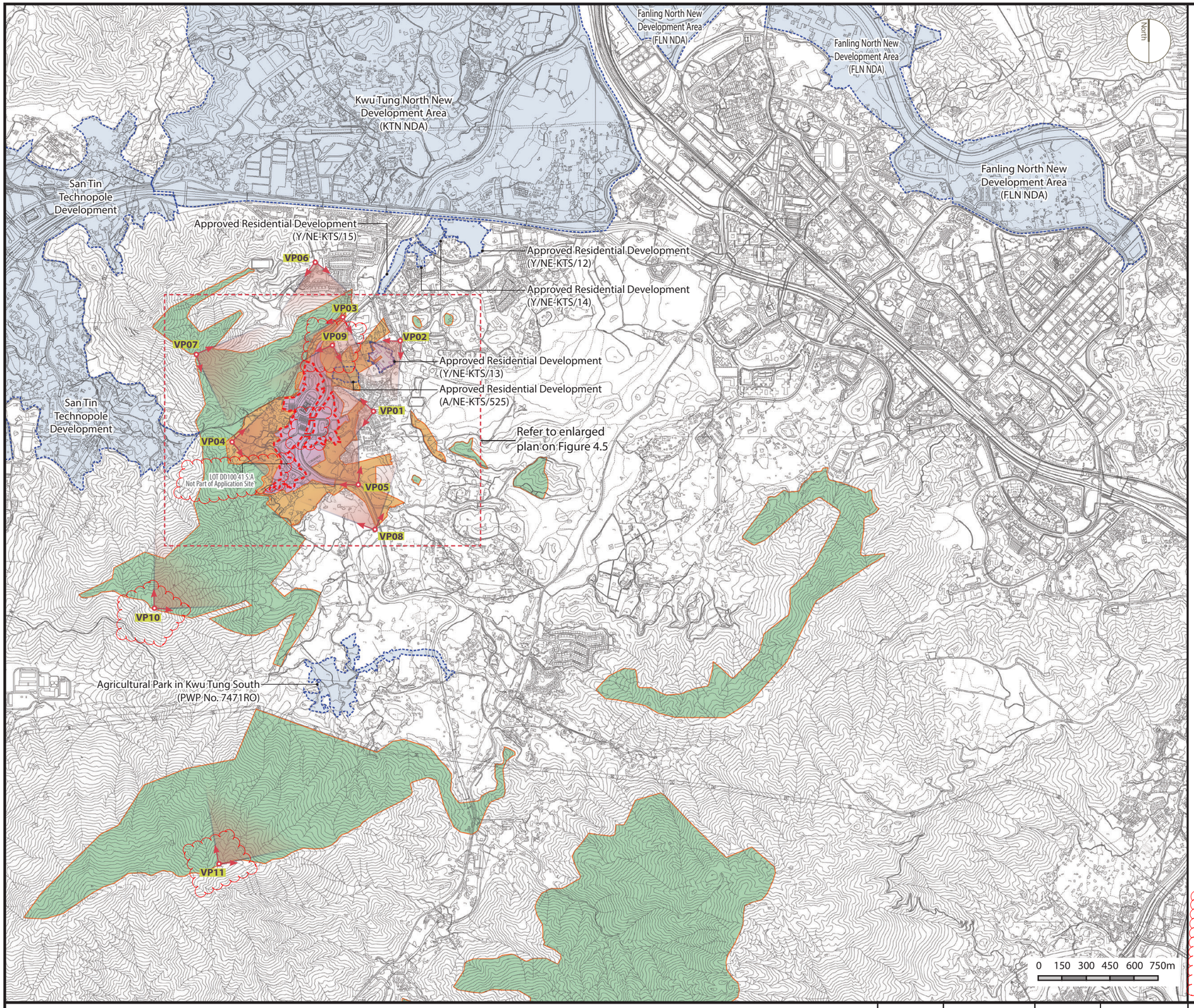

LEGEND

- Application Site Boundary
- VP — Location of Vantage Point and Angle of Main View
- Proposed Scheme (Max building height +53.50mPD)
- Proposed/Approved Development
- Zone of Visual Influence

Primary ZVI – Area from which the majority of the development can be seen is largely contained within the Application Site boundary and the immediate margins of of the river corridor and village roads and footpaths surrounding the site, owing to property boundary structures, mature tree growth and elements of built development.

Secondary ZVI – Area with more limited visibility of the Proposed Scheme due to intervening obstacles. As such the visible part of the Proposed Scheme is largely limited to glimpsed views of the upper portions of the proposed buildings at the site. For the most part views of the Proposed Scheme are obscured or screened by intervening landform, mature tree growth and built development including industrial concerns and village houses.

Tertiary ZVI - Area with elevated, long distance, partial and glimpsed views of the Proposed Scheme, mainly from the uplands to the west and south. The visible part of the Proposed Scheme will range from being fragmentary views to being more widespread open views however from these locations the proposals form a small part of a large, panoramic view. The degree of visibility of the Proposed Scheme is determined by the elevation of the viewing position and the viewing angle.

Vantage Points

Vantage Point 01: View looking west from Hang Tau Tsuen Hall
Vantage Point 02: View looking south west from roadside public footpath along Hang Tau Road, opposite Hang Tau Road Public Toilets
Vantage Point 03: View looking south from Kwu Tung Hang Village Rest Area
Vantage Point 04: View looking east from Ki Lun Tsuen Playground
Vantage Point 05: View looking northwest from a riverside footpath next to Sheung Shui Hang Tau Village Sitting Out Area
Vantage Point 06: View looking south from Kwu Tung South Road
Vantage Point 07: View looking south east towards the site from Hadden Hill
Vantage Point 08: View looking north west from Cheung Lek Sitting-out Area
Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2
Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan
Vantage Point 11: View looking nouth from a ridgeline trail in Lam Tsuen Country Park (Kai Kung Leng)

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Envelope and Visually Sensitive Receivers

SCALE	A.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH

FIGURE NO. Figure 4.4 REV C

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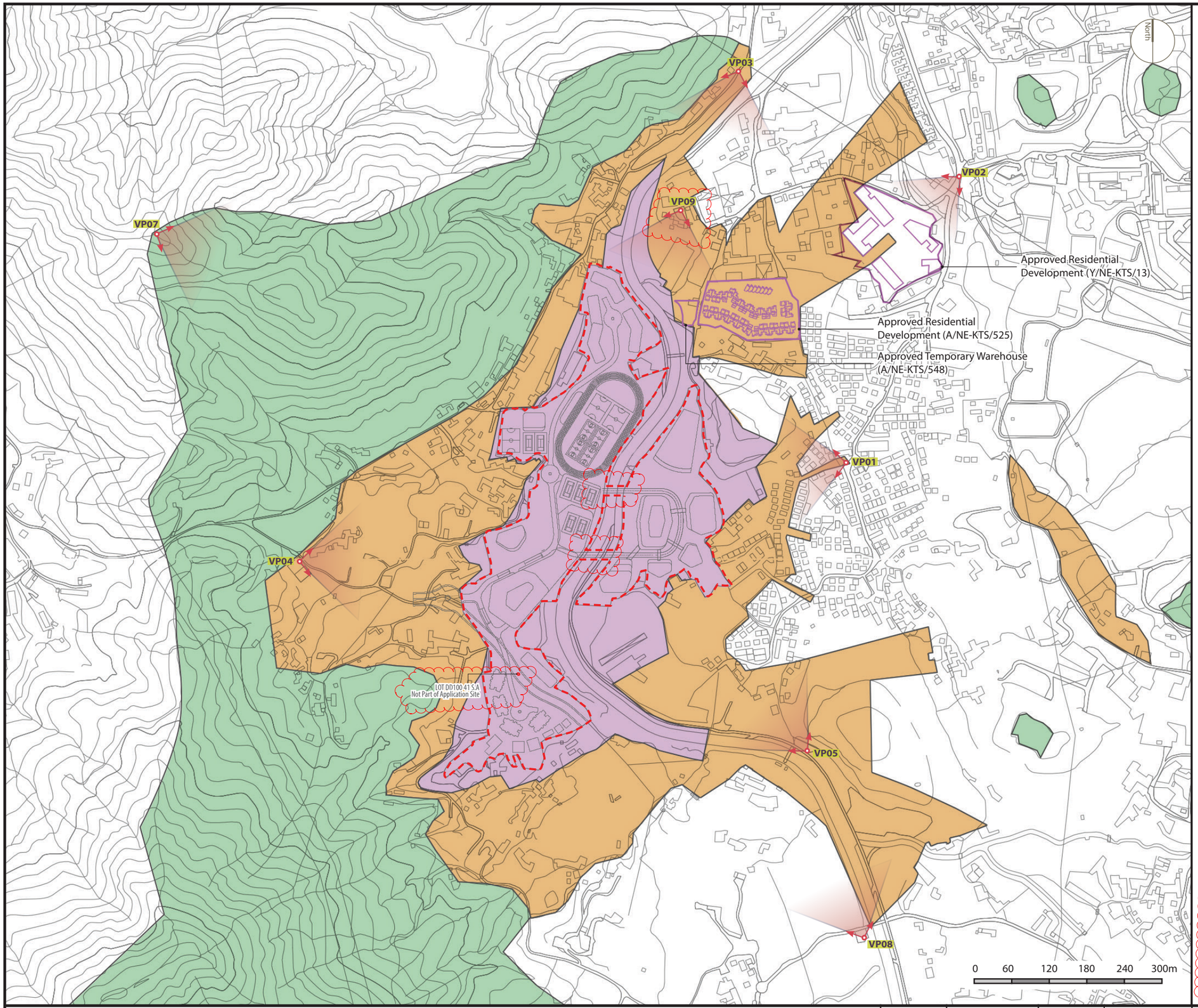

LEGEND

- Application Site Boundary
- VP — Location of Vantage Point and Angle of Main View
- Proposed Scheme (Max building height +53.50mPD)
- Proposed/Approved Development
- Zone of Visual Influence
- Primary ZVI – Area from which the majority of the development can be seen is largely contained within the Application Site boundary and the immediate margins of of the river corridor and village roads and footpaths surrounding the site, owing to property boundary structures, mature tree growth and elements of built development.
- Secondary ZVI – Area with more limited visibility of the Proposed Scheme due to intervening obstacles. As such the visible part of the Proposed Scheme is largely limited to glimpsed views of the upper portions of the proposed buildings at the site. For the most part views of the Proposed Scheme are obscured or screened by intervening landform, mature tree growth and built development including industrial concerns and village houses.
- Tertiary ZVI - Area with elevated, long distance, partial and glimpsed views of the Proposed Scheme, mainly from the uplands to the west and south. The visible part of the Proposed Scheme will range from being fragmentary views to being more widespread open views however from these locations the proposals form a small part of a large, panoramic view. The degree of visibility of the Proposed Scheme is determined by the elevation of the viewing position and the viewing angle.

Vantage Points

Vantage Point 01: View looking west from Hang Tau Tsuen Hall
Vantage Point 02: View looking south west from roadside public footpath along Hang Tau Road, opposite Hang Tau Road Public Toilets
Vantage Point 03: View looking south from Kwu Tung Hang Village Rest Area
Vantage Point 04: View looking east from Ki Lun Tsuen Playground
Vantage Point 05: View looking northwest from a riverside footpath next to Sheung Shui Hang Tau Village Sitting Out Area
Vantage Point 06: View looking south from Kwu Tung South Road
Vantage Point 07: View looking south east towards the site from Hadden Hill
Vantage Point 08: View looking north west from Cheung Lek Sitting-out Area
Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2
Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan
Vantage Point 11: View looking nouth from a ridgeline trail in Lam Tsuen Country Park (Kai Kung Leng)

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Envelope and Visually Sensitive Receivers

SCALE	A.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 4.5	REV	C

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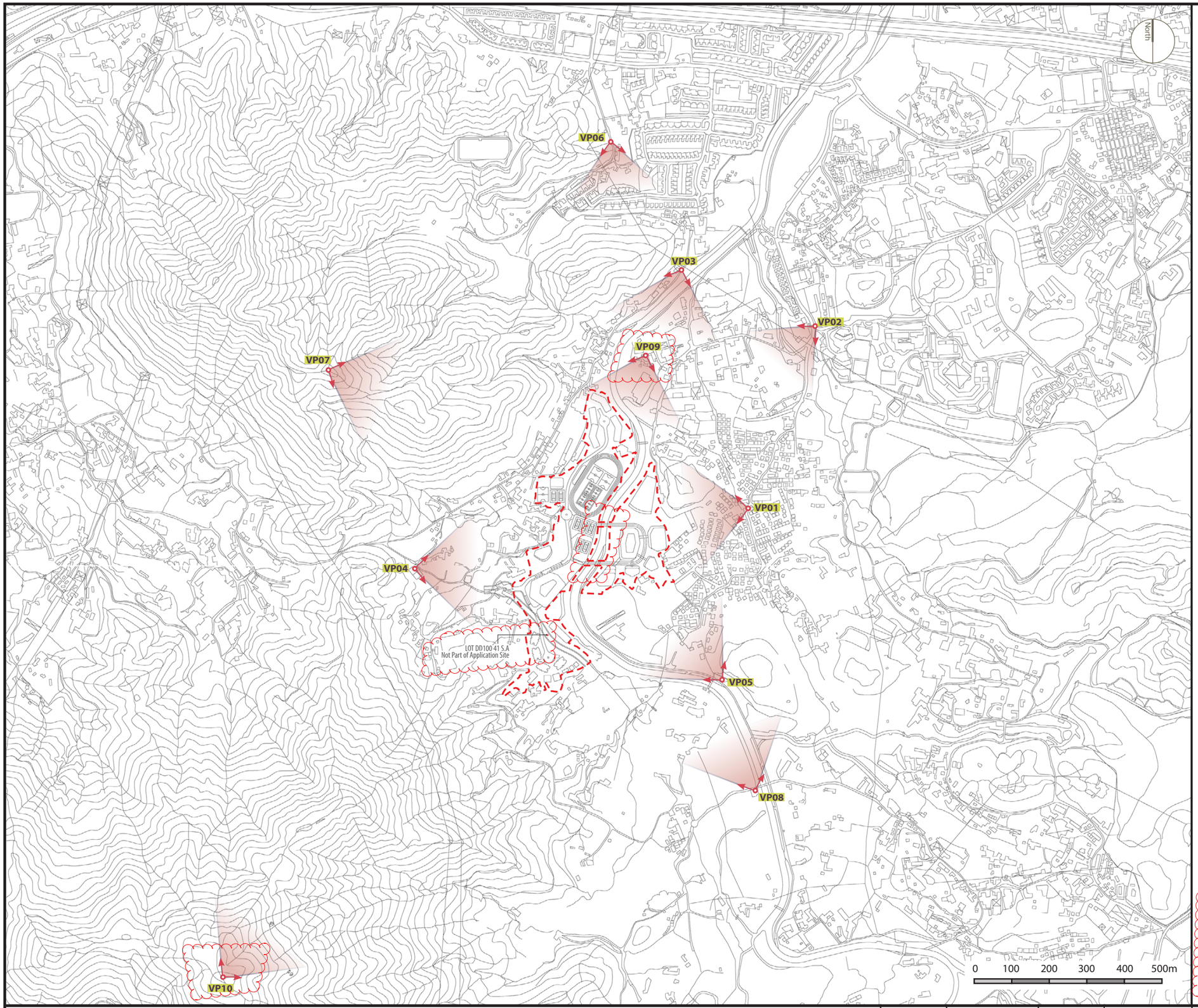
Facsimile: 3016 2422
Website: scenic@studioscenic.com



LEGEND

- Application Site Boundary
- VP — Location of Vantage Point and Angle of Main View
- Proposed Scheme (Max building height +53.50mPD)

Vantage Points

Vantage Point 01: View looking west from Hang Tau Tsuen Hall
Vantage Point 02: View looking south west from roadside public footpath along Hang Tau Road, opposite Hang Tau Road Public Toilets
Vantage Point 03: View looking south from Kwu Tung Hang Village Rest Area
Vantage Point 04: View looking east from Ki Lun Tsuen Playground
Vantage Point 05: View looking northwest from a riverside footpath next to Sheung Shui Hang Tau Village Sitting Out Area
Vantage Point 06: View looking south from Kwu Tung South Road
Vantage Point 07: View looking south east towards the site from Hadden Hill
Vantage Point 08: View looking north west from Cheung Lek Sitting-out Area
Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2
Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan
Vantage Point 11: View looking nouth from a ridgeline trail in Lam Tsuen Country Park (Kai Kung Leng)

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Propsoed Location of Photomontage Vantage Points

SCALE	A.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.1	REV	C

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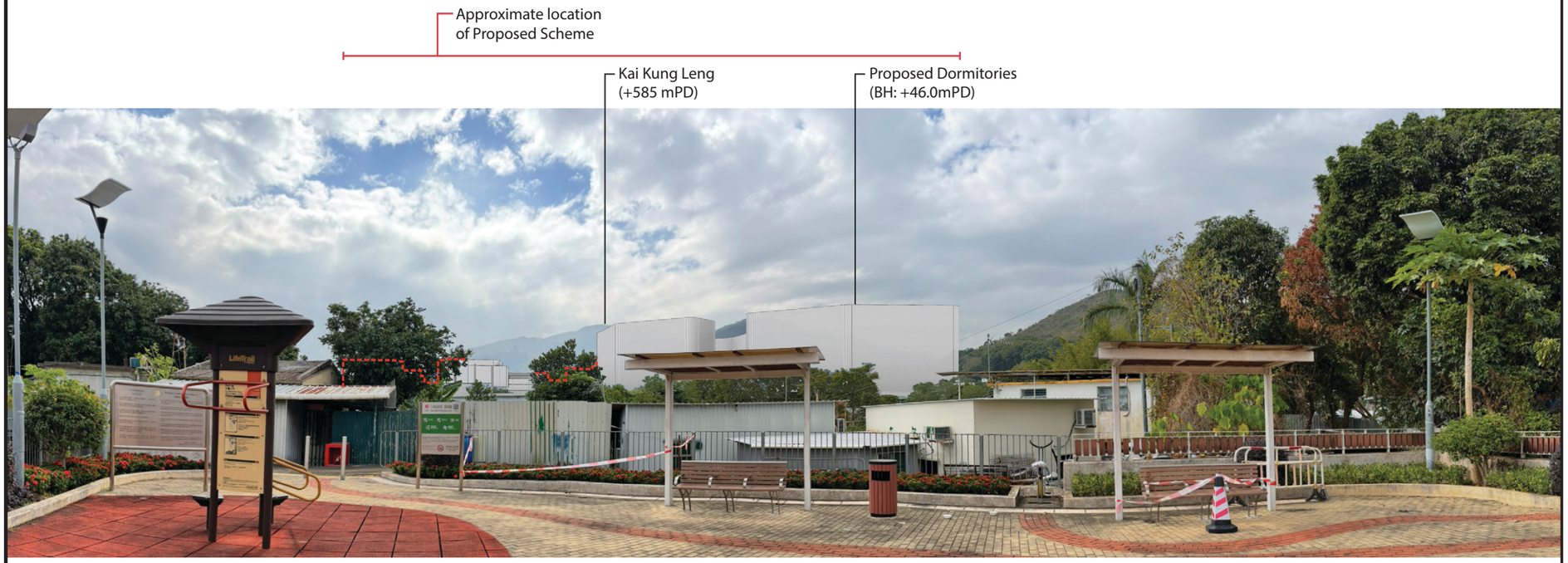
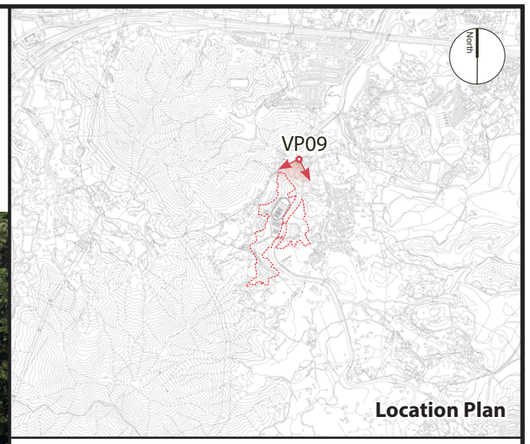
Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2 (Existing Situation)



Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2 (Proposed Scheme)



Vantage Point 09 (VP09)

Vantage point elevation: +14.8mPD
Viewing distance: About 160m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

Note:

A red dashed line is used to represent the extent of the Proposed Scheme where views are obscured by intervening visual objects.

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.13	REV	-

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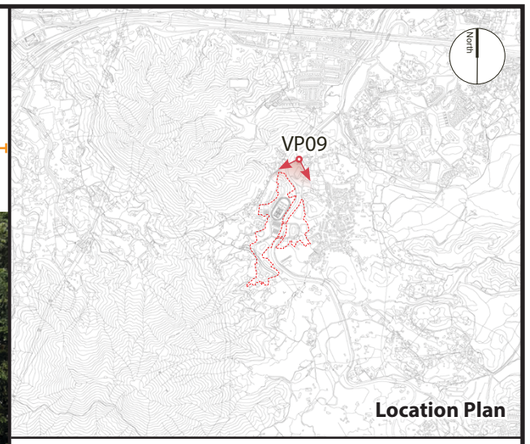
Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2 (Base Case)

Vantage Point 09: View looking southwest from Sheung Shui Hang Tau Village Sitting-out Area No. 2 (Proposed Scheme - Base Case)



Vantage Point 09 (VP09)

Vantage point elevation: +14.8mPD
Viewing distance: About 160m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

Note:

The building layout for the San Tin Technopole Development is based on the Landscape Master Plan contained in the approved EIA for Agreement No. CE 20/2021 (CE) First Phase Development of the New Territories North – San Tin / Lok Ma Chau Development Node – Investigation and the Building Heights from the Draft San Tin Technopole Developments Outline Zoning Plan (S/ STT/1) dated 8th March 2024.

A red dashed line is used to represent the extent of the Proposed Scheme where views are obscured by intervening visual objects.

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.14	REV	-

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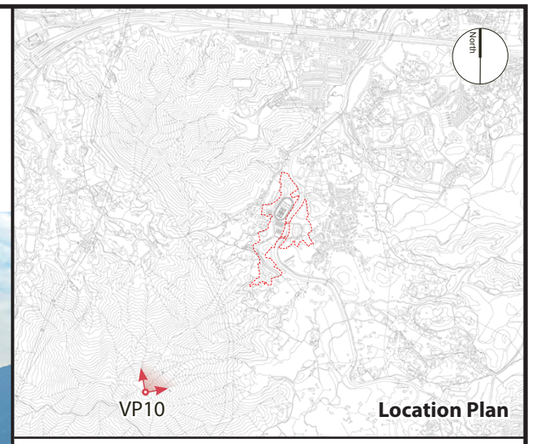
Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan (Existing Situation)

Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan (Proposed Scheme)



Vantage Point 10 (VP 10)

Vantage point elevation: +337mPD
Viewing distance: About 1200m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

Note:

A red dashed line is used to represent the extent of the Proposed Scheme where views are obscured by intervening visual objects.

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.15	REV	-

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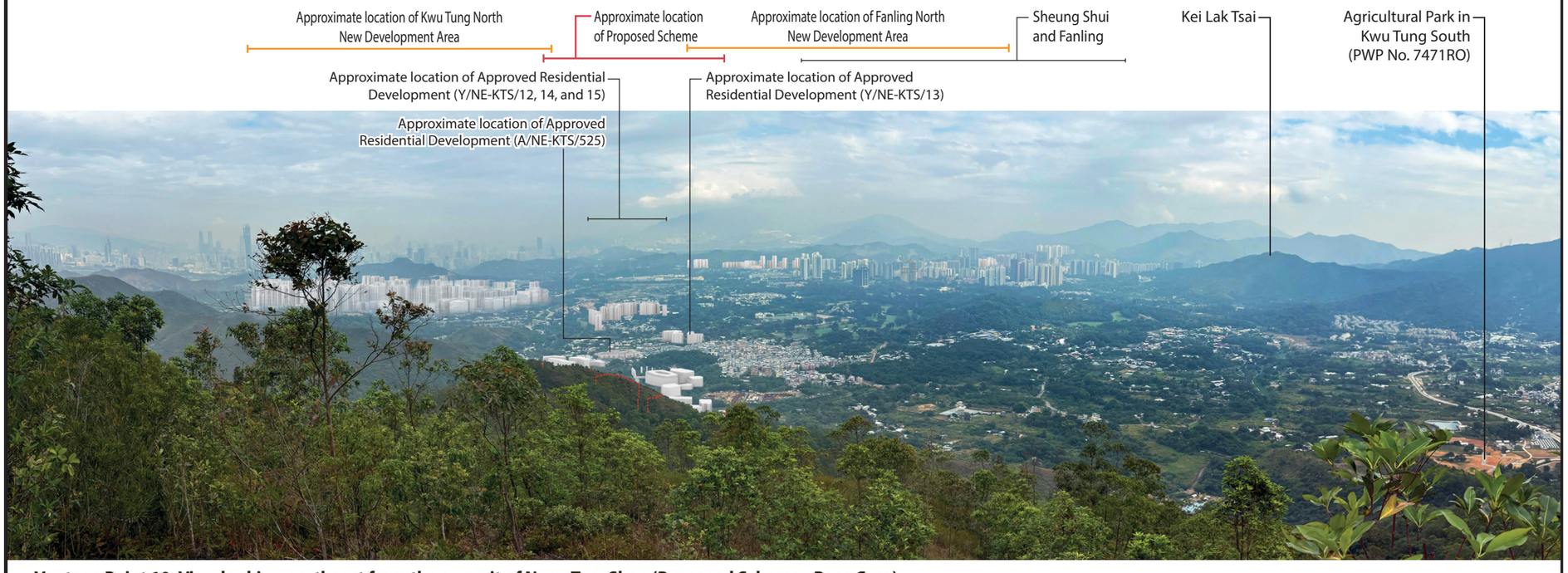
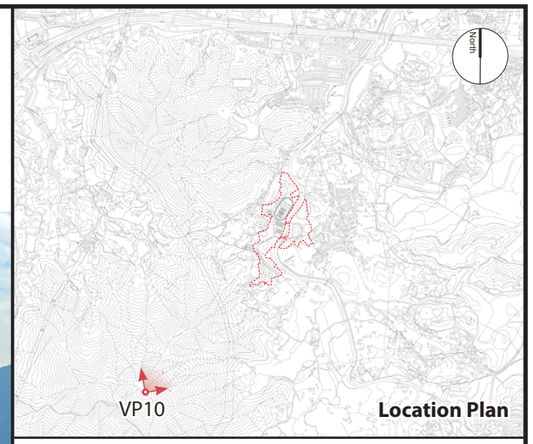
Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan (Base Case)



Vantage Point 10: View looking northeast from the summit of Ngau Tam Shan (Proposed Scheme - Base Case)



Vantage Point 10 (VP 10)

Vantage point elevation: +337mPD
Viewing distance: About 1200m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

Note:

The building layout for the Kwu Tung North New Development Area (KTN NDA) and Fanling North New Development Area (FLN NDA) are based on the Recommended Outline Development Plan (RODP) contained in the approved EIA for Agreement No. CE 61/2007 (CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation. The Building Heights are from Kwu Tung North Outline Zoning Plan (S/KTN/4) and Fanling North Outline Zoning Plan (S/FLN/4)dated 19th September 2023.

A red dashed line is used to represent the extent of the Proposed Scheme where views are obscured by intervening visual objects.

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.16	REV	-

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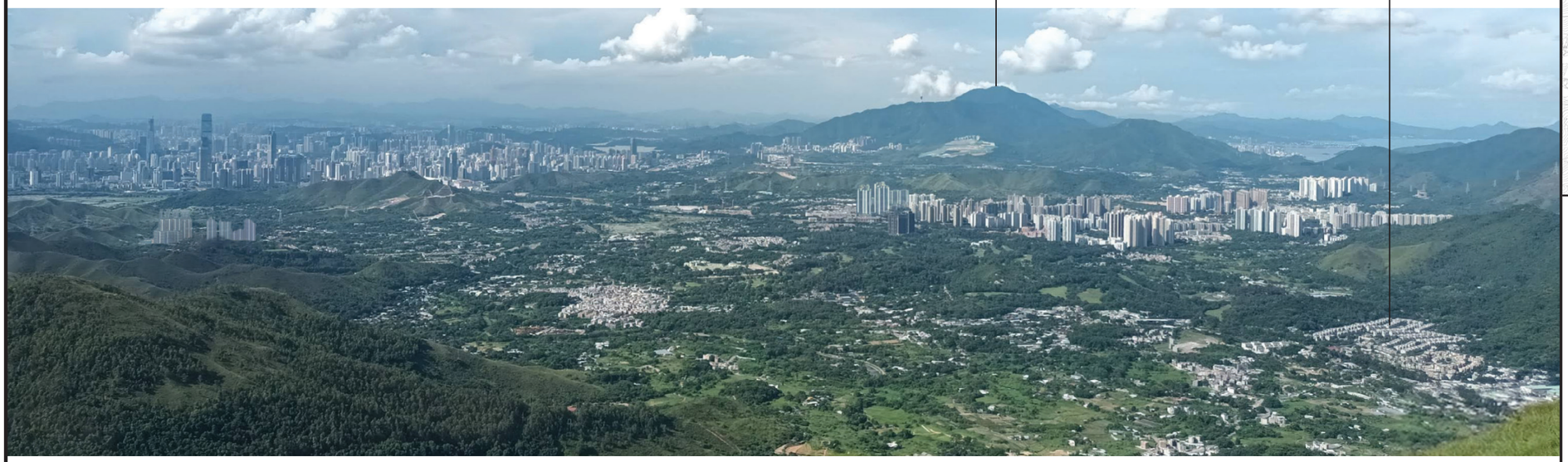
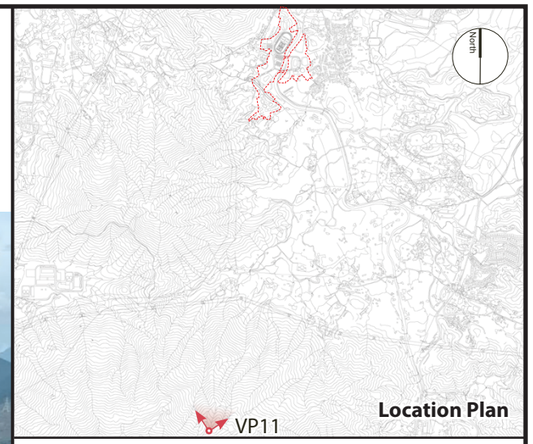


Vantage Point 11: View looking north from a ridgeline trail in Lam Tsuen Country Park (Existing Situation)

Vantage Point 11: View looking north from a ridgeline trail in Lam Tsuen Country Park (Proposed Scheme)



Vantage Point 11 (VP 11)

Vantage point elevation: About +450mPD
Viewing distance: About 2600m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.17	REV	-

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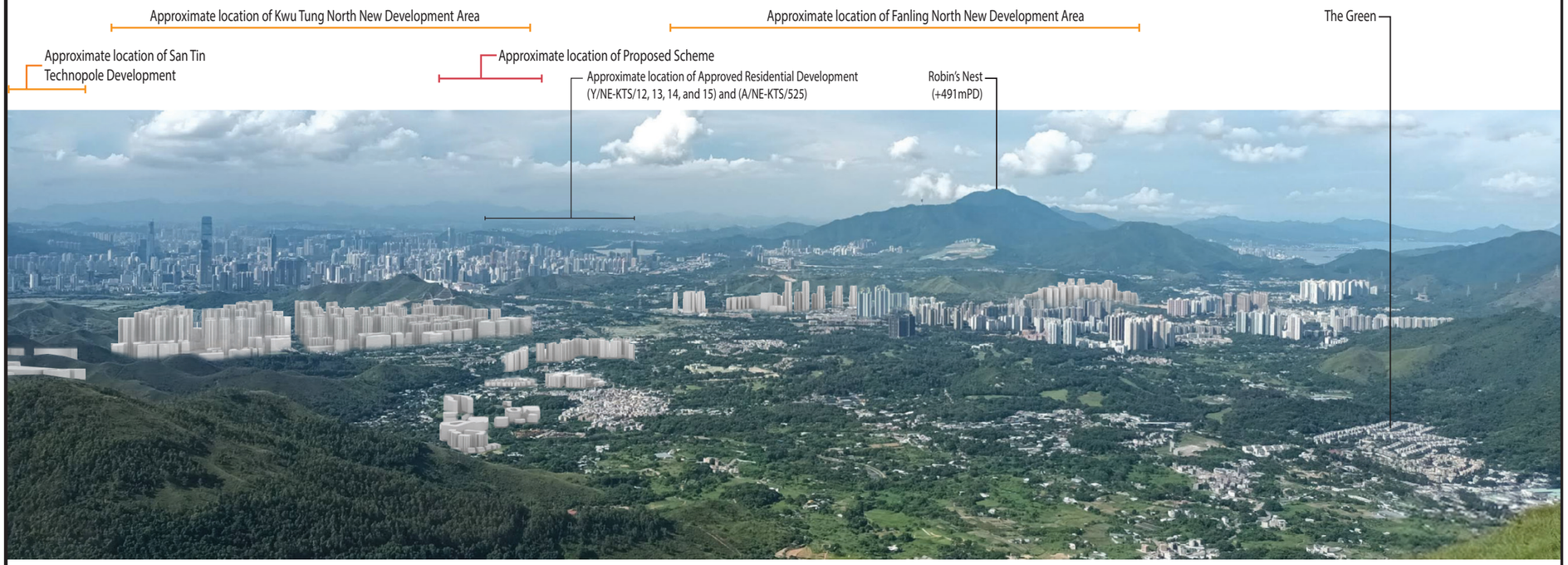
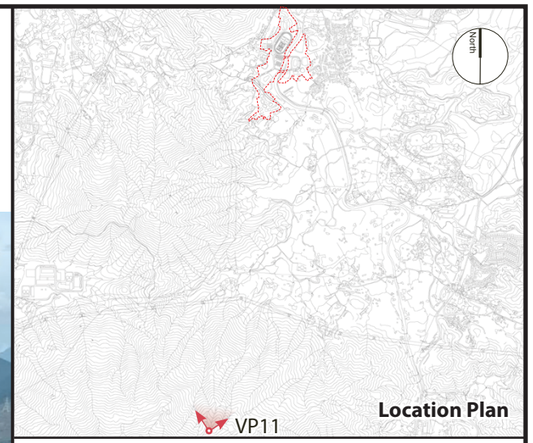
Facsimile: 3016 2422
Website: scenic@studioscenic.com

Vantage Point 11: View looking north from a ridgeline trail in Lam Tsuen Country Park (Base Case)



Vantage Point 11: View looking north from a ridgeline trail in Lam Tsuen Country Park (Proposed Scheme - Base Case)



Vantage Point 11 (VP 11)

Vantage point elevation: About +450mPD
Viewing distance: About 2600m
Maximum building height of Proposed Scheme: +53.50mPD at R/F

Note:

The building layout for the Kwu Tung North New Development Area (KTN NDA) and Fanling North New Development Area (FLN NDA) are based on the Recommended Outline Development Plan (RODP) contained in the approved EIA for Agreement No. CE 61/2007 (CE) North East New Territories New Development Areas Planning and Engineering Study - Investigation. The Building Heights are from Kwu Tung North Outline Zoning Plan (S/KTN/4) and Fanling North Outline Zoning Plan (S/FLN/4)dated 19th September 2023.

The building layout for the San Tin Technopole Development is based on the Landscape Master Plan contained in the approved EIA for Agreement No. CE 20/2021 (CE) First Phase Development of the New Territories North – San Tin / Lok Ma Chau Development Node – Investigation and the Building Heights from the Draft San Tin Technopole Developments Outline Zoning Plan (S/ STT/1) dated 8th March 2024.

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Visual Impact Assessment: Photomontages

SCALE	NTS	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	Figure 7.18	REV	-

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Attachment 5

Revised Air Ventilation Review

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Air Ventilation Review

1. Background

1.1 The applicants, Global King Investment Limited, Winpost (HK) Investment Limited and Rand Development Limited, seek to rezone the current "Agriculture" zoning with a minor portion of "Green Belt" of the Application Site as outlined in the approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22.

1.2 **The purpose of this application is to develop an international school campus in the Kwu** Tung South area, spanning both sides of the Beas River. The development will include a kindergarten, primary school, middle and high school, as well as sports facilities, cultural amenities, and student dormitories. This will enhance the social infrastructure of San Tin and the wider community, diversity and innovation at the heart of Hong Kong's new technology corridor. **The total project site area is approximately 128,232 m^2.**

2. Baseline Scheme and Proposed Scheme

2.1 The Baseline Scheme adopts existing condition which consists of agriculture land with some temporary structures.

2.2 The Proposed Scheme outlined in this study features several low-rise buildings serving various functions, including a kindergarten, primary school, middle and high school, along with sports facilities, cultural amenities, and student dormitories. A Sports Ground is located to the west of the Beas River.

2.3 The height of the low rises ranges from approximately 23mPD to 53.5mPD. The highest buildings are situated in the southernmost section designated for the student dormitory area.

2.4 The Proposed Scheme incorporates stepped heights and terrace designs in several buildings, which will help mitigate the wind impact. Overall, the building heights are greater at the northern and southern ends, while the central portion, which includes sports complex and the Sports Ground, is relatively lower.

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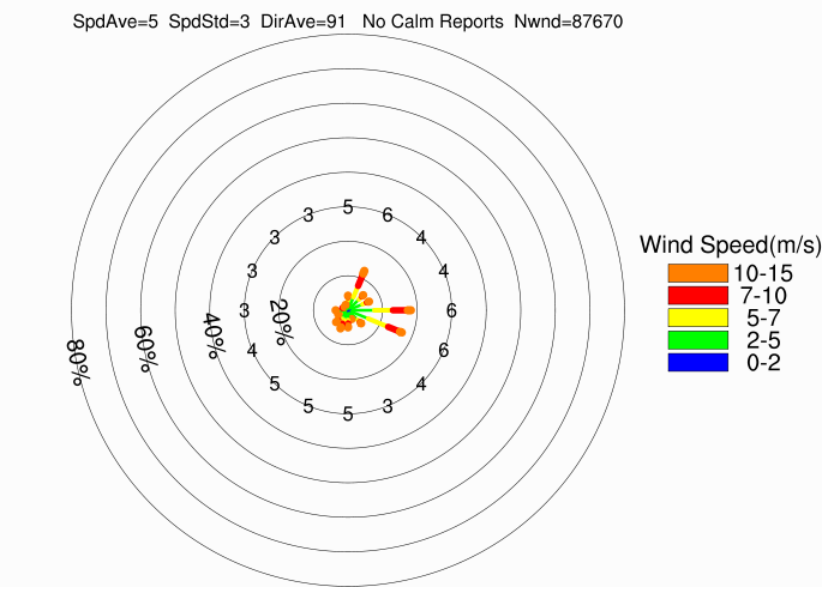
2.5 To improve connectivity and circulation within the site and enhance surrounding transportation, a proposed loop road and public roads will be developed within the Application Site. In the southern portion of the site near dormitory area, the elevated EVA is positioned at a higher level above the public road, and they overlap in the top view. Additionally, two bridges span the Beas River, linking the campus on both sides.

2.6 **Figure 1** illustrates the layout of the Proposed Scheme as well as its surroundings.

3. Site Wind Availability

Regional Atmospheric Modelling System (RAMS)

3.1 The Application Site is covered by RAMS wind data grids: (064, 081), (064, 080), (065, 081) and (065, 080). However, the identified prevailing winds in the concerned grids are the same, thus it has been extracted from the Planning Department's website for Application Site wind availability data at 200m. The annual prevailing winds come from NNE, E and ESE directions whereas the summer prevailing winds come from S, SSW and SW. Below are the wind roses extracted from the Planning Department's website.



Annual Condition at 200m

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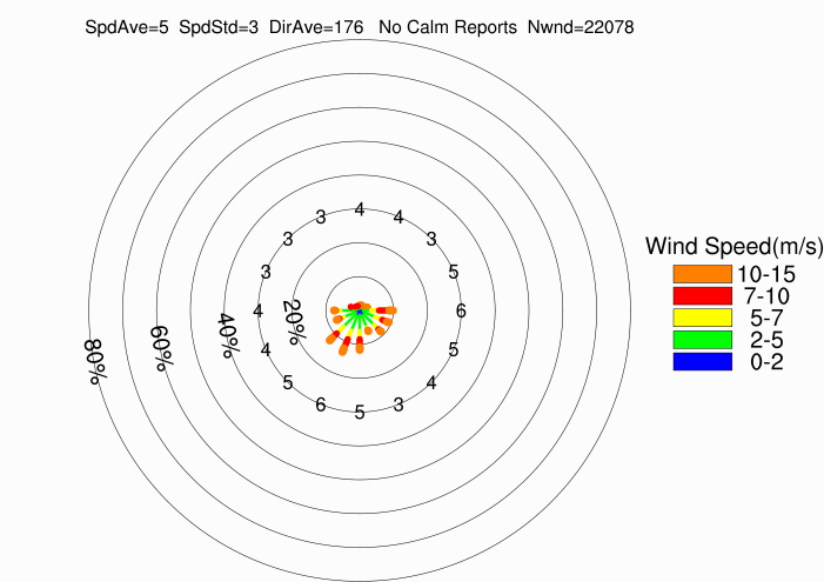

Summer Condition at 200m

4. Important Pedestrian Areas

4.1 The Application Site is currently zoned for agriculture, which means there are relatively fewer sensitive receivers in the vicinity. The nearby important pedestrian areas are mainly the residential developments to the east of the Application Site and Ki Lun Tsuen to the west, as shown in **Figure 1**. These areas include:

- Hang Tau Road
- Grand Garden
- Wah Lok Villa
- The Fairyland
- Caverdish Villa
- Eden Garden
- Rose Garden
- Nice Villa
- Richmond Garden
- Regent garden
- Serenity Garden
- Grand View
- Richmond Villa

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- Ki Lun Tsuen
- Ki Lun Tsuen Playground
- Sheung Shui Hang Tau Village Sitting-out Area No. 2s

5. Wind Flow under Annual and Summer Prevailing Conditions

5.1 Figures 2a to 6a and 2b to 6b show the illustrations of annual (NNE, E and ESE) and summer (S, SSW and SW) prevailing wind flows of the Baseline Scheme and the Proposed Scheme respectively. Below section discuss the annual and summer wind flows of the area under the Baseline Scheme and Proposed Scheme.

Annual Condition – NNE Wind

5.2 **Figure 2a** illustrates the NNE wind flow under the Baseline Scheme, while **Figure 2b** depicts the flow under the Proposed Scheme.

5.3 Given the current vacant land on the Application Site, the NNE wind can primarily travel along the Beas River and through the Site without any obstructions affecting the downwind area in the Baseline Scheme.

5.4 In the Proposed Scheme, it is expected that the NNE wind at pedestrian level will be reduced due to the low-rise clusters of the campus. However, it is important to highlight that there are very few sensitive receivers in the downwind area of the Application Site, with only some temporary structures present.

5.5 According to the Urban Design Guidelines of HKSPG, height variation across the district with decreasing heights towards the direction where the prevailing wind comes from should be adopted to promote air movements. In the Proposed Scheme, building heights increase in a stepped manner from the Sports Ground to the southernmost part of the site. This design may also enhance the NNE wind towards the downwind areas.

5.6 Similar to the Baseline Scheme, the NNE wind is expected to flow along the Beas River, as well as over the outdoor area to the southeast of Middle/ High School Blocks. Although two linkage bridges will span the river, they are designed to be naturally ventilated, thus it is expected that they will not impede the NNE wind's passage along the river. Additionally, the Proposed Scheme does not encroach upon the river, and given its low-rise design, it is unlikely to significantly impact the downwind areas.

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Annual Condition – E and ESE Winds

5.7 **Figure 3a** illustrates the E and ESE winds flow under the Baseline Scheme, while **Figure 3b** depicts the flow under the Proposed Scheme.

5.8 In the upwind area of the Application Site, there are mainly low-rise residential developments, along with a small local hill slope located to the west of Regent Garden. As a result, the wind availability for the Application Site is expected to be high.

5.9 With the current vacant land on the Application Site in the Baseline Scheme, the E and ESE winds can pass through the Site unobstructed, reaching the downwind areas, which primarily include Ki Lun Tsuen, Ki Lun Tsuen Playground, and some temporary structures located to the west of the southern portion of the Application Site.

5.10 In the Proposed Scheme, it is anticipated that E and ESE winds would flow through the Sports Ground and the building separation between the dormitory and the primary school. To the east of the Sports Ground is a golf driving range across the Beas River, while three ball courts are situated to the west. This relatively open area allows for good penetration of E and ESE winds, benefiting the downwind area, i.e. Ki Lun Tsuen.

5.11 The terrace designs of specific buildings in the Proposed Scheme, such as the Sports Complex and Middle/ High School Blocks, will enhance the flow of E/ESE winds through the spaces between these structures, if any.

5.12 As such, the Proposed Scheme is not expected to have a significant impact on the downwind areas.

Summer Condition – S Wind

5.13 **Figure 4a** illustrates the S wind flow under the Baseline Scheme, while **Figure 4b** depicts the flow under the Proposed Scheme.

5.14 Given the current vacant land on the Application Site, the S wind can travel through the Site without any obstructions in the Baseline Scheme. The downwind areas under S wind include Ki Lun Tsuen, Sheung Shui Hang Tau Village Sitting-out Area No. 2, and some nearby squatters.

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5.15 In the Proposed Scheme, it is anticipated that the S wind would mainly flow along the Beas River to pass through the site from south to north. One section of the proposed road, located to the east of the Middle/ High School, runs north–south and is approximately 7m wide. This alignment could facilitate the northward flow of wind, acting as an air path. Although there is a 4-5m height structure at the Golf Driving Range, its low-rise nature is expected to cause only minimal obstruction to the wind.

5.16 The Ancillary Staff Dormitory buildings, which are 53.5mPD and the tallest structures on the campus, are positioned at the southernmost part of the Application Site. This positioning may obstruct the flow of S winds toward the downwind areas, primarily affecting the campus itself. However, some reduction in wind flow is also expected in the portion of Ki Lun Tsuen to the north of the Application Site.

5.17 Given the low-rise nature of the Proposed Scheme, it is not expected to have a significant impact on the downwind area.

Summer Condition – SSW Wind

5.18 **Figure 5a** illustrates the SSW wind flow under the Baseline Scheme, while **Figure 5b** depicts the flow under the Proposed Scheme.

5.19 Ngau Tam Shan, which rises above 320mPD, is situated in the upwind area under SSW winds, thus, it is expected that primarily hill foot winds will reach the Application Site.

5.20 Given the current vacant land on the Application Site, hill foot winds can flow through the Site without any obstructions in the Baseline Scheme. The downwind areas under SSW wind include Ki Lun Tsuen, Sheung Shui Hang Tau Village Sitting-out Area No. 2, and some nearby squatters.

5.21 In the Proposed Scheme, the dormitory buildings, which are 53.5mPD and the tallest structures on the campus, are positioned at the southernmost part of the Application Site. This placement may obstruct the flow of SSW winds toward the downwind areas, with the campus itself being the most affected due to its elongated layout. Additionally, some reduction in wind flow is anticipated in the northern portion of Ki Lun Tsuen and Sheung Shui Hang Tau Village Sitting-out Area No. 2.

5.22 On the other hand, given that there is a row of dormitory buildings with a height of 28.5mPD at the southernmost part of the Application Site, it is anticipated that hill foot winds may skim over these buildings and flow along the Beas River towards downwind areas, such as the Sheung Shui Hang Tau Village Sitting-out Area No. 2.

5.23 As a result, the Proposed Scheme is not expected to have a significant impact on the downwind areas.

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Summer Condition – SW Wind

5.24 **Figure 6a** illustrates the SW wind flow under the Baseline Scheme, while **Figure 6b** depicts the flow under the Proposed Scheme.

5.25 Similarly, Ngau Tam Shan, which rises above 320mPD, is situated in the upwind area under SW winds, thus, it is expected that primarily katabatic winds will reach the Application Site.

5.26 With the current vacant land on the Application Site, katabatic winds can pass through the Site unobstructed in the Baseline Scheme, reaching downwind areas such as the clusters of residential developments, Sheung Shui Hang Tau Village Sitting-out Area No. 2, and some nearby squatters, as detailed in Section 4.1.

5.27 In the Proposed Scheme, some SW wind could pass through the Sports Ground and the building separation between the Primary School and the Middle/ High School. Although two linkage bridges will span the river, they are designed to be naturally ventilated, thus it is expected that they will not impede the SW wind's passage along the river, if any. It is important to note that the distance between the building structures in the Proposed Scheme and the sensitive receiver area is generally more than 200m, significantly greater than the height of the Proposed Scheme's buildings. This distance greatly reduces the potential impact.

5.28 As a result, the Proposed Scheme is not expected to have a significant impact on the downwind areas.

6. Conclusion

6.1 Considering the existing topography, the location of built areas, and the layout of the Proposed Scheme, the potential air ventilation impacts have been assessed.

6.2 The Application Site is currently zoned for agriculture and is surrounded by low-rise residential developments, villages, and temporary structures.

6.3 The annual prevailing winds are from the NNE, E, and ESE, while the summer prevailing winds come from the S, SSW, and SW.

6.4 During the annual prevailing winds, temporary structures, Ki Lun Tsuen and Ki Lun Tsuen Playground are found in the downwind areas. Given the campus nature of the Proposed Scheme, which consists entirely of low-rise buildings, the tallest being 53.5mPD, with the stepped height profile and terrace deign, the anticipated blockage effect is relatively minor.

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6.5 Under the summer prevailing S and SSW winds, similar to the annual conditions, portion of Ki Lun Tsuen, Sheung Shui Hang Tau Village Sitting-out Area No. 2, and temporary structures are present in the downwind areas. The low-rise nature of the Proposed Scheme is not expected to significantly impact these areas. For SW winds, the sensitive receivers are the low-rise residential buildings to the east of the Application Site, Sheung Shui Hang Tau Village Sitting-out Area No. 2, and some nearby squatters. However, due to the Proposed Scheme's low height and the considerable distance from the buildings to these sensitive receivers, no significant impact is anticipated.

6.6 In summary, the Proposed Scheme features a low-rise, stepped height design, incorporating building separations and road spacing in both north-south and east-west directions. Additionally, some buildings have terrace designs aligned with prevailing winds. As a result, no significant impact on the surrounding environment is anticipated.

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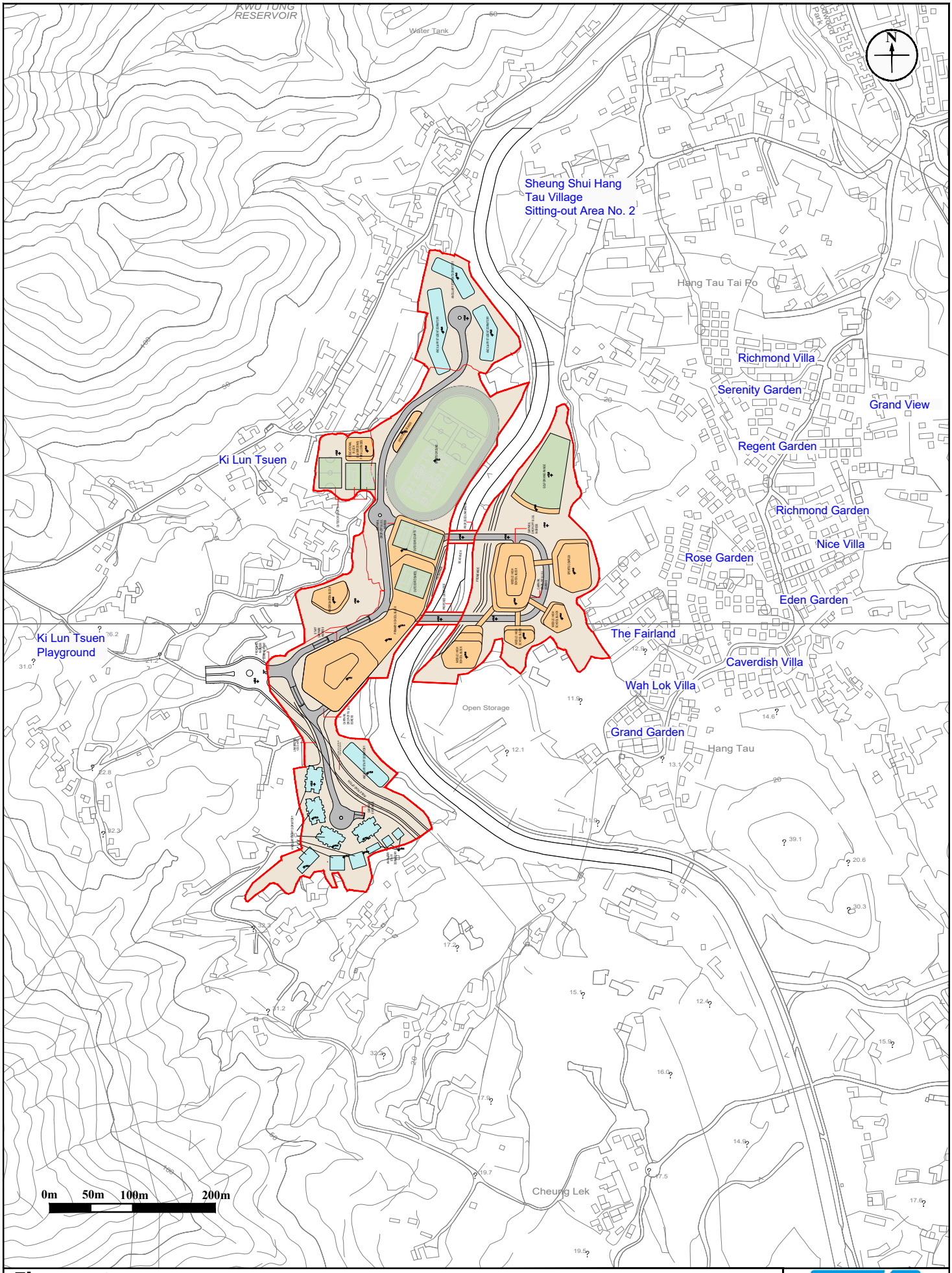

Figure: 1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: EC
	Checked by: TC
Project: Section 16 Planning Application for Beas River International School Campus	Rev.: 1.0
	Date: Jan-26

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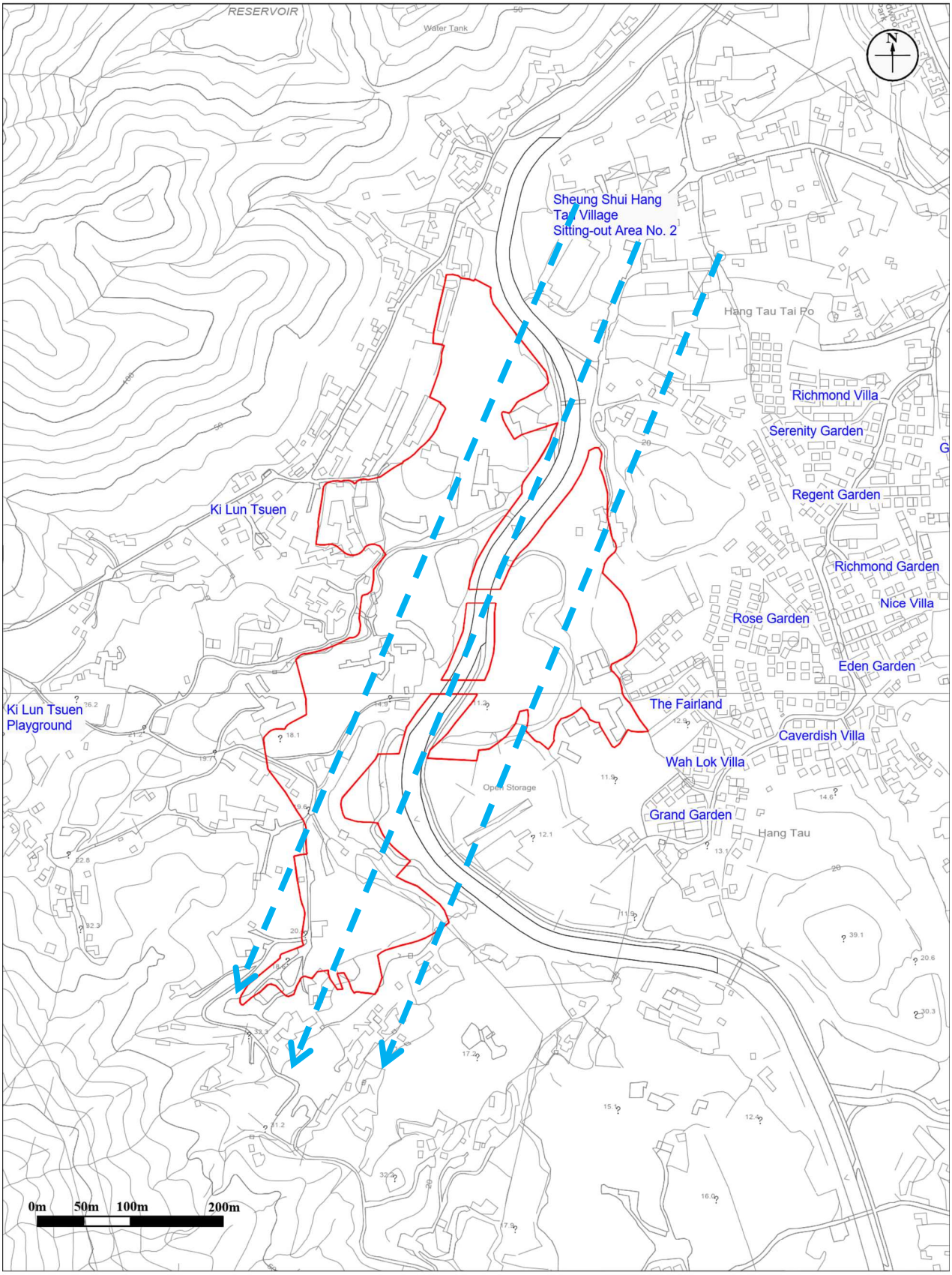

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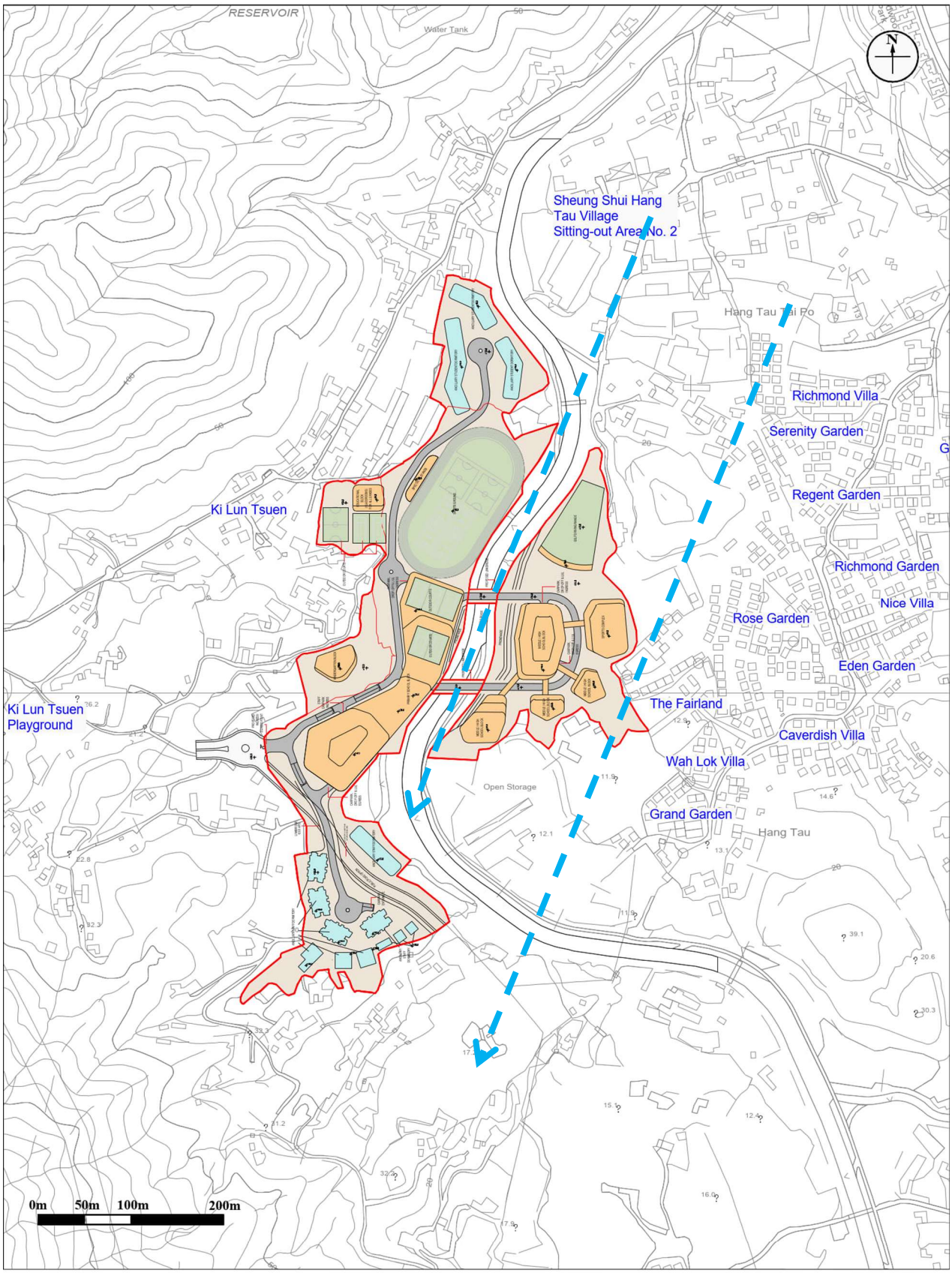

Figure:	**2b**	RAMBOLL
Title:	**Illustration of Wind Flow from NNE Wind Direction under the Proposed Scheme**	Drawn by: EC Checked by: TC
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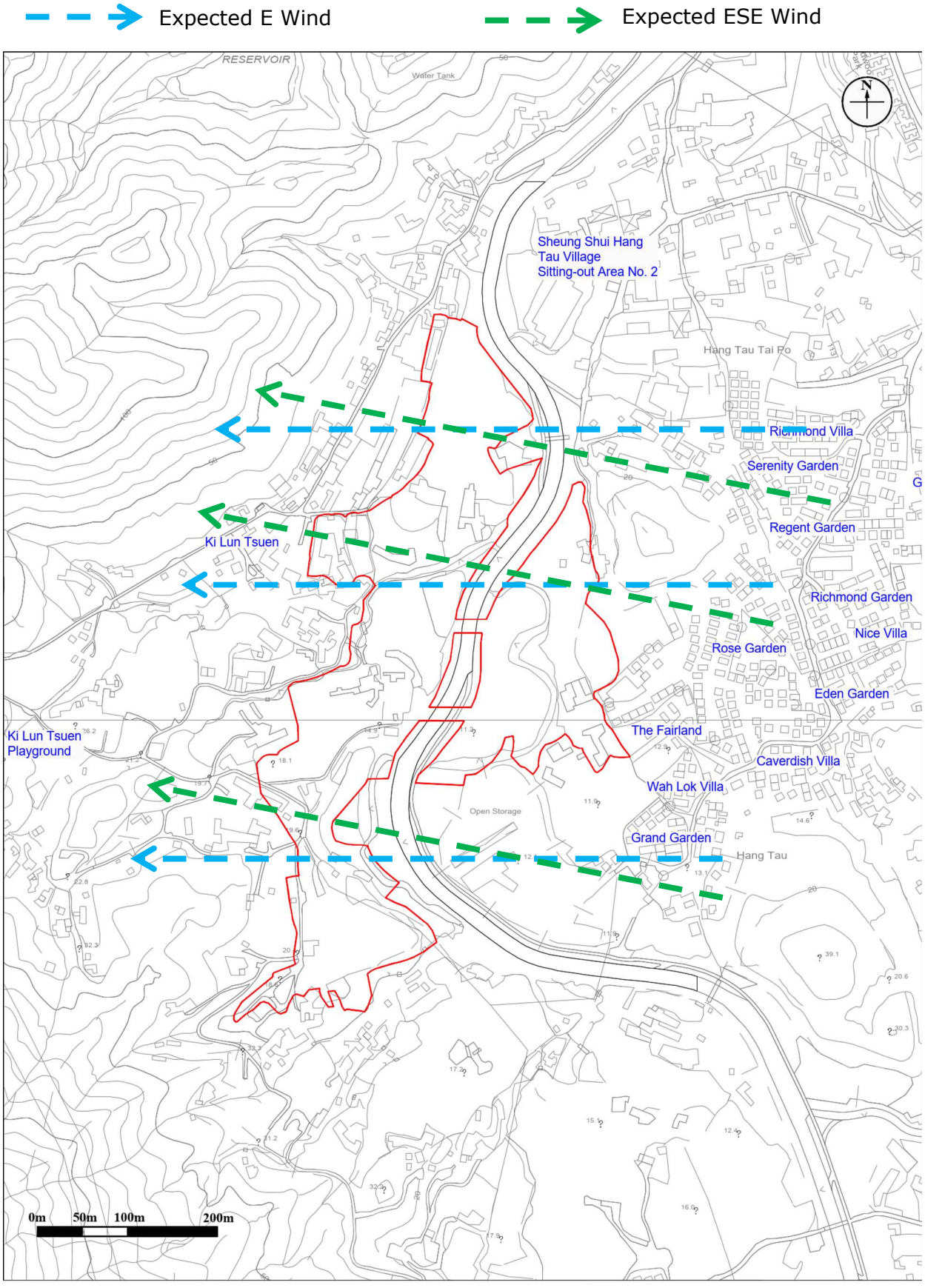

Figure:	**3a**	RAMBOLL
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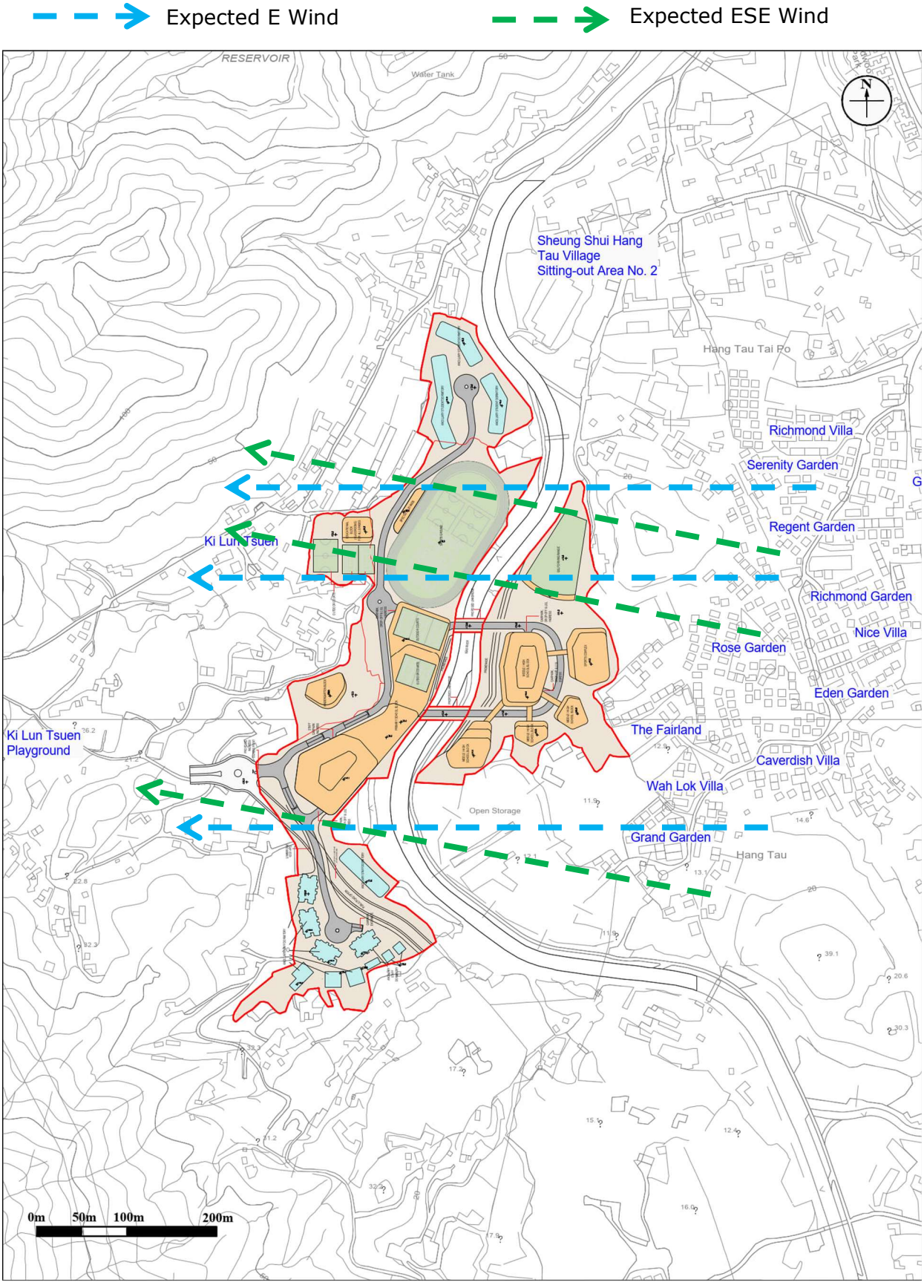

Figure:	**3b**	RAMBOLL
Title:	**Illustration of Wind Flow from E and ESE Wind Directions under the Proposed Scheme**	Drawn by: EC Checked by: TC
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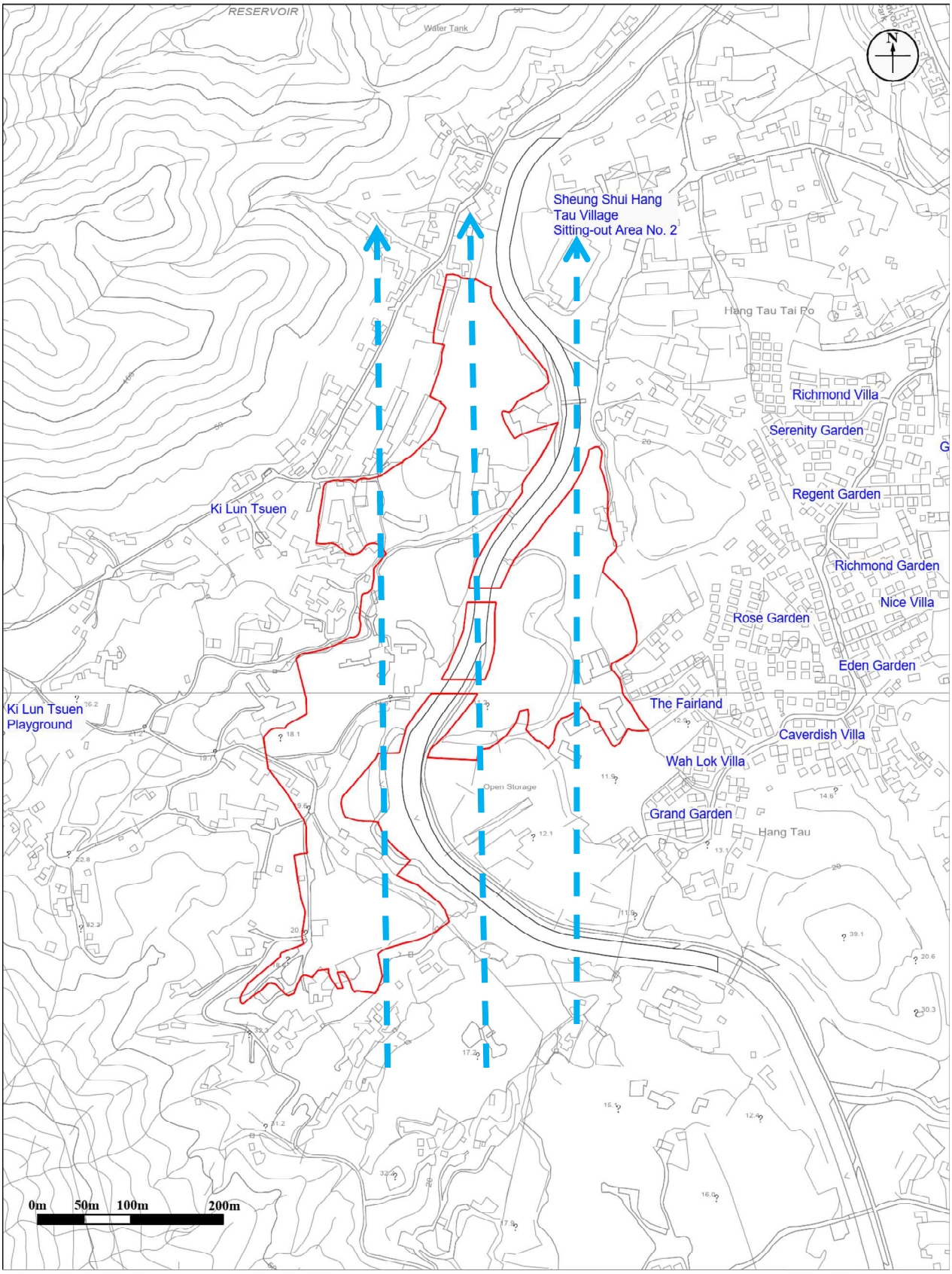

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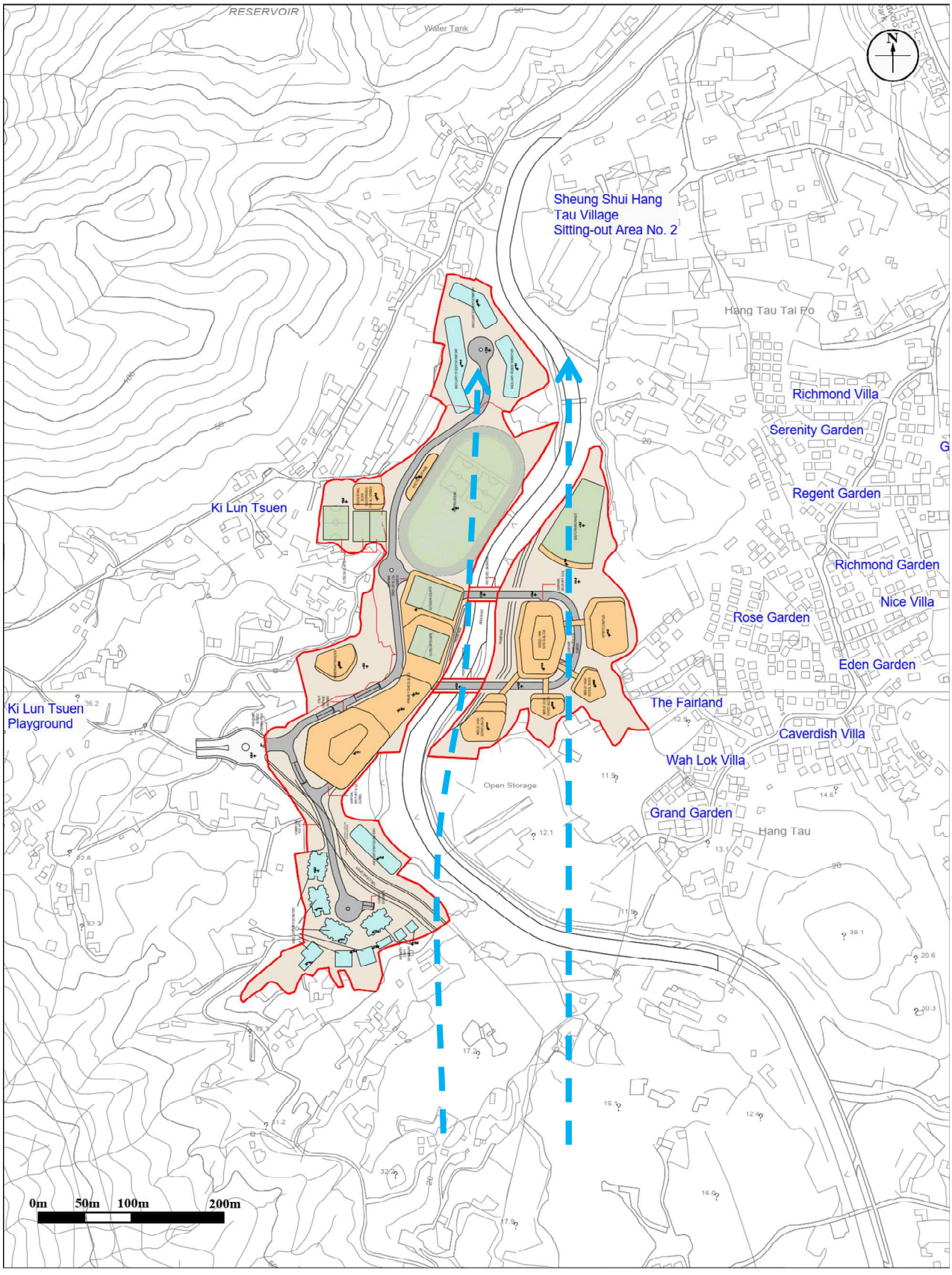

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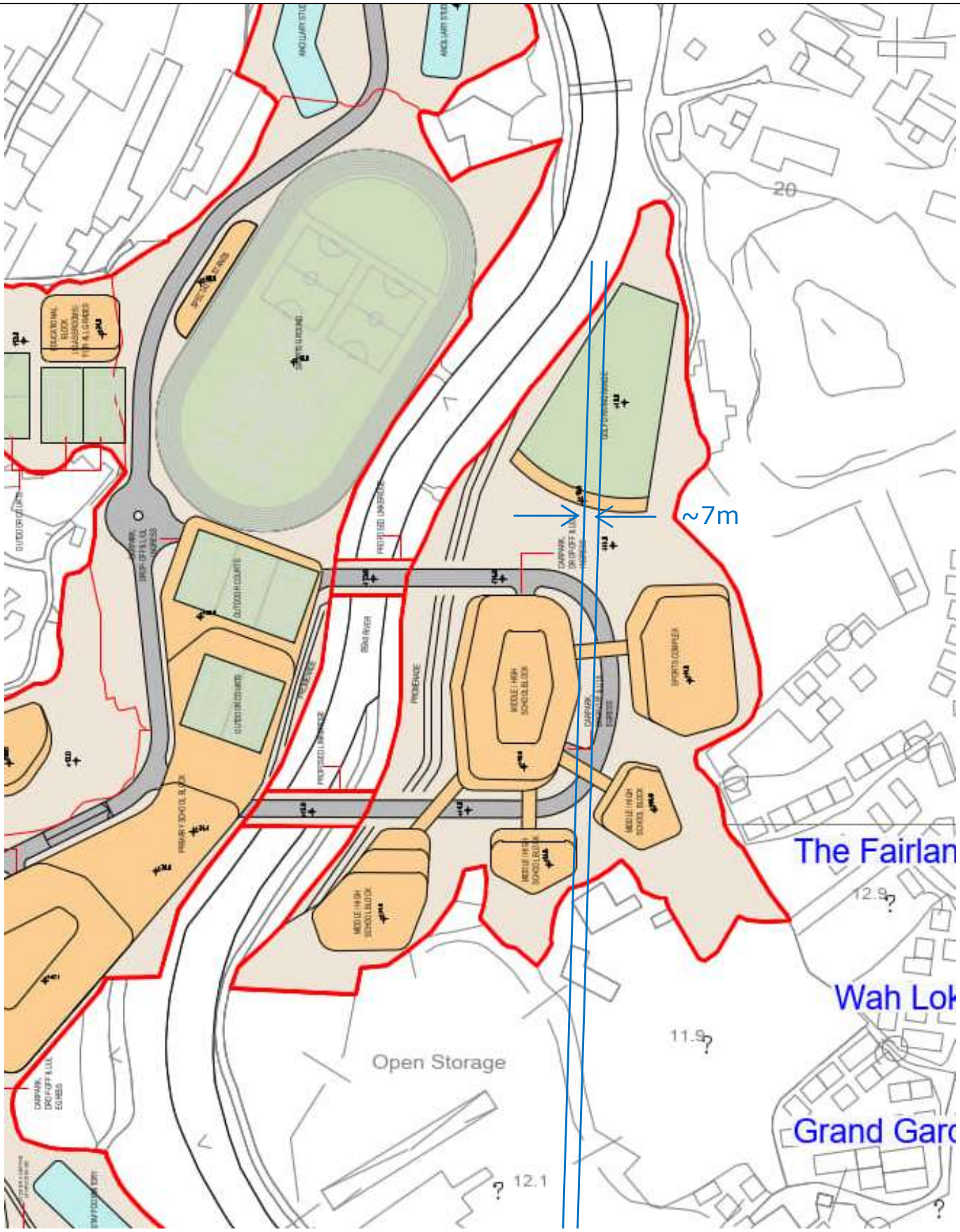

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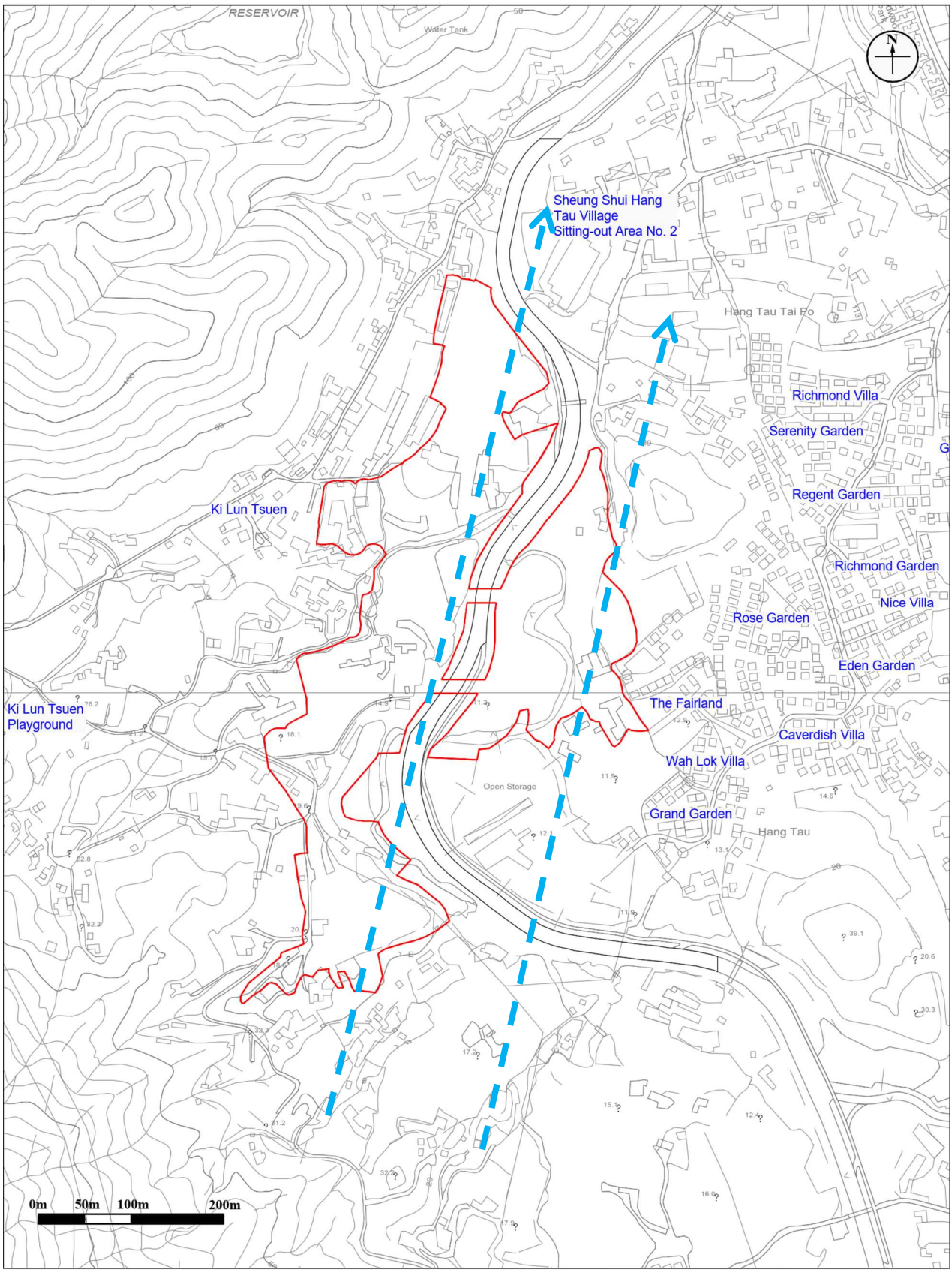

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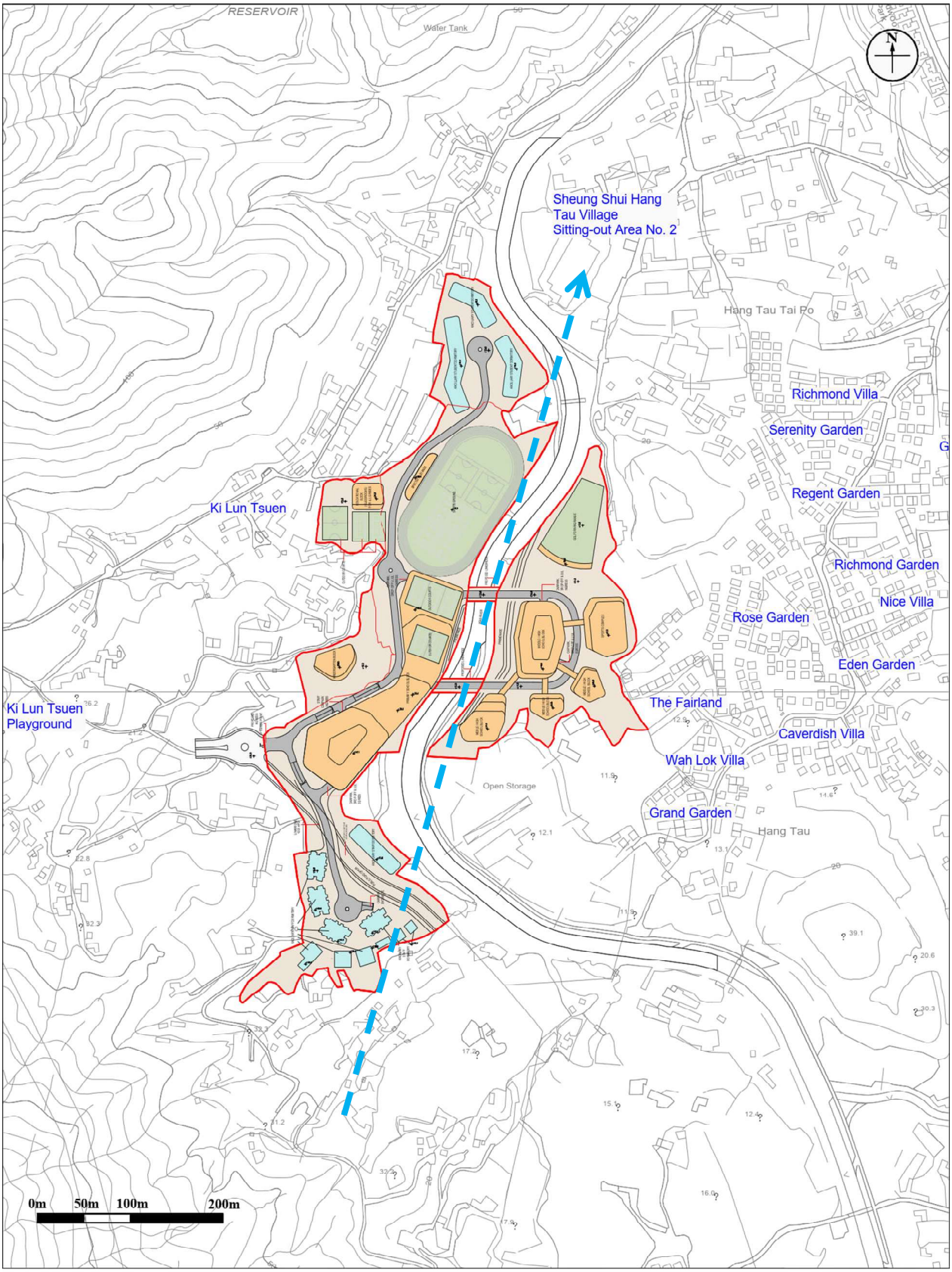

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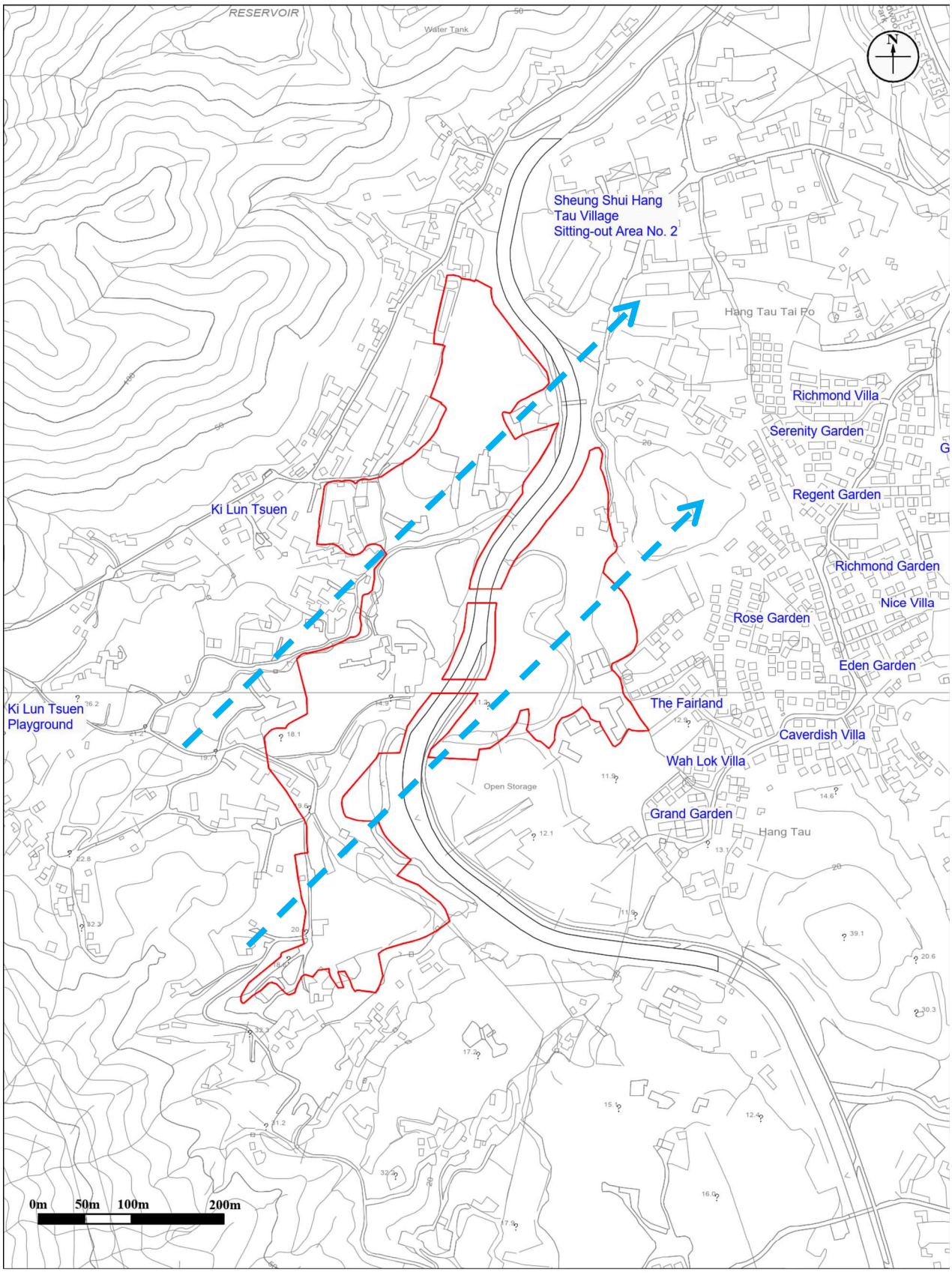

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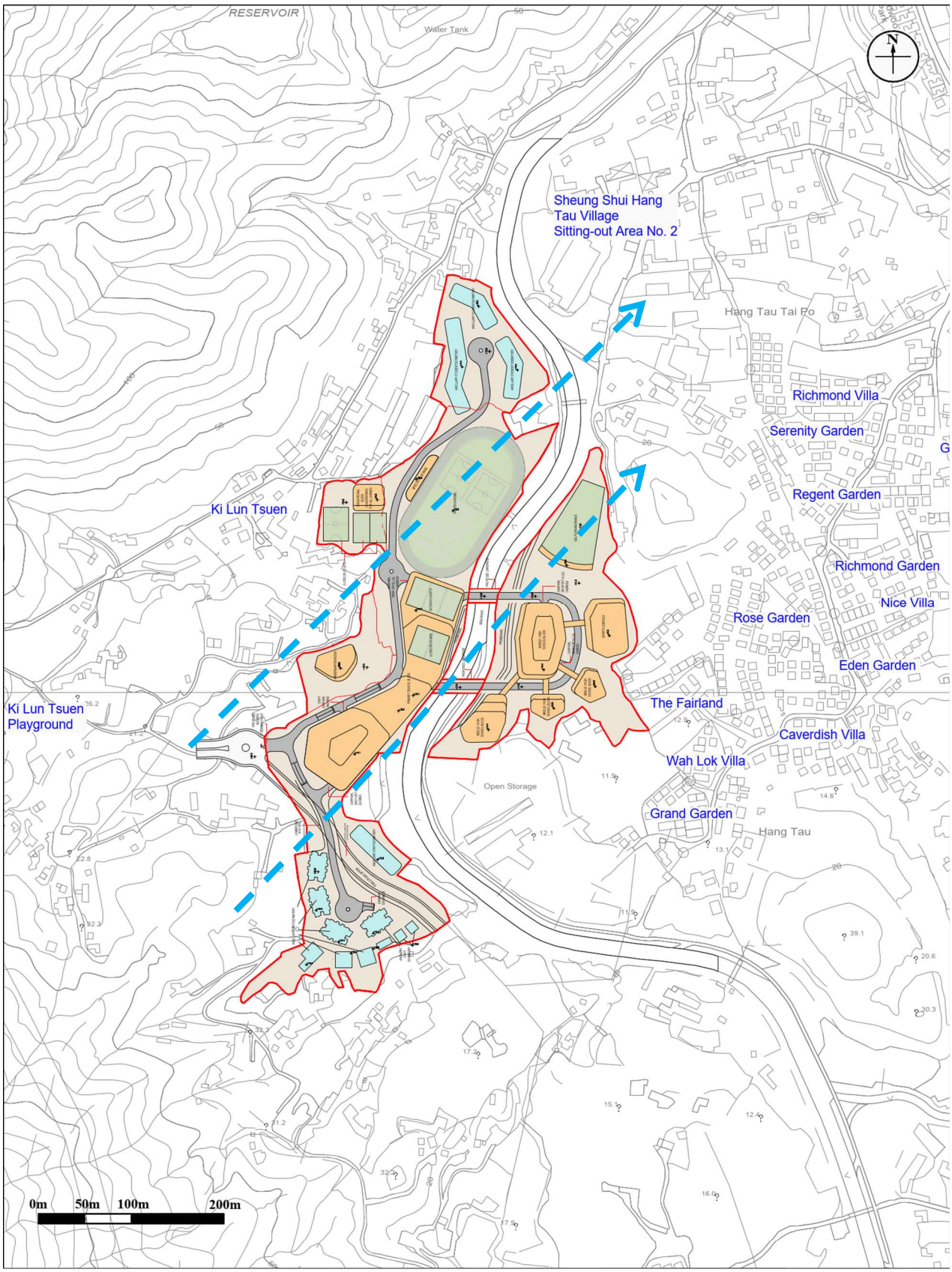

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Appendix 1

Layout and Section Plans of the Proposed Scheme

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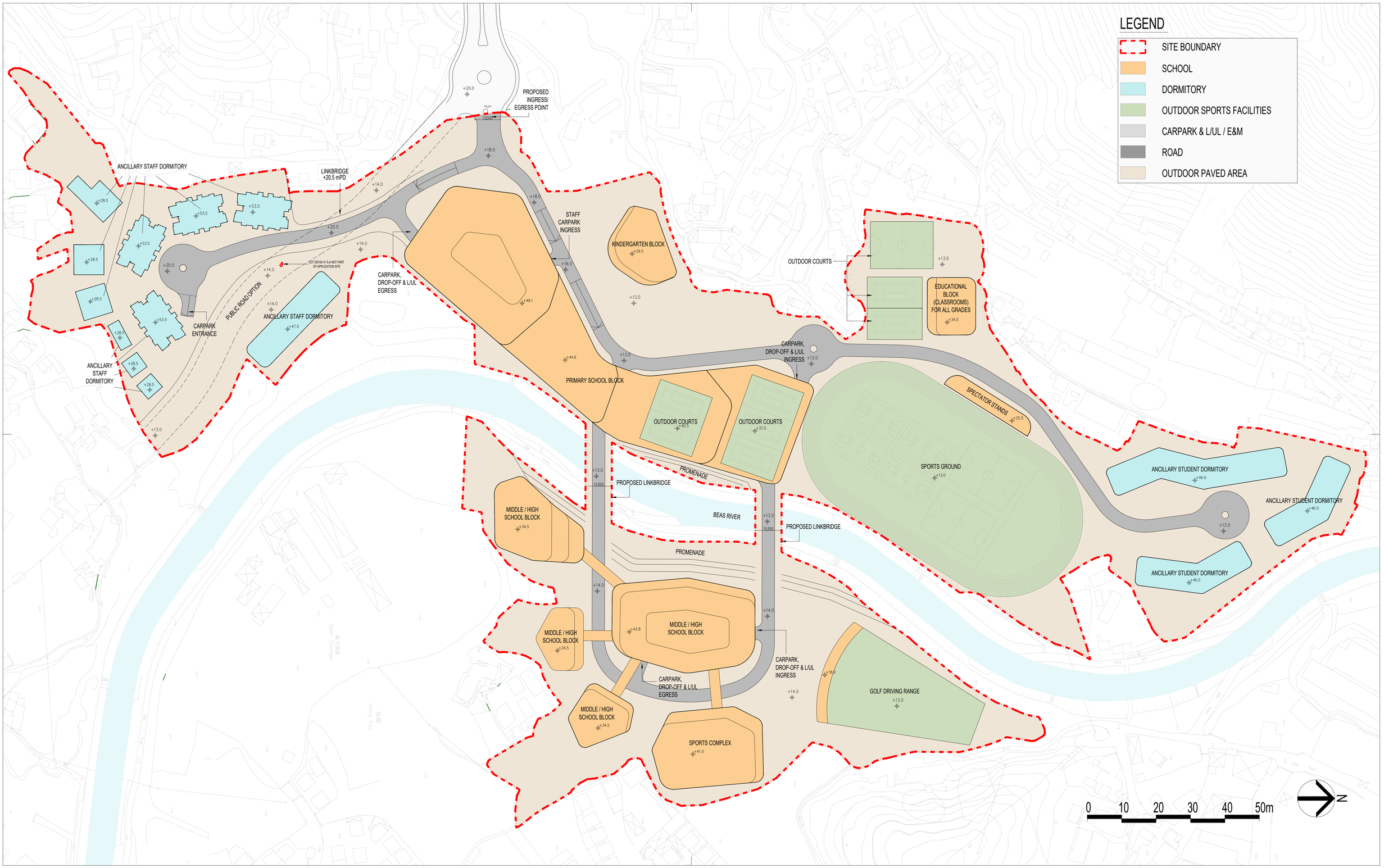

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呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

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Project Title

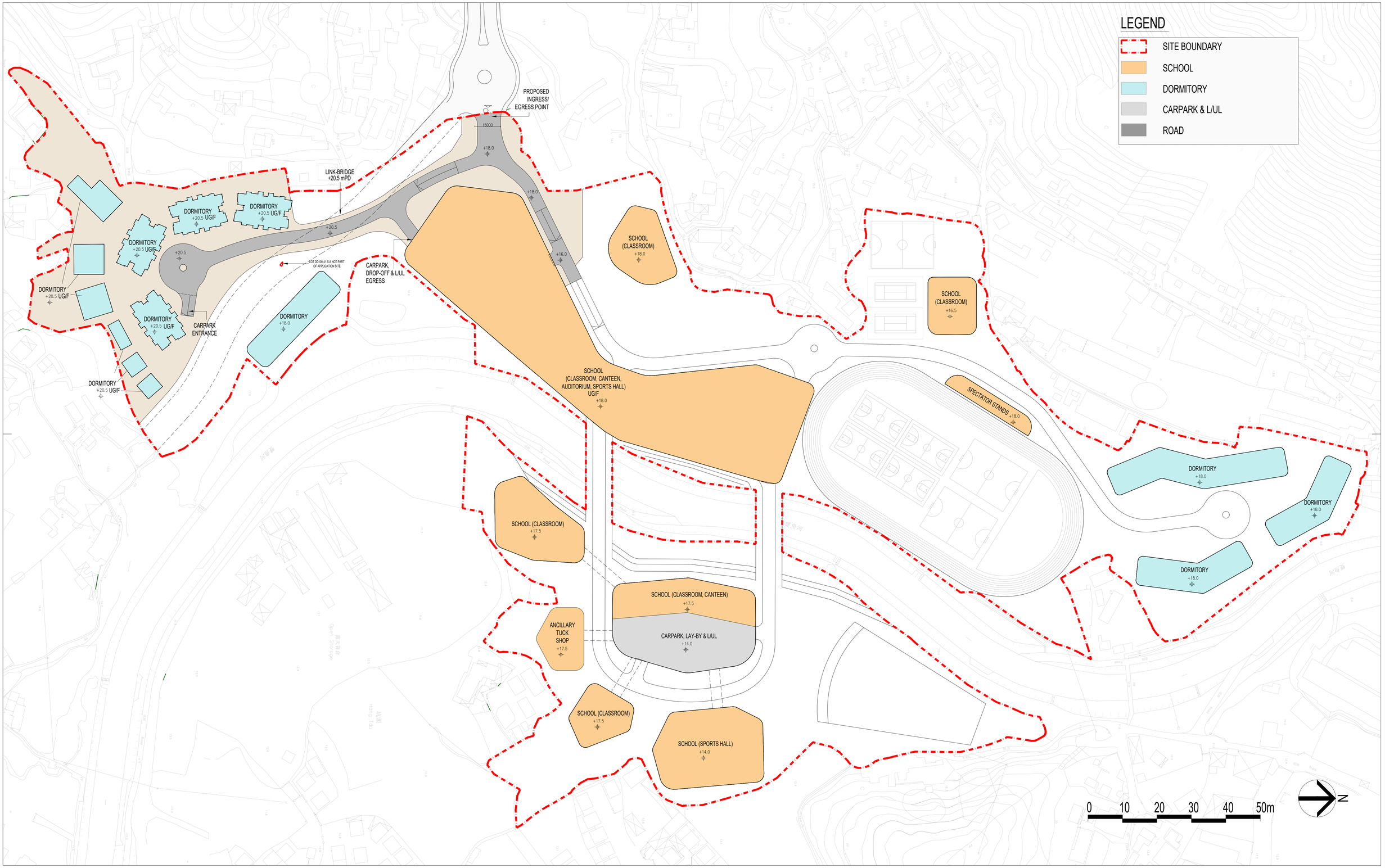
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



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Project Title

Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

Project No. 25018NT
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Drawing No. A/GBP_03

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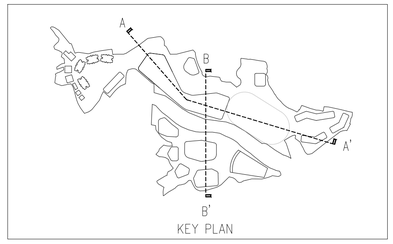
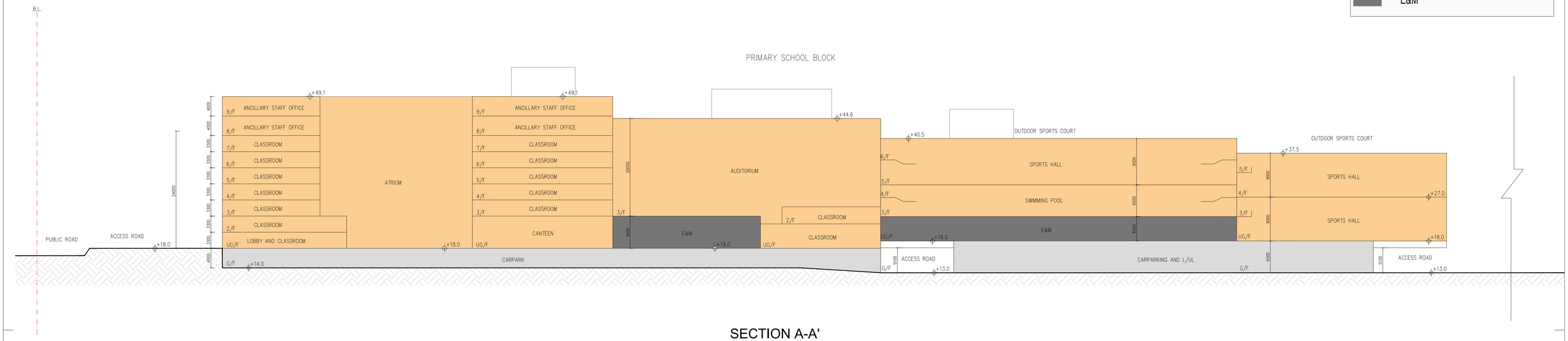


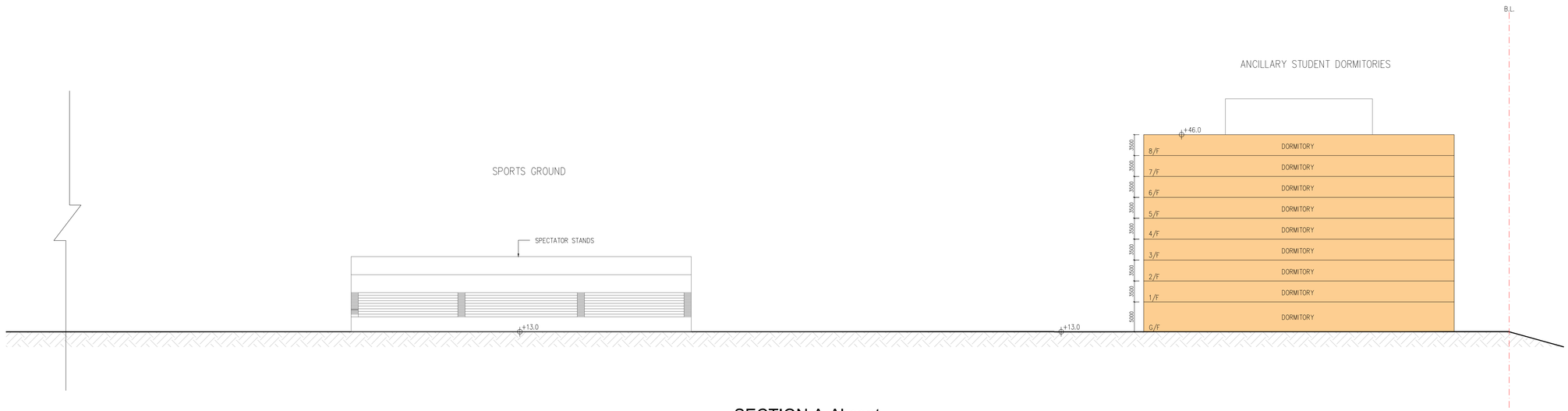
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



SECTION A-A' cont

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Drawing Title
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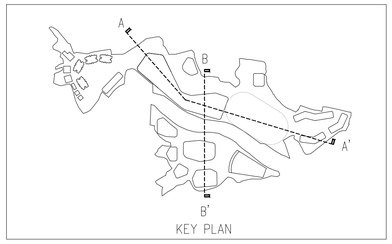
Drawing No. A/GBP_05

Drawing Purpose



KEY PLAN

LEGEND

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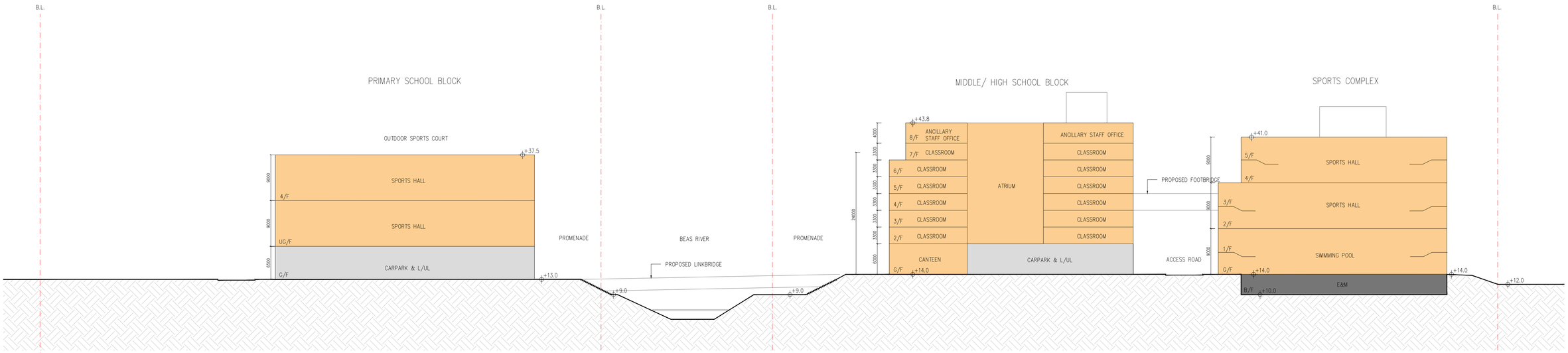
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION B-B'

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Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Attachment 6

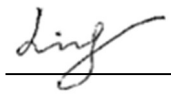
Revised Environmental Assessment

Prepared by

Ramboll Hong Kong Limited

PROPOSED SCHOOL AT VARIOUS LOTS IN D.D. 94, 98 & 100 AND ADJOINING GOVERNMENT LAND, KWU TUNG SOUTH, NEW TERRITORIES

ENVIRONMENTAL ASSESSMENT

Date	**January 2026**
Prepared by	**Tony Ling** **Environmental Consultant**
Signed	
Approved by	**Tony Cheng** **Senior Manager**
Signed	
Project Reference	**HENKTSISEI00**
Document No.	**R9855_v1.1**

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1. INTRODUCTION

1.1 Project Background

1.1.1 The applicants, Global King Investment Limited, Winpost (HK) Investment Limited and Rand Development Limited, seek to rezone the current "Agriculture" zoning with a minor portion of "Green Belt" of the Application Site as outlined in the approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22.

1.1.2 Ramboll Hong Kong Limited is commissioned to conduct the environmental assessment based on the information regarding the proposed scheme.

1.2 Application Site and its Environs

1.2.1 The Application Site is situated along the Sheung Yue River which separate the Application Site into 2 portions (West and East Portions). It is bounded by Sheung Shui Hang Tau Village Sitting Out Area No.2 to the North and Po Shu Garden to the East.

1.2.2 **Figure 1.1** also shows the location and the environs of the Proposed Development.

1.3 Proposed Development

1.3.1 Under the current application, the Application Site is proposed for an International School development. Details of the proposed development schedule are summarised in **Table 1.1** below and the layout plan is shown in **Appendix 1.1**.

1.3.2 The buildings within Proposed Development (excepting for the student and staff dormitory) will be equipped with central ventilation system, and it will not rely on openable window for ventilation under normal circumstances. While a portion of the Proposed Development along proposed Public Road falls within the 5m buffer distance, it is confirmed by Project Architect that there will be no air sensitive uses including openable window, fresh air intake of mechanical ventilation/ centralized air-conditioning system nor outdoor recreational facilities within the buffer area. Adequate buffer distance is to be provided between the fresh air intake of the building and the kerb of the proposed Public Road.

Table 1.1 Development Schedule of the Proposed Development

Portions Located	West	East
Site Area (m^2)	~92,616	~35,616
Total GFA (m^2)	~126,850	~44,150
No. of Blocks	18	6
No. of Classrooms	76	65
No. of Students	1,600	1,400
No. of Staff (Including Teaching and Non-Teaching)	338	295
No. of Student/ Staff who can Live in the Accommodation	2,243	0

Completion Year	2036

1.4 Key Environmental Issues and Study Approach

1.4.1 Key Environmental issues and concerns as identified for the Project include:

Noise

1.4.2 This section assesses the road traffic noise and potential industrial noise impacts on the noise sensitive uses of the Proposed Development. Practical mitigation measures are proposed to mitigate the potential noise impacts, where necessary.

1.4.3 Site visit was conducted on 15 August 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. No industrial activities are identified in the vicinity.

Air Quality

1.4.4 For the construction phase, the potential air quality impacts would be caused by the dust emissions generated during construction activities. For the operation phase, the potential air quality impacts arising from the vehicular emissions of the nearby roads, and the chimney emissions (if any) of the nearby industrial activities should be addressed.

Land Contamination

1.4.5 The historical landuse and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. A land contamination appraisal is included in Section 4.

Waste Management

1.4.6 The potential waste management issues in connection with construction and operation of the Proposed Development will be discussed at Section 5. Waste management Practices and mitigation measures will be recommended in order to alleviate the impacts, where necessary.

Water Quality

1.4.7 The potential water quality impact in connection with construction and operation of the Proposed Development will be discussed at Section 6. On-site sewage treatment plant is proposed. Water quality control measures and mitigation measures will be recommended in order to alleviate the impacts, where necessary.

2. NOISE IMPACT ASSESSMENT

2.1 Introduction

2.1.1 This section assesses the potential industrial noise and road traffic noise impacts on the noise sensitive uses of the Proposed Development. Practical mitigation measures are proposed to mitigate the potential noise impacts, where necessary.

2.2 Representative Noise Sensitive Receivers (NSRs)

2.2.1 There are a number of temporary structures, village houses, and low-rise residential buildings within 300m of the Proposed Development. The representative NSRs for the construction phase were identified as given in **Table 2.1**. The relative location and distance between the representative NSRs and the Subject Site can be referred to **Figure 2.1**.

Table 2.1 Summary of Representative NSRs

NSR ID	Description	Land Use	Distance from the Project Boundary
N1	Temporary Structure	Residential	~5m
N2	Temporary Structure	Residential	~43m
N3	564 HANG TAU Village House	Residential	~15m
N4	561 HANG TAU Village House	Residential	~3m
N5	Temporary Structure	Residential	~9m
N6	Temporary Structure	Residential	~16m
N7	Temporary Structure	Residential	~7m
N8	Temporary Structure	Residential	~43m
N9	Temporary Structure	Residential	~14m
N10	Temporary Structure	Residential	~4m
N11	Temporary Structure	Residential	~7m
N12	Temporary Structure	Residential	~7m
N13	Temporary Structure	Residential	~10m

2.3 Review on Road Traffic Noise

2.3.1 As mentioned in Section 1.2, the tentative completion year of Proposed Development is Year 2036. Meanwhile, the San Tin Section of Northern Metropolis Highway is targeted to be commissioning in or before 2036 according to the available information provided by Highway Department, location of the transport infrastructure is shown in **Figure 2.2**. In view of the abovementioned programme, the Project would be adjacent to Hang Tau Road (91m from the Application Site) and proposed San Tin Section of

Northern Metropolis Highway (54m from the Application Site), which are expected to be the main noise sources.

2.3.2 Most noise sensitive uses (including classroom, office, sports complex, gymnasium, retail, clinic, student shop and club) within the Proposed Development will be centrally air-conditioned and do not require opened windows as means of ventilation under normal circumstances. As such, they should unlikely be affected by road traffic noise.

2.3.3 For noise sensitive uses like student and staff dormitory, the noise sensitive facades / location of openable windows would be designed facing away from the main noise sources as practicable as possible so that the future occupants would not be subject to adverse road traffic noise impact. In addition, detailed road traffic noise impact assessment shall be conducted in next application stage in order to avoid any road traffic noise underestimation from surrounding roads.

2.4 Review on Industrial Noise

2.4.1 The Application Site is located at Kwu Tung South, and surrounded by temporal structures, village houses and open parking sites. Desktop studies and site visit (15 August 2025) have been conducted to identify the potential industrial noise sources within 300m assessment area, as shown in **Figure 2.3**. According to the observation during site visit, two open storage & parking sites for heavy machinery to the north and south of the site are identified, and no loading/unloading activities is found. Therefore, road traffic noise would be the major noise source after completion of the Approved Development. Nevertheless, similar with the section for road traffic noise impact assessment, detailed industrial noise impact assessment shall be conducted in next application stage in order to avoid any industrial noise underestimation from potential industrial sources.

Fixed Noise Sources within Proposed Development

2.4.2 In order to ensure that the fixed sources noise generated by the Proposed Development would not cause excessive impact to the neighbouring noise sensitive uses, the ventilation and air conditioning systems for the carpark, potential noise sources from the Proposed Development (e.g. public address systems (PA systems) and sports activities, plant room etc. will be carefully designed and installed to comply with relevant fixed source noise standards under Chapter 9 of HKPSG.

2.4.3 It is understood that loudspeakers of sports ground are not for continuous announcement, and of short durations in general (< 0.5min). With the proper design of the potentially noisy facilities to control and suppressed the generated noise level, such as the spectator stands designed with canopy and orientated to reduce angle of view from neighbouring noise sensitive uses to potential noise sources from Proposed Development, no adverse noise impact due to operation of the Proposed Development is anticipated.

2.5 Review on Construction Noise

Relevant Legislation, Standards & Guidelines

Statutory Requirements - Noise Control Ordinance (Cap.400)

2.5.1 Noise impacts arising from general construction activities (excluding percussive piling) conducted during the restricted hours (19:00-07:00 hours on any day and anytime on Sunday or general holiday), and percussive piling during anytime are regulated under the Noise Control Ordinance ("NCO"). The carrying out of any general construction activities involving the use of Powered Mechanical Equipment ("PME") within these restricted hours require a valid Construction Noise Permit ("CNP") issued by the Authority under the NCO.

2.5.2 The noise criteria and the assessment procedures for issuing a CNP are specified in the Technical Memorandum on Noise from Construction Work Other Than Percussive Piling ("GW-TM") issued under the NCO.

2.5.3 The use of *Specified PME* ("SPME") and/ or the carrying out of *Prescribed Construction Work* ("PCW") within a *Designated Area* ("DA") defined under the *NCO* during the restricted hours are also prohibited without a valid CNP. The relevant technical and procedural requirements are contained in the *Technical Memorandum on Noise from Construction Work in Designated Areas* ("*DA-TM*") issued under the *NCO.*

2.5.4 Within designated areas, the control of SPME and PCW are exercised through the Noise Control (Construction Work Designated Areas) Notice made under Section 8A(1) of the NCO. According to the latest Designated Area defined under the NCO [Plan No.: EPD/AN/K&NT-02 promulgated by Environment and Ecology Bureau], the Project Site is falling within the designated areas. During the construction phase, the Contractor has the responsibility to check the latest status and coverage of the designated areas at time of construction of the Project.

Practice Note for Professional Persons PN 1/24

2.5.5 It is envisaged that most construction works will be carried out between 07:00 and 19:00 on any working days except for Sundays and general holidays unless a Construction Noise Permit (CNP) is granted by the Authority for essential works during the restricted hours. Construction noise impact between 07:00 and 19:00 on any days except Sundays and general holidays shall meet the criteria in **Table 2.2**.

Table 2.2 Noise Limit for Daytime Construction Activities

Noise Sensitive Uses	0700 to 1900 hours on any day not being a Sunday nor a general holiday, L_{eq} (30 min), dB(A)
Dwellings	75
School	70 65 during examination

Analysis of Construction Activities and Sources of Noise Impact

2.5.6 Noisy construction works are usually associated with non-percussive piling and concreting works. Typical construction sequence envisaged include the following major activities:

1. Site Clearnces;
2. Construction of site hoarding;
3. Site formation;
4. Excavation and lateral support (ELS);
5. Piling and foundation works;
6. Superstructure and building works.

Noise Mitigation Measures

2.5.7 It is expected that the use of noise mitigation measures is essential, and approach of their application is elaborated as follow:

Use of Movable Noise Barriers

2.5.8 Movable noise barriers can typically achieve 5 dB(A) reduction for movable PME and 10 dB(A) for stationary ones when they are being operated. The surface density of the movable noise barriers shall be no less than 10 kg/m^2.

Use of Silencers & Noise Enclosure

2.5.9 Silencers and/or noise enclosure can provide noise attenuation of 10-20 dB(A) and hence will be applied where appropriate.

Use of Quality Powered Mechanical Equipment (QPME)

2.5.10 To reduce the noise impacts at the affected NSRs during normal daytime working hours, mitigation measure such as the use of QPME is recommended. According to the information from EPD, there are currently 15 types of QPME. As the condition and noise level of the construction plant would be assessed during the QPME application process, all QPME labelled construction plant would be well-maintenance and quieter. The contractors may adopt alternative QPME as long as it can be demonstrated that they would not result in construction noise impacts worse than those predicted in this assessment.

Adoption of Quieter Construction Method

2.5.11 With reference to quieter construction methods from EPD's website, advanced quieter construction methods have been established. Performance and practicability of the equipment has been studied and approved on different construction sites in Hong Kong, such as non-explosive chemical expansion agent for concrete removal, hydraulic crusher for concrete breaking and silent piling by press-in method, etc.

Good Site Practice

2.5.12 In order to minimise impacts on sensitive uses, the following good site practice/ control measures shall be adopted in minimising noise impacts.

1. The Contractor shall observe and comply with statutory and non-statutory requirements, guidelines and adopt the "*Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry)*" published by EPD;
2. The Contractor shall submit method statements to the Architect for comment on alternative construction methods, use of equipment and noise mitigation measures intended to be implemented on-site;
3. The Contractor shall devise and execute working methods to minimise noise impact on surrounding sensitive uses, and shall provide experienced personnel with suitable training to ensure that those methods are implemented;
4. Noisy equipment and activities should be located as far away from NSRs as practicable;
5. Unused equipment should be turned off or throttled down. PME should be kept to a minimum and the parallel use of noisy equipment/ machinery should be avoided;
6. Queuing of dump trucks should be avoided besides the site entrance. Their intermittent use should be avoided between loading cycles or may be throttled down to a minimum to reduce noise;
7. Regular maintenance of all plant and equipment, and use of material stockpiles and other existing structures as effective noise barriers, where practicable;

8. Use of movable noise barriers can typically contribute to 5 dB(A) reduction for movable PME and 10 dB(A) for stationary ones when they are being operated. The surface density of movable noise barriers shall be no less than 10 kg/m^2.

Recommended Pollution Control Clauses for Construction Contracts

2.5.13 Similar to standard primary and secondary school projects, the "*Recommended Pollution Control Clauses for Construction Contracts"* as included as attachment B in the "*Final Report on Preparation of a Class Assessment Document for Standard Schools*" issued by Architectural Services Department, is recommended to form part of the construction contract to ensure that adequate construction noise control measures are in place. The followings are some highlights of applicable good practice to minimize inconvenience and noise nuisance to nearby residents or other sensitive receivers:

1. All works are to be carried out in such a manner as to cause as little inconvenience as possible to nearby residents, properties and to the public in general, and the Contractor shall be held responsible for any claims which may arise from such inconvenience;

2. In addition to requirements imposed by the *Noise Control Ordinance*, to control noise generated from equipment and activities for the purpose of carrying out any construction works other than percussive piling during the time period from 0700 to 1900 hours on any day not being a general holiday (including Sundays), the following requirements shall also be complied with:

   (i) The noise level measured at 1m from the most affected external façade of the nearby noise sensitive receivers from the construction work alone during any 30 minute period shall not exceed an equivalent sound level (Leq) of 75 dB(A); and

   (ii) The noise level measured at 1m from the most affected external façade of the nearby schools from the construction work alone during any 30 minute period shall not exceed an equivalent sound level (Leq) of 70 dB(A) [65 dB(A) during school examination periods], if any.

   The Contractor shall liaise with any affected school(s) to ascertain the exact dates and times of all examination periods during works.

   (iii) Should the limits stated in the above sub-clauses (i) and (ii) be exceeded, the construction shall stop and shall not re-commence until appropriate measures are implemented necessary for achieving compliance.

   (iv) Any stoppage or reduction in output resulting from compliance with this clause shall not entitle the Contractor from claiming extension of time for completion or any additional costs whatsoever.

3. The Contractor shall, when necessary, apply as soon as possible for a construction noise permit in accordance with the Noise Control (General) Regulations, and display the permit as required and copy to the Architect/ Engineer.

4. The Contractor shall, when necessary, substitute percussive piling by non-percussive piling means.

5. The Contractor shall ensure that all plant and equipment to be used on-site are properly maintained in good operating condition and noisy construction activities shall be effectively sound-reduced by means of silencers, mufflers, acoustic linings or shields, acoustic sheds or screens or other means, to avoid disturbance to any nearby noise sensitive receivers;

6. Before commencement of any works, the Architect/ Engineer may require the methods of working, plant equipment and sound-reducing measures to be used on the Site to be made available for trial demonstration inspection and approval to ensure that they are suitable for the project.
7. The Contractor shall devise, arrange methods of working and carry out the Works in such a manner so as to minimize noise impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented;
8. The Architect/ Engineer may upon application in writing by the Contractor, allow the use of equipment and the carrying out of any construction activities for any duration provided that he is satisfied with the application which, in his opinion, is considered to be of absolute necessity and adequate noise insulation has been provided to the uses affected, or of emergency nature, and not in contravention with the *Noise Control Ordinance* in any respect;
9. Measures that are to be taken to protect adjacent schools, if any, and other adjacent noise sensitive receivers, if necessary, shall include, but not be limited to, adequate noise barriers. The barriers shall be of substantial construction and designed to reduce transmission of noise (simple plywood hoarding will not be sufficient). The noise barriers shall be surmounted with baffle boxes designed to reduce transmission of noise. The barriers shall be designed to BS 5228 (1984). The location and details of the barriers shall be submitted to the Architect/ Engineer for approval before works commence adjacent to schools and other noise sensitive receivers.

2.5.14 The abovementioned noise mitigation measures will be included in the contractual clauses for implementation by the Contractor(s) during the construction stage.

2.6 Conclusion

2.6.1 As the Site is not on flat ground, site formation would be required, construction works would commence after site decanting decommissioning and demolition of the existing buildings. Construction works will normally be carried out during the daytime period of 0700-1900 due to concerns of noise impacts, unless there are unavoidable situations or overriding reasons that requires the works to be extended into the restricted hours. In such circumstances, CNPs will have to be applied for from the Authority.

2.6.2 With the recommended use of noise mitigation measures outlined in **Section 2.6**, together with inclusion of *"Recommended Pollution Control Clauses for Construction Contracts"* in works contract, construction noise impact should be minimised and under control.

2.6.3 The Contractors shall, from time to time, be reminded of noise impacts on the surrounding NSRs through adequate noise monitoring during the works so that adjustments can be made to restore the construction noise impacts back to acceptable levels.

3. AIR QUALITY IMPACT ASSESSMENT

3.1 Introduction

3.1.1 This section examines the potential air quality impacts that could arise from the construction phase and operation phase of the Project.

3.2 Environmental Legislation and Guidelines

3.2.1 The following legislation and regulations provide the standards and guidelines for evaluation of air quality impacts and the type of works that are subject to air pollution control:

- Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO)
- Air Pollution Control (Construction Dust) Regulation
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
- Air Pollution Control (Fuel Restriction) Regulations
- Control of Air Pollution in Car Parks (ProPECC PN 2/96)
- Hong Kong Planning Standards and Guidelines (HKPSG)

Air Pollution Control Ordinance (CAP 311)

3.2.2 A set of Air Quality Objectives (AQOs) is established under the Air Pollution Control Ordinance (Cap. 311). The current AQOs that came into effect on 11 April 2025 is presented in **Table 3.1**.

Table 3.1 Hong Kong Air Quality Objectives (AQOs)

Pollutant	Averaging time	Concentration limit [i] (μg/m³)	Number of exceedances allowed per calendar year
SO_2	10-minute	500	3
	24-hour	40	3
RSP (PM_{10}) [ii]	24-hour	75	9
	Annual	30	Not applicable
FSP ($PM_{2.5}$) [iii]	24-hour	37.5	18
	Annual	15	Not applicable
NO_2	1-hour	200	18
	24-hour	120	9
	Annual	40	Not applicable
O_3	8-hour	160	9
	Peak season	100	Not applicable
CO	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Lead	Annual	0.5	Not applicable

Notes:

[i] All measurements of the concentration of gaseous air pollutants, i.e. sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.

[ii] Respirable suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.

[iii] Fine suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.

3.2.3 In accordance with the EIAO-TM, odour predicted at all ASRs should meet 5 odour units (OUs) based on an averaging time of 5 seconds.

Air Pollution Control (Construction Dust) Regulation

3.2.4 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

3.2.5 The proposed construction works for the proposed Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of fugitive dust emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

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

3.2.6 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

3.2.7 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Air Pollution Control (Fuel Restriction) Regulations

3.2.8 The Air Pollution Control (Fuel Restriction) Regulations was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide (SO_2) emissions. In April 2025, the Air Pollution Control (Fuel Restriction) Regulations was amended to tighten the control requirements of liquid fuels. The Regulations does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling, or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

ProPECC PN2/96 - Control of Air Pollution in Car Parks

3.2.9 This practice notes include air quality guidelines required for the protection of public health and factors that should be considered in the design and operation of car parks in order to achieve the required air quality. The limits for air pollutants as recommended by the practice notes are summarised in **Table 3.2**.

Table 3.2 Limits of Air Pollutant Concentrations Inside Car Parks

Air Pollutant	Average Time	Maximum Concentration (µg/m3) [i]	Maximum Concentration (ppm)
CO	5 minutes	115,000	100
NO_2	5 minutes	1,800	1

Notes:
[i] All limits are expressed as at reference conditions of 298K and 101.325kPa.

Hong Kong Planning Standards and Guidelines (HKPSG)

3.2.10 Potential air quality impacts associated with the surrounding road carriageways and chimney emission from industrial stack shall be evaluated in accordance with the guidelines set out in HKPSG.

3.2.11 **Table 3.3** below is the extract of Table 3.1 in Chapter 9 "Environment" of HKPSG stating the recommended minimum horizontal buffer distance against pollution sources generated from road & highways and industrial areas.

Table 3.3 Guidelines on Usage of Open Space Site

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	Type of Road		
	Trunk Road and Primary Distributor	>20 m	Active and passive recreational uses
		3 – 20 m	Passive recreational uses
		<3 m	Amenity areas
	District Distributor	>10 m	Active and passive recreational uses
		<10 m	Passive recreational uses
	Local Distributor	>5 m	Active and passive recreational uses
		<5 m	Passive recreational uses
	Under Flyovers		Passive recreational uses
Industrial Areas	Difference in Height between Industrial Chimney Exit and the Site		
	<20 m	>200 m	Active and passive recreational uses
		5 – 200 m	Passive recreational uses
	20 – 30 m (*)	>100 m	Active and passive recreational uses
		5 – 100 m	Passive recreational uses
	30 – 40 m	>50 m	Active and passive recreational uses
		5 – 50m	Passive recreational uses
	>40 m	>10 m	Active and passive recreational uses
Construction and Earth Moving Activities	-	<50 m	Passive recreational uses
		>50 m	Active and passive recreational uses

Note:
(i) *In situations which 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.*
(ii) *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.*
(iii) *The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishment which are likely to be significant air pollution sources. Consult EPD should be consulted when planning open spaces close to such establishments.*
(iv) *Amenity areas are permitted in any situation.*

3.3 Representative Air Sensitive Receivers (ASRs)

3.3.1 There are a number of temporary structures, village houses, and low-rise residential buildings within 500m of the Proposed Development. The representative ASRs for the construction phase were identified as given in **Table 3.4**. The relative location and distance between the representative ASRs and the Subject Site can be referred to **Figure 3.1**.

Table 3.4 Summary of Representative ASRs

ASR ID	Description	Type	Land Use	Distance from the Project Boundary	Assessment Height (m)
A1	Temporary Structure	Existing	Residential	~5m	1.5
A2	Proposed Temporary Warehouse with Ancillary Office at Lot 424 S.A (Part) in D.D. 94	Planned	Office	~46m	1.5
A3	Proposed Residential Development Various Lots in D.D. 94	Planned	Residential	~66m	1.5-10.5
A4	Temporary Structure	Existing	Residential	~43m	1.5
A5	Ceylon Farm Village	Existing	Recreational	~2m	1.5
A6	564 HANG TAU Village House	Existing	Residential	~15m	1.5-10.5
A7	561 HANG TAU Village House	Existing	Residential	~3m	1.5-10.5
A8	Temporary Structure	Existing	Residential	~9m	1.5
A9	Temporary Structure	Existing	Residential	~16m	1.5
A10	Temporary Structure	Existing	Residential	~7m	1.5
A11	Temporary Structure	Existing	Residential	~43m	1.5
A12	Temporary Structure	Existing	Residential	~14m	1.5
A13	Temporary Structure	Existing	Residential	~4m	1.5
A14	Temporary Structure	Existing	Residential	~7m	1.5
A15	Temporary Structure	Existing	Residential	~7m	1.5
A16	Temporary Structure	Existing	Residential	~10m	1.5

3.4 Existing Air Quality in North District

3.4.1 The nearest air quality monitoring station (AQMS) to the Proposed Development is the North AQMS. The five most recent years of air quality monitoring data, 2020 to 2024, from this station are summarized in **Table 3.5**. According to the AQMS monitoring data, exceedance in O_3 is recorded.

Table 3.5 Air Quality Monitoring Data at North AQMS

Pollutant	Averaging Time	AQO	Pollutant Concentration (µg/m3)				
			2020	2021	2022	2023	2024
RSP	10th Highest 24-hour	75 (9)	55	62	50	57	56
	Annual	30	-	25	23	27	25
FSP	19th Highest 24-hour	37.5 (18)	29	29	28	28	29
	Annual	15	-	**15**	14	**15**	**16**
NO2	19th Highest 1-hour	200 (18)	112	135	115	116	114
	10th Highest 24-hour	120 (9)	54	70	58	58	56
	Annual	40	-	36	31	30	29
SO2	4th Highest 10-Min	500 (3)	19	18	27	27	18
	4th Highest 24-hour	40 (3)	8	7	7	7	7
O_3	10th Highest 8-hour	160 (9)	**166**	**187**	**197**	**164**	**169**
	Peak season	100	-	97	98	95	**101**
CO	1st Highest 1-hour	30000 (0)	1830	2150	1710	2390	1710
	1st Highest 8-hour	10000 (0)	1238	1550	1304	1231	1311
	1st Highest 24-hour	4000 (0)	1022	1213	994	1001	988

Notes:
(a) *Bolded values exceed the relevant AQO.*
(b) *Data extracted from EPD's Smart Air Modelling Platform (SAMP v2.1).*
(c) *Numbers in brackets is the number of exceedances allowed per calendar year.*

3.4.2 Apart from the air quality monitoring data, a set of background levels from PATH v3.0 ("Pollutants in the Atmosphere and their Transport over Hong Kong") is also reviewed. As the tentative years of the completion of the Proposed Development is Year 2036, the background air quality predicted by PATH v3.0 for Year 2035 in Grid 32,52 and 33,52 is summarized in **Table 3.6**. With respect to the future background air quality predicted by PATH v3.0 in **Table 3.6**, all values are below the relevant AQOs except O_3.

Table 3.6 Year 2035 Background Annual Average Concentrations (Level L1) of the Air Pollutants from PATH v3.0

Pollutant	Averaging Time	AQO	Data Summary	PATH v3.0 Grid in Year 2035					
				32,53	33,53	32,52	33,52	32,51	33,51
RSP	24-hour	75 (9)	10th	54	55	55	56	52	54
			Exceedance	0	0	0	0	0	0
	Annual	30	-	21	21	21	21	20	21
FSP	24-hour	37.5 (18)	19th	32	33	32	34	31	33
			Exceedance	8	10	8	11	8	8
	Annual	15	-	13	13	13	13	13	13
NO2	1-hour	200 (18)	19th	61	60	55	53	50	48
			Exceedance	0	0	0	0	0	0
	24-hour		10th	21	21	19	19	17	17

Pollutant	Averaging Time	AQO	Data Summary	PATH v3.0 Grid in Year 2035					
				32,53	33,53	32,52	33,52	32,51	33,51
		120 (9)	Exceedance	0	0	0	0	0	0
	Annual	40	-	12	12	11	11	10	10
SO2	10-Min	500 (3)	4th	26	26	25	26	29	27
			Exceedance	0	0	0	0	0	0
	24-hour	40 (3)	4th	7	7	7	7	7	7
			Exceedance	0	0	0	0	0	0
O3	8-Hour	160 (9)	10th	**178**	**175**	**177**	**175**	**179**	**176**
			Exceedance	24	20	23	21	24	21
	Peak Season	100	-	**120**	**120**	**120**	**120**	**122**	**120**
CO	1-Hour	30000 (0)	1st	522	523	520	522	518	519
			Exceedance	0	0	0	0	0	0
	8-Hour	10000 (0)	1st	493	492	492	491	490	489
			Exceedance	0	0	0	0	0	0
	24-Hour	4000 (0)	1st	458	459	456	457	455	455
			Exceedance	0	0	0	0	0	0

Notes:
[a] *Numbers in brackets is the number of exceedances allowed per year.*
[b] *Bolded values exceed the relevant AQO.*
[c] *Data extracted from EPD's Smart Air Modelling Platform (SAMP v2.1).*

3.5 Construction Phase

Identification of Sources

3.5.1 Major source of potential air quality impact during construction phase would be fugitive dust generated from wind erosion of the stockpiles and open sites, as well as from the following construction activities:

- Excavation resulting in exposed ground vulnerable to air erosion;
- Earth moving, loading and unloading of excavated material;
- Wind effect on material stockpiling; and
- Vehicle movements on haul roads and over the construction site.

Impact Brought during Construction Phase

3.5.2 There will be potential impacts from the criteria pollutants (e.g. nitrogen oxides (NO_x), sulphur dioxide (SO_2), and carbon monoxide (CO)). Emission from diesel trucks for the haulage of materials and construction plants will contain high percentage of smoke particulate and unburned hydrocarbons in comparison with petrol driven vehicles. In all circumstances, the contractor will be required to observe all relevant regulations and maintain all equipment in good condition to avoid any excessive emission. Under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (NRMMs) (including mobile generator, air compressor, excavator, crawler crane, bulldozer and etc.) with a proper label are allowed to be used in the construction site. Exempted NRMMs shall be avoided as far as practicable to minimize the fugitive dust and gaseous emissions. Travelling of the dump trucks is another potential source of construction dust. As this planning application stage, there is no detailed information on the construction program; however, with reference to other similar scale projects, the number of on-site diesel/petroleum fuelled machinery (10-15 machineries) to be used for construction works (i.e. Site Clearence, Site Formation and Excavation) with an area of 128,232m^2

with a depth of about 2m. Watering the haul road and the site once per hour would be implemented to minimize the potential dust emission during the traveling of the dump trucks within the site.

3.5.3 Furthermore, there are potential concurrent projects "San Tin Section of Northern Metropolis Highway", "Proposed Temporary Warehouse with Ancillary Office", and "Proposed Residential Development in D.D. 94, Hang Tau Tai Po" within the 500m study area from the site boundary which would contribute to the cumulative impact during the construction phase. The existing/ planned concurrent projects with construction works in the vicinity are referenced from the Environmental Impact Assessment Ordinance and Outline Zoning Plan, and listed as follows:

- San Tin Section of Northern Metropolis Highway (Project Profile.: PP-683/2025; Commencement date: Not Available; Completion date: Year 2036)
- Proposed Temporary Warehouse with Ancillary Office at Lot 424 S.A (Part) in D.D. 94, Kwu Tung South, Sheung Shui, New Territories (Application No.: A/NE-KTS/548-1; Commencement date: Not Available; Completion date: Not Available)
- Proposed Residential Development at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui, New Territories (Application No.: A/NE-KTS/525; Commencement date: Not Available; Completion date: Not Available)

3.5.4 With the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level. In addition, the applicant will liaise with the relevant parties of the concurrent project, if any, to avoid any heavy dusty activities to be conducted at the same time to minimize the cumulative dust impact at the area. The location of the potential concurrent project is shown in **Figure 3.2**.

General Requirements during Construction Phase

3.5.5 The assessment criteria for aerial emission is based on the Hong Kong Air Quality Objectives (AQO) for air pollutants under *APCO* and the AQOs for the pollutants relevant to the construction phase air quality impact are listed in **Table 3.1**.

Control Measures Recommended during Construction Phase

3.5.6 Appropriate dust reduction measures should be adopted as required under the Air Pollution Control (Construction Dust) Regulation. Essential dust mitigation measures must be implemented to minimize the potential dust impact. Dust impact could be effectively mitigated by inclusion of appropriate contract clauses for dust minimisation in the work contracts. Mitigation measures may include:

- dump trucks for material transport should be totally enclosed using impervious sheeting;
- 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 within 24 hours of the excavation or unloading;
- the stockpiled malodorous materials should be removed from Application Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;
- 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 e.g. concrete, bituminous materials or hardcore or similar;

- stockpile of dusty materials to 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 to 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 before leaving the construction sites;
- the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials would 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; and
- use of effective dust screens, sheeting or netting to be provided to enclose dry scaffolding which may be provided from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level (maximum four floors for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction.

3.5.7 In addition to the dust control measures described above, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:

- Plan site layout so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from receptors as far as possible;
- Consider connecting construction plant and equipment to mains electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable;
- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit;
- Implement phasing of the excavation work to avoid large scale excavation at the same time in vicinity of nearby ASRs; and
- Erect solid screens or barriers around dusty activities,etc.

3.5.8 A monitoring programme (i.e. biweekly site audit) could also be instigated to monitor the construction process in order to enforce dust controls and modify methods of works to reduce the dust emission down to an acceptable level.

3.5.9 Good site management is important for reducing potential air quality impact down to an acceptable level. As a general guidance, the contractor shall maintain high standard of site management to prevent potential emission of fugitive dust emission. Loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should also be carried out in a manner so as to minimise the release of visible dust emission.

3.5.10 A high standard of site management shall be maintained. Any piles of materials accumulated on or around the work areas shall be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas shall be carried out

in a manner without generating fugitive dust emissions. The material shall be handled properly to prevent fugitive dust emission before cleaning.

3.5.11 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. It contains the recommended air pollution control measures to be implemented by the contractor during the construction stage.

3.6 Operational Phase

Review on Industrial Emission Impact

3.6.1 Onsite survey was conducted on 15 August 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. In addition, according to the latest design and available information, no chimney or other polluting uses within Proposed Development and 500m assessment area is proposed. As such, it is anticipated that the Proposed Development and existing air sensitive receivers would not be subject to adverse industrial emission impact.

Review on Vehicular Emission Impact

3.6.2 In accordance with above table as stipulated in HKPSG, the minimum requirements on the buffer distance from Proposed Public Road, Hang Tau Road and Private Roads (P1 & P2) are >5m while the buffer distance from San Tin Section of Northern Metropolis Highway is >20m.

Table 3.7 Buffer Distances between Kerb Side of Concerned Road Links and Application Site Boundary

Road Name	Road Type	Recommended Buffer Distance (m)	Shortest Horizontal Distances Between Kerb Side of Concerned Road Links and the Application Site Boundary (m)
Proposed Public Road	Local Distributor	>5m	~0m
Private Road (P1)	Local Distributor	>5m	~17m
Private Road (P2)	Local Distributor	>5m	~128m
Hang Tau Road	Local Distributor	>5m	~91m
San Tin Section of Northern Metropolis Highway	Expressway	>20m	~54m

3.6.3 As shown in **Table 3.7** and **Figure 3.3,** the recommended buffer distance requirement for Private Roads (P1 & P2), Hang Tau Road and San Tin Section of Northern Metropolis Highway in the HKPSG would be complied. For the Proposed Public Road, a portion of the application site is within 5m buffer distance, however, no air sensitive uses of Proposed Development (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance. In conclusion, there would be no air sensitive uses within the above-mentioned 5m buffer zones from Proposed Public Road, Private Roads (P1 & P2) and Hang Tau Road, and 20m buffer

zones from San Tin Section of Northern Metropolis Highway. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.

Review on Impact from Proposed Carpark

3.6.4 Carpark has been proposed for the Proposed Development. The air quality inside the basement carpark shall satisfy the air pollutant standards as recommended by the ProPECC PN 2/96 Control of Air Pollution in Car Parks. Therefore, the mechanical ventilation system and layout the basement carpark shall be properly designed. Furthermore, the exhaust outlet of the mechanical ventilation system of the basement carpark shall also be designed by facing away from the nearest air sensitive uses as practicable as possible to ensure not to cause a nuisance to the occupants/ residents of the air sensitive uses including the surrounding developments and the Proposed Development.

Review on Odour Impact

3.6.5 F&B areas will be provided in the Proposed Development. Exhaust hoods and grease trap will be provided and the air change rate for the F&B area will be designed according to the standard of kitchen as stipulated in Building Department's Practice Note for Authorized Persons (PNAP). Potential odour emissions will be minimised as far as practicable. The following considerations recommended in EPD's *Control of Oil Fume and Cooling Odour from Restaurant and Food Business* shall be taken into account in the detailed design when positioning the exhaust outlets:

- Locate the outlet at such a place where the ventilation is good and the emissions from them can be adequately dispersed without hindrance
- Provide sufficient separation distance from any sensitive receptor in the vicinity so that the emissions will not cause, or contribute to, an odour nuisance or other type of air pollution to the public
- Ensure the emissions from the exhaust system will be directed vertically upwards, unless it can be demonstrated by an environmental professional that other direction is more advantageous in preventing emissions from causing air pollution problems
- Ensure that emissions from the exhaust system will not be restricted nor deflected by, for example, the use of plates or caps.

3.6.6 Desktop Studies and onsite survey have been conducted to identify the potential odour sources. According to the site survey conducted on 15 August 2025 (between noon to 2pm, 28.2^{o}C air temperature and 95% relative humidity) to identify the potential odour sources, there is no identifiable odour were detected in the vicinity of the Application Site. Inspection route for the odour survey is shown in **Figure 3.4**. It is anticipated that the Application Site would not be subject to adverse odour impact.

3.7 Conclusion

3.7.1 The Project is not an air pollution source. Neither will it be impacted by off-site air pollution sources.

3.7.2 As the Site can meet the HKPSG screening criteria (buffer distances) with respect to various air pollution aspects including vehicular traffic and off-site pollution sources, no specific air quality mitigation measures would be necessary.

4. LAND CONTAMINAION APPRAISAL

4.1 Scope of Work

4.1.1 The aim of this study is to assess the potential land contamination impact under the proposed development due to the previous land uses and/ or the existing operations.

4.2 Assessment Criteria

4.2.1 The following guidelines published by EPD have been followed:

- Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management (RBRGs), revised in April 2023;
- Guidance Note for Contaminated Land Assessment and Remediation, revised in April 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land (EPD's Practice Guide), revised in April 2023.

4.3 Review of Historical and Current Available Information

Land Uses

4.3.1 The proposed development is located at the zone labelled as "AGR"-zoning under the approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22.

4.3.2 Historical aerial photos of the Application Site have been reviewed to identify if any possible land contamination related activites or uses have been carried out. **Table 4.1** shows the description of each aerial photos. Besides, the aerial photo is presented in **Appendix 4.1**.

Table 4.1 Land Use Summary of the Application Site

Period/ Year	Photo No.	Flying Height (ft.)	Site Description	Off-site Land Use
1995	A51043	3000	The site was mainly a green land with some temporary structures observed. Sheung Yue River was observed.	North: Temporary storage was observed. East: It was mainly a green land with some village houses observed. South, West: It was mainly a green land with some temporary structures were observed.
2000	A51043	3000	Sheung Yue River was under diversion construction which led to out of the site boundary. No significant change in land use was observed in the remaining portions of the site.	North, East, South West: No significant change in land use was observed. Middle: Sheung Yue River was under diversion construction

Period/ Year	Photo No.	Flying Height (ft.)	Site Description	Off-site Land Use
2004	CW58299	2500	No significant change in land use was observed.	North, East, South West: No significant change in land use was observed. Middle: Diversion construction of Sheung Yue River was completed.
2011	CS32953	6000	No significant change in land use was observed.	North, East, South West, Middle: No significant change in land use was observed.
2015	CS59207	6000	No significant change in land use was observed.	North, East, South West, Middle: No significant change in land use was observed.
2020	E092056C	6900	No significant change in land use was observed.	North, East, South West, Middle: No significant change in land use was observed.
2024	E239765C	6900	No significant change in land use was observed.	North, East, South West, Middle: No significant change in land use was observed.
Summary Green land and temporary structures were observed from the aerial photos within the site. Although temporary structures are considered as potential land contamination land use, site walkover shall be conducted to identify whether site investigation is needed.				

Site Inspection and Observation

4.3.3 Site inspection to the Application Site was conducted in August 2025. The relevant photo record is shown in **Appendix 4.2**. The site walkover check is supplemented in **Appendix 4.3**.

4.3.4 Whole portion of the east of the Application site are currently inaccessible as it is locked (see Photo 1). Site re-appraisal shall be conducted when the site is accessible or in the detailed design stage.

4.3.5 Within the west of the Application site, mainly trees are observed. Village, pond and farmland are observed. Some areas are inaccessible and site re-appraisal shall be conducted when the site is accessible or in the detailed design stage.

Information from Departments of the Government of the HKSAR

4.3.6 Apart from the information reviewed, the following departments of the Government of the Hong Kong Special Administration Region (HKSAR) were enquired on the availability of landuse status and records of land contamination and/or spillage for the Application Site. The replies correspondences are shown in **Appendix 4.4**.

Table 4.2 Departmental Replies Summary

Department	Departmental Ref	Date	Summary
Environmental Protection Department	N.A. (reply through email)	27 Aug 2025	No record of reported accidents of spillage/ leakage of chemicals
Fire Services Department	(14) in FSD GR 6-5/4 R Pt.60	30 Dec 2025	1. No Dangerous Goods Licence was issued 2. 3 incident records were found. The incident records include landslide and vegetation fire which do not involve any chemical materials.

Information from Departments of the Government of the HKSAR

4.3.7 The Consultants has reviewed the registry of chemical waste producers available in the Territory Control Office on 12 August 2025 for the Subject Site. No record of chemical waste was found in the Territory Control Office.

4.3.8 Hence, potential land contamination due to chemical spill is not expected within the Subject Site.

4.4 Conclusion

4.4.1 A site appraisal, in the form of desktop review and site walkover, had been carried out in August 2025 to identify the past and current potentially contaminating land uses within the Application Site. Based on the desktop study and site appraisal, some areas of the Application site are inaccessible and therefore, site re-appraisal shall be conducted when the site is accessible or in the detailed design stage.

5. WASTE MANAGEMENT

5.1 Introduction

5.1.1 This section presents the management and disposal strategy of the wastes generated from the construction work and operational phase. The options for waste minimization, reuse, recycling, collection, transport and disposal of wastes arising from the construction, demolition work and operational phase have been examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimising the potential impacts are recommended.

5.2 Legislation

5.2.1 The following legislations and guidelines are relevant to the handling, treatment and disposal of waste in HKSAR and references were made in assessing the potential impacts and their avoidance or mitigation:

- *Waste Disposal Ordinance (Cap. 354);*
- *Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);*
- *Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N); and*
- *Practice Note for Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (PNAP ADV-19, also known as PN for AR&RSE No. 243)*
- *Monitoring of Solid Waste in Hong Kong 2023*
- *Administrative Guidance – Management Framework for Construction and Demolition Waste (or any prevailing applicable guideline)*
- *Land (Miscellaneous Provisions) Ordinance (Cap 28)*
- *Code of Practices and Guidelines for Asbestos Control and Handling; and*
- *ProPECC PN2/97 Handling of Asbestos Containing Materials in Building*

Other relevant documents and guidelines that are applicable to waste management and disposal include:

- *Development Bureau Technical Circular (Works) No. 8/2010 - Enhanced Specification for Site Cleanliness and Tidiness;*
- *ETWB TCW No. 22/2003A - Additional Measures to Improve Site Cleanliness and Control Mosquito Breeding on Construction Sites;*
- *Development Bureau Technical Circular (Works) No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Materials;*
- *WBTC No. 19/2001 - Metallic Site Hoardings and Signboards;*
- *Works Bureau Technical Circular No. 12/2000 - Fill Management;*
- *Works Branch Technical Circular No. 2/93 - Public Dumps;*
- *Works Branch Technical Circular No. 2/93B - Public Filling Facilities;*
- *Project Administration Handbook for Civil Engineering Works;*
- *Public Health and Municipal Services Ordinance (Cap. 132);*
- *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; and*
- *A Guide to the Chemical Waste Control Scheme*

5.3 Assessment Methodology

5.3.1 Although the Proposed Development is not a designated project under EIAO, the assessment of the potential waste management implications during the construction and operation phases of the Project has been conducted in accordance with Annexes 7 and 15 of the EIAO-TM, including the following tasks:

- Estimation of the types and quantities of the wastes generated;
- Evaluation of opportunities for waste reduction and re-use;
- Identification of disposal options for each type of wastes;
- Assessment of potential environmental impacts arising from the wastes management with respect of potential hazards, air and odour emissions, noise, wastewater discharge, and public transport; and
- Assessment of the impacts caused by handling, collection, transportation and re-use /disposal of wastes.

5.3.2 Prior to considering the disposal options for various types of waste, opportunities for reducing waste generation, on-site or off-site reuse and recycling have been evaluated. Measures which can be taken in the planning and design phases (e.g. by modifying the design approach) and in the construction phase for maximizing waste reduction have been separately considered. Practices to promote segregation of waste materials are additionally considered for advancing the waste management efficiency.

5.3.3 After considering the opportunities for reducing waste generation and maximizing reuse, the types and quantities of the waste required to be disposed of have been estimated and the disposal options for each type of waste have been described. The disposal method recommended for each type of waste has been taken into account the result of the assessment. The impacts caused by handling (including stockpiling, labelling, packaging and storage), collection and reuse / disposal of waste have been addressed and appropriate mitigation measures have been proposed.

5.4 Identification and Evaluation of Potential Impact during Construction Stage

5.4.1 The construction activities to be carried out for the proposed Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials;
- Chemical waste; and
- General refuse.

5.4.2 It is anticipated that the majority of C&D materials will be generated from the following key construction activities:

- Demolition of existing building or structures;
- Site Clearance;
- Excavation for construction;
- Site formation works;
- Building construction and superstructure works

C&D Materials

5.4.3 C&D materials comprise mainly of unwanted materials, including excavation for foundation of the Proposed Development, surplus materials generated from the

construction works of the Proposed Development. C&D materials may comprise different types of materials, including:

- Inert C&D materials (also known as public fill, including soil, rock debris, rubble earth, concrete, etc.) do not decompose and are suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused on-site should be delivered to Public Fill Reception Facilities for beneficial reuse in other projects.

- Non-inert C&D materials (also known as C&D waste, including bamboo, timber, paper, metal, glass, plastic, packaging wastes, etc.). Non-inert C&D materials should be reused or recycled. For those timber and woody materials at predominantly rural area of Application Site anticipated during site clearance, should be sent to Yard Waste Recycling Centre in Y-Park for recycling. For those non-inert C&D materials that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.4.4 The general waste management strategy is to avoid waste generation in the first place. Should it be unavoidable, reduction and segregation at-source should be exercised as far as practicable, and recycling and reuse should be adopted at the same time to salvage all the recyclable and reusable materials.

5.4.5 Inert C&D materials should be re-used on-site (e.g for backfilling) if it is practical and/or delivered to Public Fill Reception Facilities for beneficial reuse in other projects or other CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.4.6 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by waste collectors which successfully applied for a billing account under Construction Waste Disposal Charging Scheme and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.4.7 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be disposed of at the Public Fill Reception Facilities and landfill.

5.4.8 If the total quantity of C&D materials generated from the Project is estimated to be over 50,000 m^3, a Construction and Demolition Material Management Plan (C&DMMP), including areas described in PNAP ADV-19 is required to be prepared by the Contractor. The purpose of the C&DMMP is to actively seek to minimise generation of C&D materials and to reuse inert materials generated, including rock, as far as possible. The C&DMMP shall be submitted to the Project Proponent for agreement.

Chemical Waste

5.4.9 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner.

5.4.10 It is difficult to quantify the amount of chemical wastes as it will solely depend on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilized at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be small and less than hundred litres per month. The quantity of chemical waste to be generated would be quantified in the Waste Management Plan as part of the Environmental Management Plan to be prepared by the contractor.

5.4.11 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.4.12 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed chemical waste collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Facility Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.4.13 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, waste paper, empty containers, etc. Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance. The work sites may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly. Disposal of refuse at sites other than approved waste transfer or disposal facilities can also result in similar impacts. The number of work force to be employed for the site is around 200. Based on the generation rate of 0.65kg/person/day, the estimated total refuse generated per day (maximum) would be about 130kg/day.

5.4.14 Food waste is the main source of generating unpleasant odour and causing environmental hygiene concerns. In order to reduce the amount of general refuse to be disposed into the landfill, the food waste would be collected separately for recycling and the recycling bins should be placed in prominent places to promote waste separation at-source.

Asbestos Containing Materials

5.4.15 Asbestos was widely used in the construction industry prior to the early 1980s for fireproofing, thermal and electrical insulation as well as in sound absorption materials. However, asbestos is currently recognized as hazardous materials, due to its etiological effects on human respiratory system.

5.4.16 According to the Geoinfo Map, the Application Site was mainly a natural terrain in 1982 and there are no buildings were built before 1980s, so it can be deduced that ACM are not presented within the Application Site.

5.4.17 Preliminary quantity estimation of construction waste involved and disposal method is summarised in the **Table 5.1**.

Table 5.1 Summary of Estimated Construction Waste and Disposal Method

Waste Material Type		(a) Estimated Quantity Generated (b) Quantity to be Disposed Off-site (c) Quantity of Waste Material for On-site Reuse or Recycling	Handling Arrangement/ Disposal Destination
Inert C&D Materials	Excavation for site formation	(a) 203,200 m^3 (with 80% of site area (i.e. 101,6000 m^2) and depth of 2m for site formation) (b) ~197,100 m^3 (c) ~6,100 m^3	To be reused or recycled on site or in other projects; and delivered to Public Fill Reception Facilities for other beneficial reuse, subject to the designation by the Public Fill Committee according DEVB TC(W) No. 6/2010.
	Site clearance, site formation works, construction of new buildings and infrastructures	(a) ~59,850 m^3 (b) ~59,550 m^3 (c) ~380 m^3	
Non-inert C&D Materials	Site clearance, site formation works, construction of new buildings and infrastructures	(a) ~8,550 m^3 (b) ~5,700 m^3 (c) ~2,850 m^3	To be reused, recycled or disposed of at landfill as the last resort, subject to agreement with the relevant section of the EPD.
Chemical Waste	-	Less than hundred litres/month	For treatment at licensed facilities
General Refuse	-	130 kg/day (Assuming there are 200 workers at any one time with generation rate of 0.65 kg per worker per day)	Recyclable materials (i.e. paper, plastic bottles, aluminium cans and food waste) will be collected separately for recycling, remainders will be sent to Refuse Transfer Station for compaction and then disposed of at NENT landfill

Remark: The above estimated quantities are subject to the detailed design stage.

5.5 Waste Disposal and Mitigation Measures

5.5.1 Waste generated by construction activities should be properly sorted and certain waste management requirements must be followed to minimize the impacts arising because of the generation, storage, handling, transport and disposal of wastes. Good site management and control can prevent the generation of significant amounts of "mixed waste". For unavoidable wastes, reuse, recycling and optimal disposal are most practical when segregation occurs on the construction site, categorized as follows:

- Inert C&D materials for reuse on-site or delivering to Public Fill Reception Facilities for beneficial reuse at other projects;
- Non-inert C&D materials for reuse or recycle or disposal at landfill as last resort;
- Chemical waste for treatment at licensed facilities; and
- General refuse for disposal at landfill.

C&D Material

5.5.2 Proper storage and site practices should be adopted to minimize the damage to, or contamination of, C&D materials that may reduce their recyclability and suitability for delivered to Public Fill Reception Facilities for beneficial reuse in other projects. The inert C&D materials shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials shall be reused or recycled and, as the last resort, disposed of at landfills.

5.5.3 Appropriate measures should also be employed to minimize windblown litter and dust during transportation by either covering trucks with tarpaulin or transporting wastes in enclosed containers. Waste should only be disposed at licensed sites. Resident site staff and the contractors should develop procedures to ensure that illegal disposal of waste does not occur. In addition, waste storage areas within the Project should be well maintained and cleaned regularly to prevent cross-contamination. The delivery of inert C&D materials and non-inert C&D materials to public fill reception facilities/sorting facilities/recycling facilities respectively through a trip-ticket system, while general refuse will be disposed of at landfill.

Chemical Waste and Control

5.5.4 Chemical wastes generated from the construction activities, vehicle and plant maintenance should be disposed of in strict compliance with the Waste Disposal (Chemical Waste) (General) Regulations.

5.5.5 During construction phase, the contractor which would regularly produce chemical waste, if any, shall register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The operator shall use a licensed collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi, or other licenced facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

5.5.6 The Contractor shall observe and comply with the Waste Disposal (Chemical Waste) (General) Regulation.

5.5.7 The Contractor shall apply for registration as chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation when chemical waste is expected to

be produced. All chemical waste shall be properly stored, labelled, packaged and collected in accordance with the Regulation.

General Refuse

5.5.8 For general refuse, mitigation measures should include provision of a collection area where waste can be sorted, stored and loaded prior to removal from the site during construction phase.

5.5.9 In additional, with the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would be minimal. Below are the examples of the relevant measures:-

5.5.10 Waste Minimisation

- The Contractor shall submit to the Engineer for approval a waste management plan with appropriate mitigation measures including the allocation of an area for waste segregation and shall ensure that the day-to-day site operations comply with the approved waste management plan.
- The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
- The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse/recycling of waste and, as the last resort, disposal at different outlets as appropriate.
- The reuse and recycling of waste shall be practised as far as possible.
- The Contractor shall record the amount of wastes generated, recycled and disposed of (including the disposal sites).
- The Contractor shall use a trip ticket system for the delivery of C&D materials to any designated Public Fill Reception Facilities.
- Training shall be provided for workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.
- All dump trucks engaged on-site for delivery of inert and non-inert C&D material from the site to the designated disposal location, including PFRFs, landfill etc., should be equipped with GPS or equivalent system for tracking and monitoring of their travel routings and parking locations by the Contractor to prohibit illegal dumping and landfilling of materials.
- The data collected by GPS or equivalent system should be recorded properly for checking and analysis the travel routing and parking locations of dump truck engaged on site.

Waste Nuisance Control

5.5.11 The Contractor shall not permit any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the Site onto any adjoining land or allow any waste matter (or refuse) which is not part of the final product from waste processing plants to be deposited anywhere within the Site (or onto any adjoining land). He shall arrange removal of such matter from the site (or any building erected or to be erected thereon) in a proper manner to the satisfaction of the Engineer in consultation with the Director of Environmental Protection.

5.6 Identification and Evaluation of Potential Impact during Operational Phase

5.6.1 During operational phase, since the use of the Proposed Development is educational. Disposal of chemical waste is anticipated for science laboratory lessons. Therefore, general refuse and chemical waste are the waste generated during the operation of the proposed development.

General Refuse

5.6.2 Around 1,998 kg/day for non-domestic portion (with 3,000 students and 632 staffs assumed, domestic waste amount = number of staff assumed x daily commercial & industrial waste per capita) (with the assumption based on the latest data (Year 2023) from Plate 2.7 at EPD's "Monitoring of Solid Waste in Hong Kong", at which the amount of commercial & industrial waste is 0.55 kg/person/day).

5.6.3 Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes is suggested to prevent waste materials being blown around by wind and odour nuisance.

5.6.4 For other general waste such as metal, paper, plastic and glass, recycling bins for each type of wastes will be placed to reduce waste disposal amount. Also, the waste collection frequency is recommended to be at least once a week to reduce chances of hygiene issue.

5.6.5 For wastes such as leftover, an adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Also, leftover will be placed in bags and stored in enclosed containers. Rather than disposing the food waste to the designated landfill directly, the project proponent is recommended to deliver the food waste to Organic Resources Recovery Centre (ORRC) to reduce the pressure on the existing landfill. Therefore, the chances of odour nuisance and hygiene issue are reduced.

Chemical Waste

5.6.6 School laboratory which would regularly produce chemical waste, if any, shall register with EPD as a Chemical Waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The operator shall use a licensed chemical collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

5.7 Conclusion

5.7.1 Waste generated during construction works and operational phase have been qualitatively evaluated. With these waste managements in place, the waste generated from the construction work and operation of the proposed development would be properly controlled and no adverse waste management impact is anticipated.

6. WATER QUALITY IMPACT ASSESSMENT

6.1 Construction Phase

6.1.1 The management and mitigation strategy of the sewage generated from the construction work of the Proposed Development would be addressed. Where appropriate, environmental control measures for avoiding and minimizing the potential impacts are recommended. **Figure 6.1** shows the water sensitive receivers (WSR) which are ponds and natural stream within the 500m study area of the Subject Site. The potential Water Quality Impact (WQI) during the construction and operation phase of the Proposed Development is addressed in the following section. The information of each WSR is also discussed in **Table 6.1**.

Table 6.1 Information of Water Sensitive Receivers

ID	Description	Type	Status
W1	Kwu Tung Reservoir	Reservoir	Active
W2	Sheung Yue River	River	Active
W3	2 Ponds	Pond	Active
W4	Tam Shui Hang	River	Active

6.2 Legislations, Standards and Guidelines

6.2.1 The key legislations, standards and guidelines applicable to construction and operation phase water quality impacts include:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters (TM-DSS)
- ProPECC PN 1/23 Drainage Plans subject to Comment by the Environmental Protection Department – Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines)
- ProPECC PN 2/24 Construction Site Drainage
- ETWB Technical Circular (Works) No. 5/2005 Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Water Quality Objectives

<u>Water Pollution Control Ordinance (Cap. 358)</u>

6.2.2 The Water Pollution Control Ordinance (WPCO) (Cap. 358) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs). Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in the WCZ based on their beneficial uses. The assessment area is located within Deep Bay WCZ.

Technical Memorandum

6.2.3 Besides setting the WQOs, discharge of effluents into the WCZs are subject to control under the WPCO through a licensing system. The "Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters" (TM-DSS) gives guidance on the permissible effluent discharges based on the type of receiving waters (foul sewers, stormwater drains, inland and coastal waters). The limits control the physical, chemical and microbial quality of effluents. Any sewage from the proposed construction and operation activities must comply with the required discharge standards for effluents discharged into the foul sewers, inland waters and coastal waters of Deep Bay WCZ, as given in the TM-DSS. Group D discharge standard is considered relevant to this Project.

Practice Note

6.2.4 A Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) was issued by the EPD to provide guidelines for handling and disposal of construction site discharges. The ProPECC PN 2/24 "Construction Site Drainage" provides good practice guidelines for dealing with 10 types of discharge from construction sites. These include surface run-off, groundwater, boring and drilling water, wastewater from concrete batching and/or precast concrete casting, wheel washing water, bentonite slurry, water for testing and sterilisation of water retaining structures and water pipes, wastewater from building constructions, acid cleaning, etching and pickling wastewater, and wastewater from site facilities. Practices given in the ProPECC PN 2/24 should be followed as far as possible during construction to minimise the water quality impact due to construction site drainage.

6.2.5 The ProPECC PN 1/23 "Drainage Plans subject to Comments by Environmental Protection Department" provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN 1/23.

ETWB Technical Circular (Works) No. 5/2005 Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works

6.2.6 ETWB Technical Circular (Works) No. 5/2005 provides an administrative framework to better protect all natural streams/rivers from the impacts of construction works. The procedures promulgated under this Circular aim to clarify and strengthen existing measures for protection of natural streams/rivers from government projects and private developments. The guidelines and precautionary mitigation measures given in the ETWB TC (Works) No. 5/2005 should be followed as far as possible to protect the inland watercourse at or near the Project area during the construction phase.

Hong Kong Planning Standards and Guidelines (HKPSG)

6.2.7 Section 5 in Chapter 9 of HKPSG "Environment" provides policy objectives for planning against water pollution, guidelines for potentially water polluting uses and guidelines for water sensitive uses to achieve and maintain water bodies quality to be used for their legitimate purpose, provide adequate public sewerage, wastewater treatment and wastewater disposal facilities and aim at safeguarding community health and welfare. The guidelines given in Chapter 9 of HKPSG should be followed as far as possible to maintain water quality and against water pollution.

Water Quality Objectives

6.2.8 The Water Pollution Control Ordinance (WPCO) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs) and four supplementary WCZs under the Water Pollution

Control Ordinance (WPCO) (Cap. 358). Each WCZ has a designated set of statutory Water Quality Objectives (WQOs) designed to protect the inland and/or marine environment and its users. The Subject Site is located in the Deep Bay WCZ. The corresponding WQOs are summarised in the table below. Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in each WCZ based on their beneficial uses.

Table 6.2 Water Quality Objectives for Deep Bay Water Control Zones

Parameters	Objectives	Sub-Zone
Aesthetic appearance	(a) Waste discharges shall cause no objectionable odours or discolouration of the water.	Whole zone
	(b) Tarry residues, floating wood, articles made of glass, plastic, rubber or of any other substances should be absent.	Whole zone
	(c) Mineral oil should not be visible on the surface. Surfactants should not give rise to a lasting foam.	Whole zone
	(d) There should be no recognisable sewage-derived debris.	Whole zone
	(e) Floating, submerged and semi-submerged objects of a size likely to interfere with the free movement of vessels, or cause damage to vessels, should be absent.	Whole zone
	(f) Waste discharges shall not cause the water to contain substances which settle to form objectionable deposits.	Whole zone
Bacteria	(a) The level of *Escherichia coli* should not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in one calendar year.	Secondary Contact Recreation Subzone and Mariculture Subzone (L.N. 455 of 1991)
	(b) The level of *Escherichia coli* should be zero per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(c) The level of *Escherichia coli* should not exceed 1000 per 100 ml, calculated as the running median of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
	(d) The level of *Escherichia coli* should not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive in one calendar year. Samples should be taken at least 3 times in a calendar month at intervals of between 3 and 14 days.	Yung Long Bathing Beach Subzone (L.N. 455 of 1991)
Colour	(a) Waste discharges shall not cause the colour of water to exceed 30 Hazen units.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the colour of water to exceed 50 Hazen units.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters

Parameters	Objectives	Sub-Zone
Dissolved Oxygen	(a) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 milligrams per litre for 90% of the sampling occasions during the year; values should be taken at 1 metre below surface.	Inner Marine Subzone excepting Mariculture Subzone
	(b) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 milligrams per litre for 90% of the sampling occasions during the year; values should be calculated as water column average (arithmetic mean of at least 2 measurements at 1 metre below surface and 1 metre above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 milligrams per litre within 2 metres of the seabed for 90% of the sampling occasions during the year.	Outer Marine Subzone excepting Mariculture Subzone
	(c) The dissolved oxygen level should not be less than 5 milligrams per litre for 90% of the sampling occasions during the year; values should be taken at 1 metre below surface.	Mariculture Subzone
	(d) Waste discharges shall not cause the level of dissolved oxygen to be less than 4 milligrams per litre.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone, Water Gathering Ground Subzones and other inland waters of the Zone
pH	(a) The pH of the water should be within the range of 6.5-8.5 units. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.2 units.	Marine waters excepting Yung Long Bathing Beach Subzone
	(b) Waste discharges shall not cause the pH of the water to exceed the range of 6.5-8.5 units.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(c) The pH of the water should be within the range of 6.0-9.0 units.	Other inland waters
	(d) The pH of the water should be within the range of 6.0-9.0 units for 95% of samples. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.5 units.	Yung Long Bathing Beach Subzone
Temperature	Waste discharges shall not cause the natural daily temperature range to change by more than 2.0 degrees Celsius.	Whole Zone
Salinity	Waste discharges shall not cause the natural ambient salinity level to change by more than 10%	Whole Zone
Suspended solids	(a) Waste discharges shall neither cause the natural ambient level to be raised by 30% nor give rise to accumulation of suspended solids which may adversely affect aquatic communities.	Marine waters
	(b) Waste discharges shall not cause the annual median of suspended solids to exceed 20 milligrams per litre.	Yuen Long & Kam Tin (Upper and Lower) Subzones, Beas Subzone, Ganges Subzone, Indus

Parameters	Objectives	Sub-Zone
		Subzone, Water Gathering Ground Subzones and other inland waters
Ammonia	The un-ionized ammoniacal nitrogen level should not be more than 0.021 milligram per litre, calculated as the annual average (arithmetic mean).	Whole Zone
Nutrients	(a) Nutrients shall not be present in quantities sufficient to cause excessive or nuisance growth of algae or other aquatic plants.	Inner and Outer Marine Subzones
	(b) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.7 milligram per litre, expressed as annual mean.	Inner Marine Subzone
	(c) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.5 milligram per litre, expressed as annual water column average (arithmetic mean of at least 2 measurements at 1 metre below surface and 1 metre above seabed).	Outer Marine Subzone
5 day biochemical oxygen demand	(a) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 3 milligrams per litre.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 5 milligrams per litre.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Chemical oxygen demand	(a) Waste discharges shall not cause the chemical oxygen demand to exceed 15 milligrams per litre.	Yuen Long & Kam Tin (Upper) Subzone, Beas Subzone, Indus Subzone, Ganges Subzone and Water Gathering Ground Subzones
	(b) Waste discharges shall not cause the chemical oxygen demand to exceed 30 milligrams per litre.	Yuen Long & Kam Tin (Lower) Subzone and other inland waters
Toxins	(a) Waste discharges shall not cause the toxins in water to attain such levels as to produce significant toxic carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone
	(b) Waste discharges shall not cause a risk to any beneficial uses of the aquatic environment.	Whole Zone
Phenol	Phenols shall not be present in such quantities as to produce a specific odour, or in concentration greater than 0.05 milligrams per litre as C_6H_5OH.	Yung Long Bathing Beach Subzone
Turbidity	Waste discharges shall not reduce light transmission substantially from the normal level.	Yung Long Bathing Beach Subzone

6.3 Construction Phase Water Quality Impacts

6.3.1 Site construction activities will inevitably have the potential to generate wastewater. Such works should be carried out in such a manner to minimise potential impacts on the water quality. Pollution sources could include:

- General construction activities;
- Construction works in close proximity to inland watercourses;
- Construction runoff;
- Sewage effluent from the construction workforce; and
- Accidental spillage of chemicals.

General Construction Activities

6.3.2 Debris and rubbish generated on site shall be collected, handled and disposed of properly. All fuel tanks shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Open storm water drains and culverts near the works area shall be covered to block the entrance of large debris and refuse.

Construction works in close proximity to inland watercourses

6.3.3 Construction activities such as site formation, earthwork and excavation within the Project site have the potential to impact nearby inland watercourses through the release of discharges and runoff laden with suspended solids and other pollutants. Mitigation measures should be devised and implemented for construction work that is in close proximity to natural rivers and streams, alternation or diversion of watercourses (WSR2) within or in close proximity to the project site would be conducted, in order to reduce the potential for construction site discharges polluting the receiving water quality.

Construction Runoff

6.3.4 The surface runoff from construction works areas may contain increased loads of suspended solids (SS) and contaminants. Potential sources of pollution from construction site drainage include:

- Runoff and erosion from site surfaces, drainage channels, demolition works, earth working areas and stockpiles;
- Release of any bentonite slurries, concrete washings and other grouting activities;
- Wash water from dust suppression spray facilities; and
- Fuel, oil, solvents and lubricants from maintenance of mechanical equipment.

6.3.5 Sediment laden runoff particularly from works areas subjected to excavation or earth works, if uncontrolled, may cause increased levels of suspended solids and pollutants entering the stormwater drainage system and into the marine environment.

6.3.6 Mitigation measures and good site practices outlined in ProPECC PN 1/94 should be implemented to control construction site runoff and drainage from the works area. The Contractor would also be required to apply for a discharge license under the WPCO. With implementation of the recommended mitigation measures along with compliance of the effluent standards set under TM-DSS, construction site runoff can be effectively controlled, and adverse impacts to storm drains or the marine environment is not anticipated.

Sewage effluent from the construction workforce

6.3.7 The sewage from construction workforce is expected to be handled by portable chemical toilets. To prevent additional pollution loads to the watercourse, portable chemical toilets shall be provided by licensed contractors who shall be responsible for appropriate disposal of collected sewage and maintenance of these facilities. Guidelines shall be prepared by contractor to avoid the illegal discharge of untreated sewage from the workforce. Adequate number of portable chemical toilet should be provided to ensure the sewage effluent from workforce is proper collected.

Accidental spillage of chemicals

6.3.8 All fuel tanks shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The contractors shall prepare guidelines of immediate clean-up actions for any spillage of oil, fuels and chemical. Only trained personnel with safety and protective equipment shall be allowed to handling the chemical spillage. Absorbent material for cleaning up the spills shall be disposed of as chemical waste.

6.4 Best Management Practices (BMPs) for Stormwater Discharge

General Construction Activities

6.4.1 The site practices outlined in ProPECC PN 2/24 Construction Site Drainage should be adopted as far as practicable to minimise the potential water quality impacts from various construction activities and construction site runoff. Extra attention should be paid for works areas which are in close proximity to the water sensitive receivers.

Wheel washing facilities

6.4.2 The wheels of all vehicles should be washed before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable. Wash water should be recycled whenever possible to minimise the generation of wastewater and should have sand and silt removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.

6.4.3 There will be need for the Contractor to apply to the EPD for a wastewater discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license.

Wastewater from solid waste

6.4.4 Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering to the nearby watercourses. Stockpiles of cement and other construction materials should be kept covered when not being used.

6.4.5 Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area. It is recommended to clean up the construction waste on a regular basis for good site practice.

Construction Runoff

6.4.6 In order to meet the requirements of the Technical Memorandum standard under the Water Pollution Control Ordinance, surface runoff from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, and sedimentation basins.

6.4.7 Exposed slope/soil surfaces should be covered by a tarpaulin or similar material during rainstorms to prevent the washing away of construction materials into any drainage system, watercourses and inshore water. Other measures which are proposed to be implemented before, during, and after rainstorms, as appropriate, are summarized in ProPECC PN 2/24. The surface run-off from construction sites as detailed below shall also be incorporated into the construction site drainage where practicable as an integral part of good practice:

- Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/ silt removal facilities such as sand traps, and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary.
- Silt removal facilities, channels and manholes should be maintained, and the deposited silt and grit should be removed regularly.
- Construction work should be programmed to minimize soil excavation works in rainy seasons (April to September). If excavation in soil could not be avoided in these months, temporarily exposed slope surfaces should be covered, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds.
- Earthworks final surfaces should be well compacted, and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed.
- Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.
- Open stockpiles of construction materials (e.g., aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- Precautions should be taken at any time of year when rainstorms are likely; actions should be taken when rainstorms are imminent or forecasted, and during or after rainstorms.

6.5 Potential Operation Phase Water Quality Impacts

6.5.1 According to the major operation phase activities in the Proposed Development, the key potential water quality impact is due to the surface runoff and treated effluent discharge from the Proposed Development. Natural stream is identified along the western and southern boundary of Proposed Development, which will be maintained and undisturbed.

6.5.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

6.5.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling, treatment and disposal of various effluent discharges to stormwater drains and foul

sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage in covered carparks should be connected to foul sewers via petrol interceptors.
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed.
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

6.6 Surface Runoff Discharge

6.6.1 During operation, potential water quality impact would be the surface runoff during rainfall events which is known as non-point source of pollution. Substances such as vehicle dust, scraps and oil may be deposited on paved road surface. Fallen leaves, particles, litter from open areas/ landscape areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. No fertilizers and pesticides will be routinely used for vegetation management. Pollutants contributed by non-point source are often bound or adsorbed onto particles, thus an effective storm water management system will be the removal of pollution sources prior to rainstorm and the provision of degritting/ screening facilities that collect sediment. As particles settle out, the associated pollutants will also settle out (then removed from stormwater).

6.6.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

6.6.3 Relevant assessment on the total peak flow of stormwater of the Proposed Development and the capacity of proposed drainage system are provided in a separate Drainage Impact Assessment.

6.7 Treated Effluent from On-Site Sewage Treatment Plants

6.7.1 As discussed in Sewerage Impact Assessment (SIA), there is no public sewerage system at the vicinity of the Application Site. 2 sewage treatment plants with design capacity of 705.7 m^3/day and 380.3 m^3/day are proposed to treat the sewage generated from the proposed development.

6.7.2 The exact treatment process would be subject to later detailed design and submissions. It will be necessary for the treatment facilities to achieve the necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.

6.7.3 Membrane bioreactor with ultra-filtration (MBR) is generally recommended to achieve required effluent discharge standard and sludge dewatering system will be provided and designed in accordance with the requirement in the "Guidelines for the Design of Small Sewage Treatments Plants" issued by EPD.

6.7.4 Sludge storage tank with deodorisation facilities will be provided. Exhaust fan will be located and facing away from existing and planned air sensitive uses. The sludge after having been dewatered and thickened will be tanked away to the landfill for disposal subject to confirmation with future licensed collector/contractor. As good practice for sewage treatment facilities, measures will be incorporated into the design to minimize the risk of emergency overflow from the treatment plant. These measures will include

standby pumps, secure power supplies and appropriate alarms, as well as comprehensive Operation and Maintenance procedures, to keep the facilities in good working order. Holding tank for emergency storage/retention will be included with adequate capacity (e.g. to store 6-hours of ADWF discharge) to minimise need of emergency discharge. In the event of any emergency overflow, on-call crews will follow the overflow emergency response plan and proceed with the best response to correct the problem immediately. For example, the alarm system will be activated once overflow occurs. The on-call crews will provide instant response by acknowledging the alarm, to investigate the cause of overflow and correct the problem. The alarm system will repeat until it is acknowledged. In addition, the on-call crews will ensure the standby pump is switched on and contain the overflowed sewage using temporary weirs or vacuum trucks, where applicable.

6.7.5 The treated effluent from the STP will be discharged to the Sheung Yue River.

6.7.6 Apart from the WQOs, Section 21 of the WPCO also specifies the limits to control the physical, chemical and microbial parameters for effluent discharges into drainage and sewage system at both inland and coastal waters under the TM-DSS.

6.8 Conclusion

6.8.1 Water pollution sources during the construction and operational phase of the proposed development are identified.

6.8.2 With the implementation of different measures for treating stormwater, foul water and sewage effluents from the Proposed Development before discharging to the vicinity, adverse water quality impact during the construction and operation phase is not anticipated.

7. CONCLUSION

7.1.1 The key environmental issues associated with both operation and construction phase of the Application Site are qualitatively discusses in this report.

Noise

7.1.2 Most noise sensitive uses (including classroom, office, sports complex, gymnasium, retail, clinic, student shop and club) within the Proposed Development will be centrally air-conditioned and do not require opened windows as means of ventilation under normal circumstances. As such, they should unlikely be affected by road traffic noise.

7.1.3 For noise sensitive uses like student and staff dormitory, the noise sensitive facades / location of openable windows would be designed facing away from the main noise sources as practicable as possible so that the future occupants would not be subject to adverse road traffic noise impact. In addition, detailed road traffic noise impact assessment shall be conducted in next application stage in order to avoid any road traffic noise underestimation from surrounding roads.

7.1.4 According to the observation during site visit, two open storage & parking sites for heavy machinery to the north and south of the site are identified, and no loading/unloading activities is found in the parking site. Therefore, road traffic noise would be the major noise source after completion of the Approved Development. Nevertheless, similar with the section for road traffic noise impact assessment, detailed industrial noise impact assessment shall be conducted in next application stage in order to avoid any industrial noise underestimation from potential industrial sources.

7.1.5 In order to ensure that the fixed sources noise generated by the Proposed Development would not cause excessive impact to the neighbouring noise sensitive uses, the ventilation and air conditioning systems for the carpark, potential noise sources from the Proposed Development (e.g. public address systems (PA systems) and sports activities, plant room etc. will be carefully designed and installed to comply with relevant fixed source noise standards under Chapter 9 of HKPSG.

7.1.6 With the recommended use of noise mitigation measures, together with inclusion of "*Recommended Pollution Control Clauses for Construction Contracts*" in works contract, construction noise impact should be minimised and under control.

Air Quality

7.1.7 Onsite surveys were conducted on 15 August 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. In addition, according to the latest design and available information, no chimney or other polluting uses within Proposed Development and 500m assessment area is proposed. As such, it is anticipated that the Proposed Development and existing air sensitive receivers would not be subject to adverse industrial emission impact.

7.1.8 The recommended buffer distance requirement for Private Roads (P1 & P2), Hang Tau Road and San Tin Section of Northern Metropolis Highway in the HKPSG would be complied. For the Proposed Public Road, a portion of the application site is within 5m buffer distance, however, no air sensitive uses of Proposed Development (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance. In conclusion, there would be no air sensitive uses within the above-mentioned 5m buffer zones from Proposed Public Road, Private Roads (P1 & P2) and Hang Tau Road, and 20m buffer zones from San Tin Section of Northern Metropolis Highway. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.

7.1.9 Carpark has been proposed for the Proposed Development. The air quality inside the basement carpark shall satisfy the air pollutant standards as recommended by the ProPECC PN 2/96 Control of Air Pollution in Car Parks. Therefore, the mechanical ventilation system and layout the basement carpark shall be properly designed. Furthermore, the exhaust outlet of the mechanical ventilation system of the basement carpark shall also be designed by facing away from the nearest air sensitive uses as practicable as possible to ensure not to cause a nuisance to the occupants/ residents of the air sensitive uses including the surrounding developments and the Proposed Development.

7.1.10 F&B areas will be provided in the Proposed Development. Exhaust hoods and grease trap will be provided and the air change rate for the F&B area will be designed according to the standard of kitchen as stipulated in Building Department's Practice Note for Authorized Persons (PNAP). Potential odour emissions will be minimised as far as practicable.

7.1.11 Desktop Studies and onsite survey have been conducted to identify the potential odour sources. According to the site survey conducted on 15 August 2025 (between noon to 2pm, 28.2°C air temperature and 95% relative humidity) to identify the potential odour sources, there is no identifiable odour were detected in the vicinity of the Application Site. It is anticipated that the Application Site would not be subject to adverse odour impact

Land Contamination

7.1.12 A site appraisal, in the form of desktop review and site walkover, had been carried out in August 2025 to identify the past and current potentially contaminating land uses within the Application Site. Based on the desktop study and site appraisal, some areas of the Application site are inaccessible and therefore, site re-appraisal shall be conducted when the site is accessible or in the detailed design stage.

Waste Management

7.1.13 Waste generated during construction works and operational phase have been qualitatively evaluated. With these waste managements in place, the waste generated from the construction work and operation of the proposed development would be properly controlled and no adverse waste management impact is anticipated.

Water Quality

7.1.14 Water pollution sources during the construction and operational phase of the proposed development are identified.

7.1.15 With the implementation of different measures for treating stormwater, foul water and sewage effluents from the Proposed Development before discharging to the vicinity, adverse water quality impact during the construction and operation phase is not anticipated.

Figure

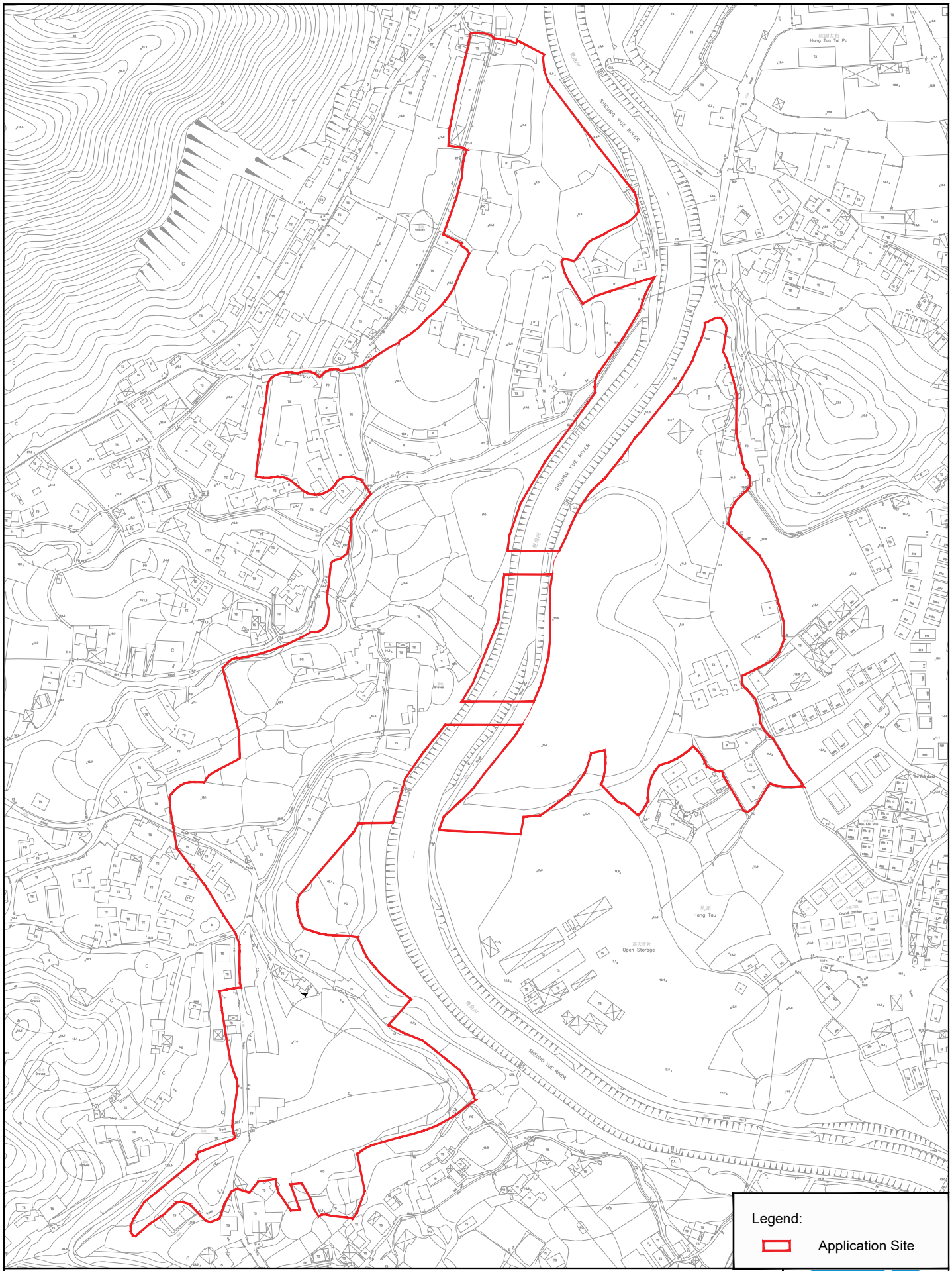

Figure: 1.1

Title: Location of the Application Site and its environs.

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

Q:\Projects\HENKTSISEI00\05 Assessments\01 Air\AirNoise_251003.dwg

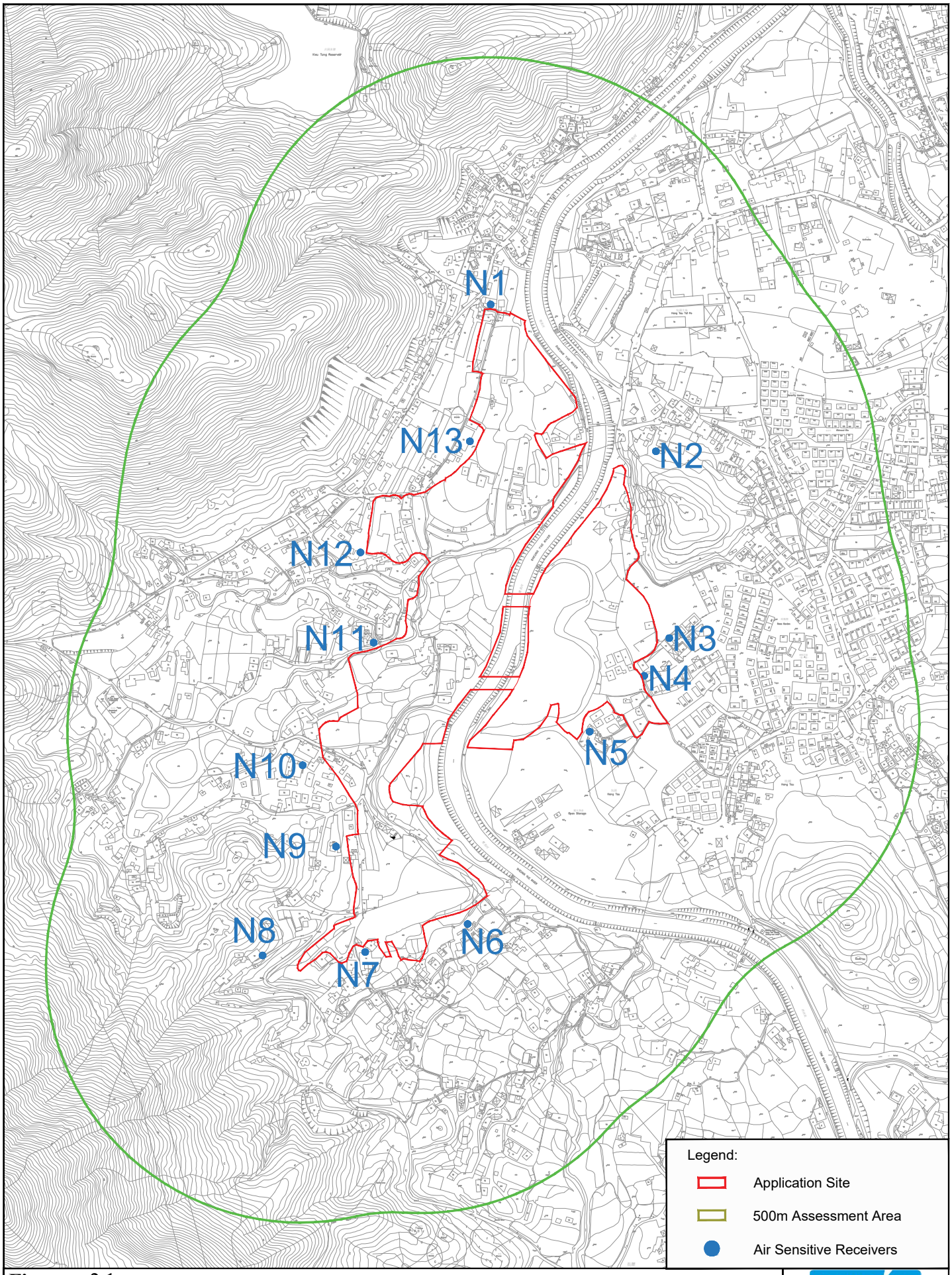

Figure: 2.1

Title: Location of Representative Noise Sensitive Receivers

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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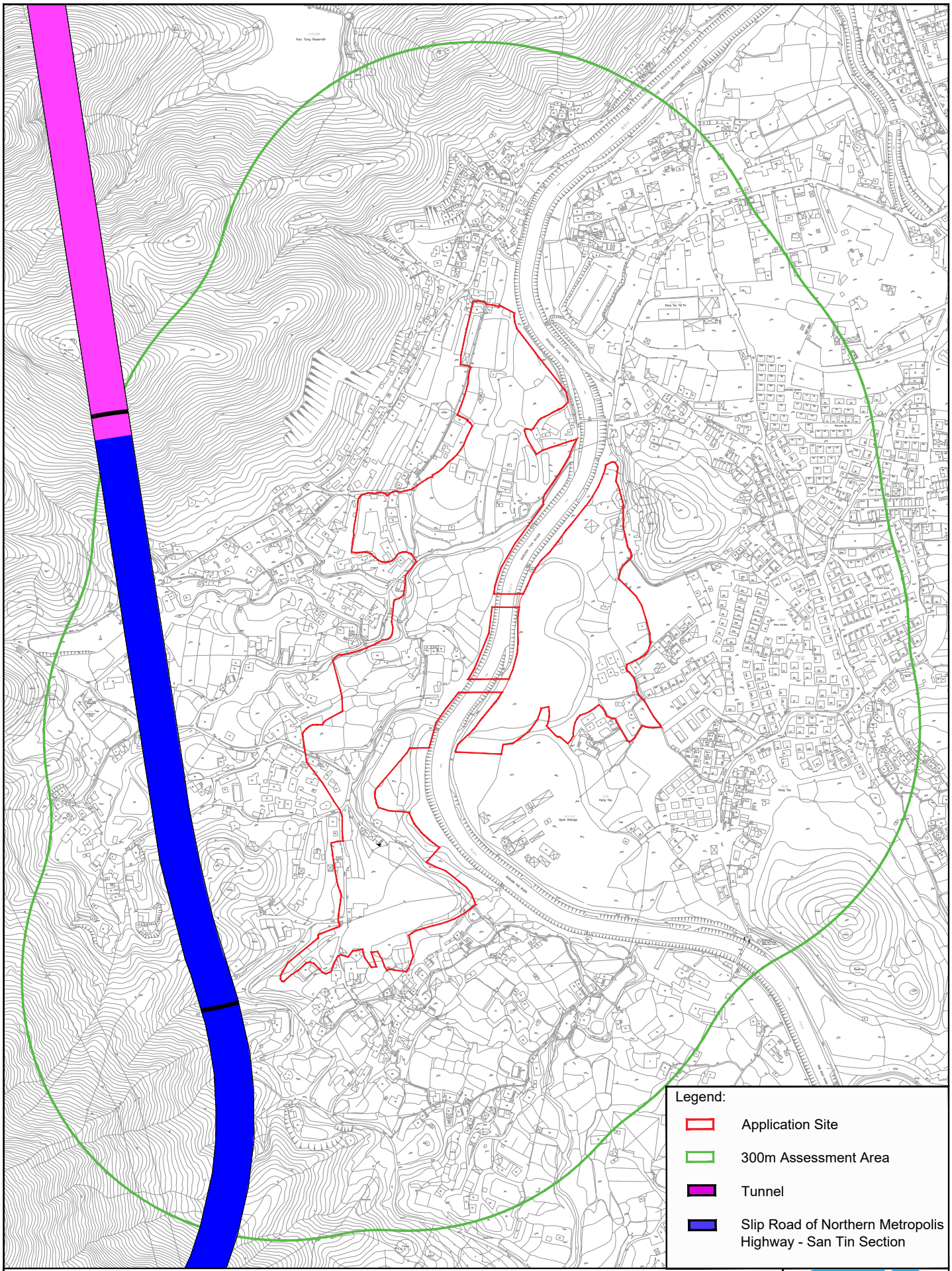

Figure: 2.2

Title: Location of Transport Infrastructure - San Tin Section of Northern Metropolis Highway

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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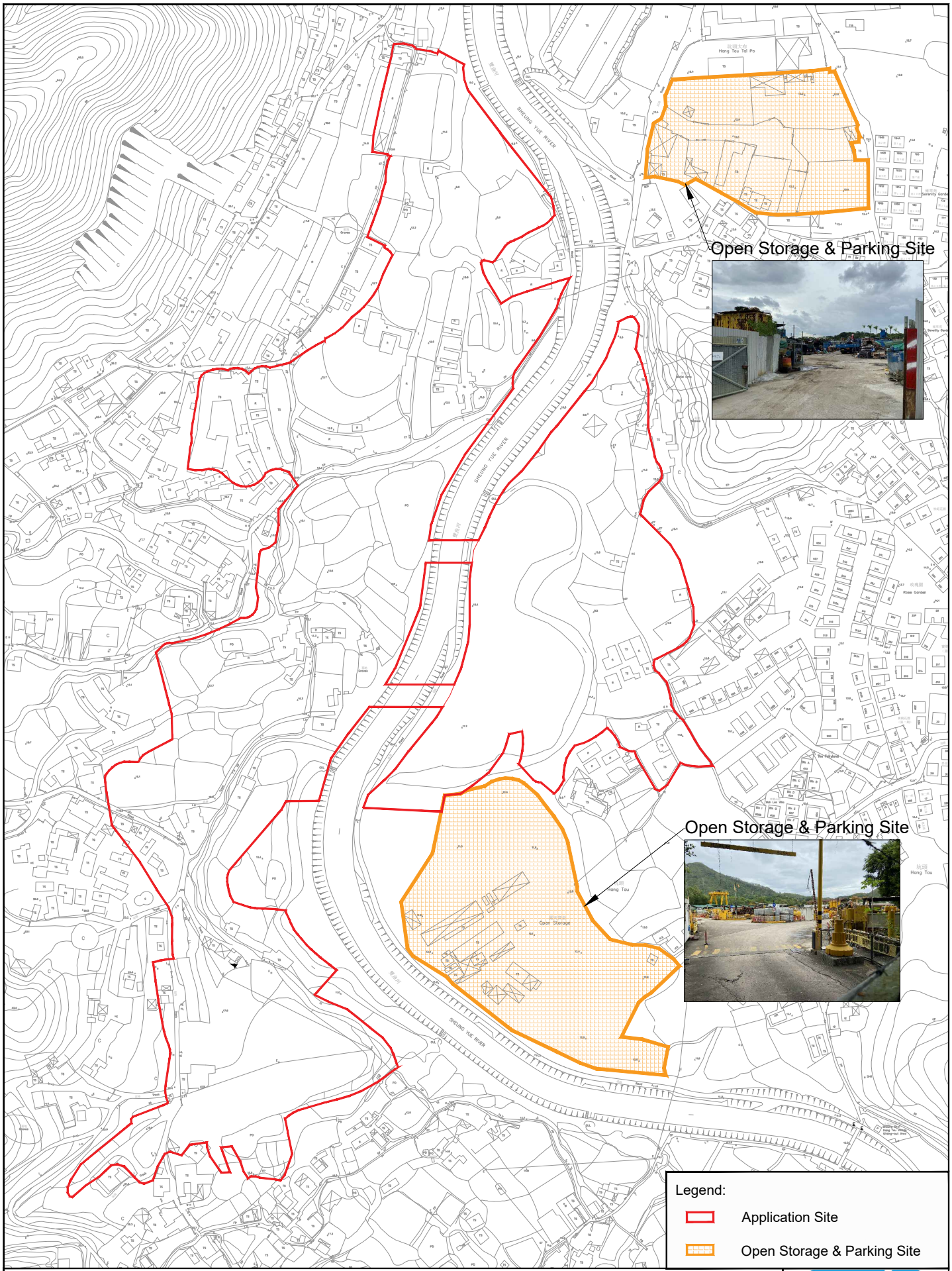

Figure: 2.3

Title: Location of Potential Industrial Sources - Open Storage & Parking Sites

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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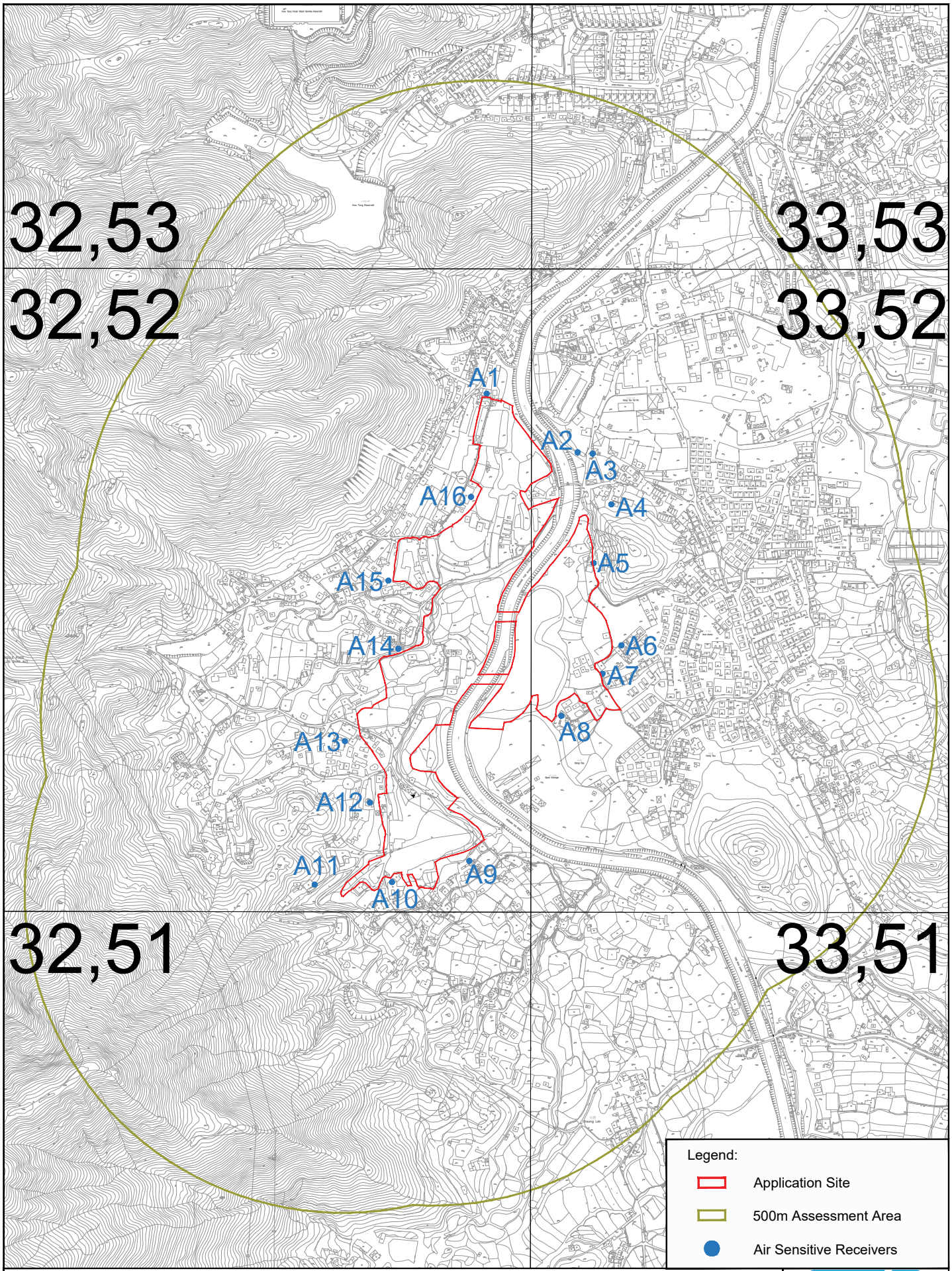

Figure: 3.1		RAMBOLL
Title: Location of Representative Air Sensitive Receivers	Drawn by:	TL
	Checked by:	TC
Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories	Rev.:	1.1
	Date:	Jan 2026

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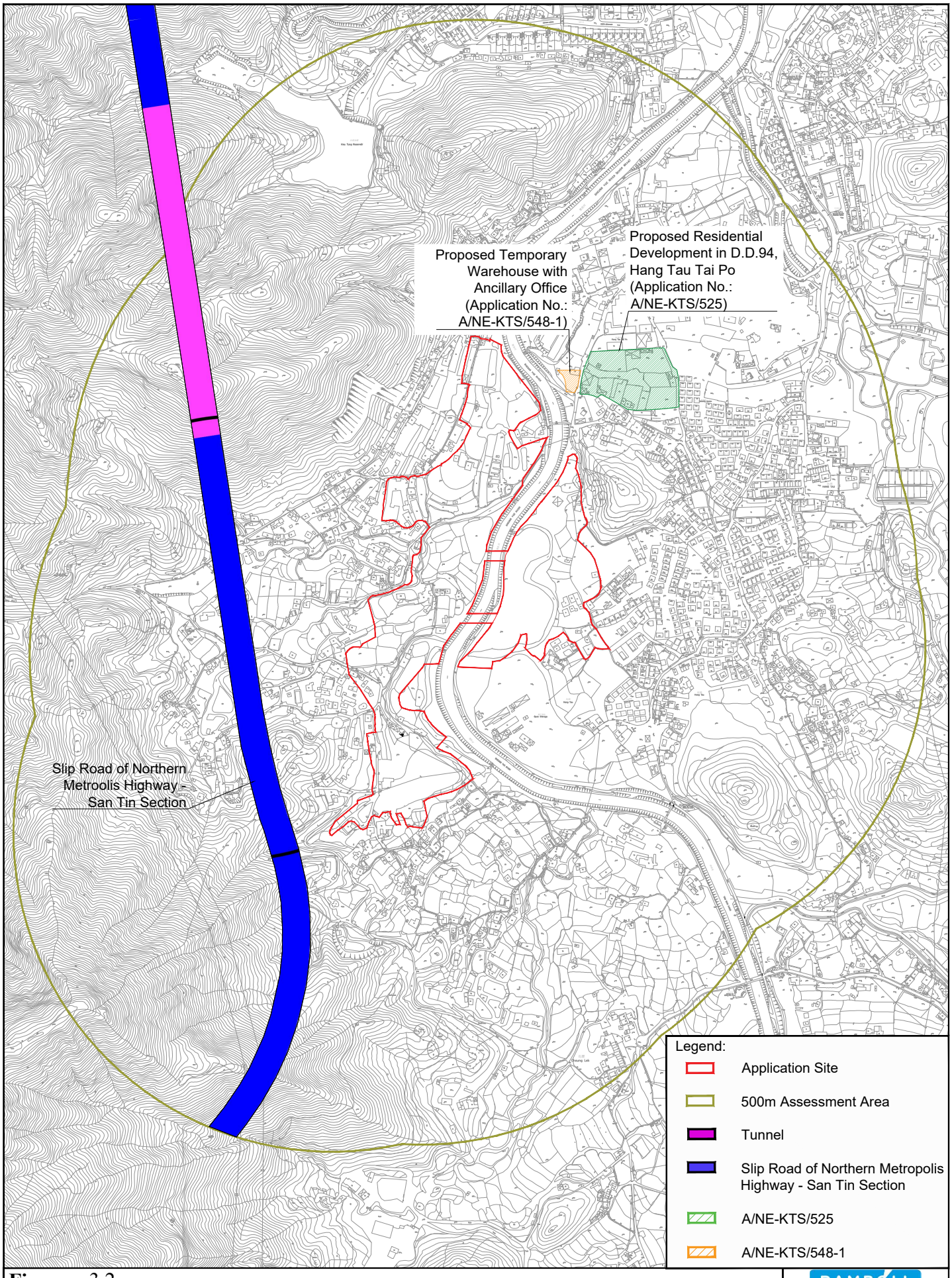

Figure: 3.2

Title: Location of the Potential Concurrent Project

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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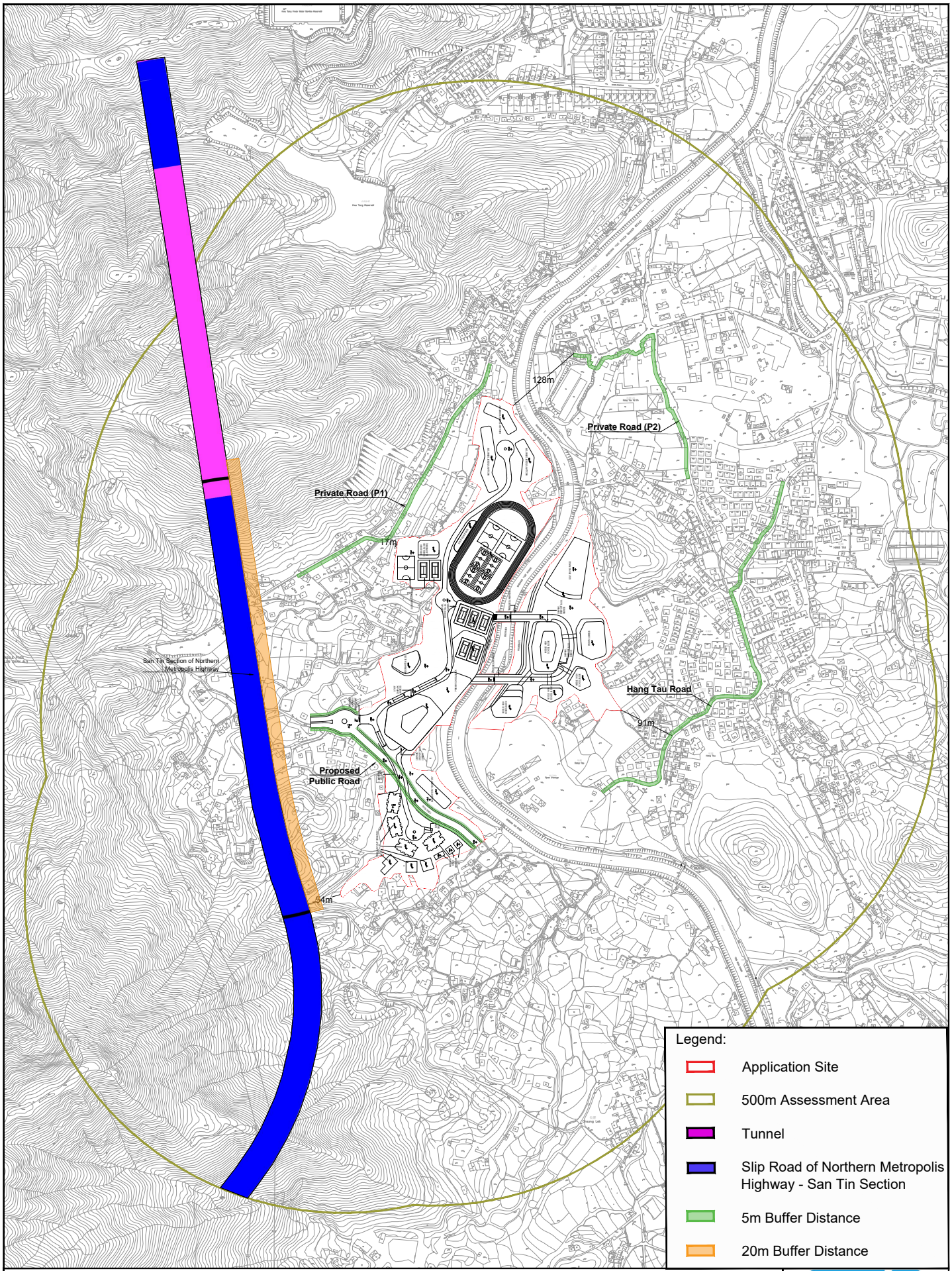
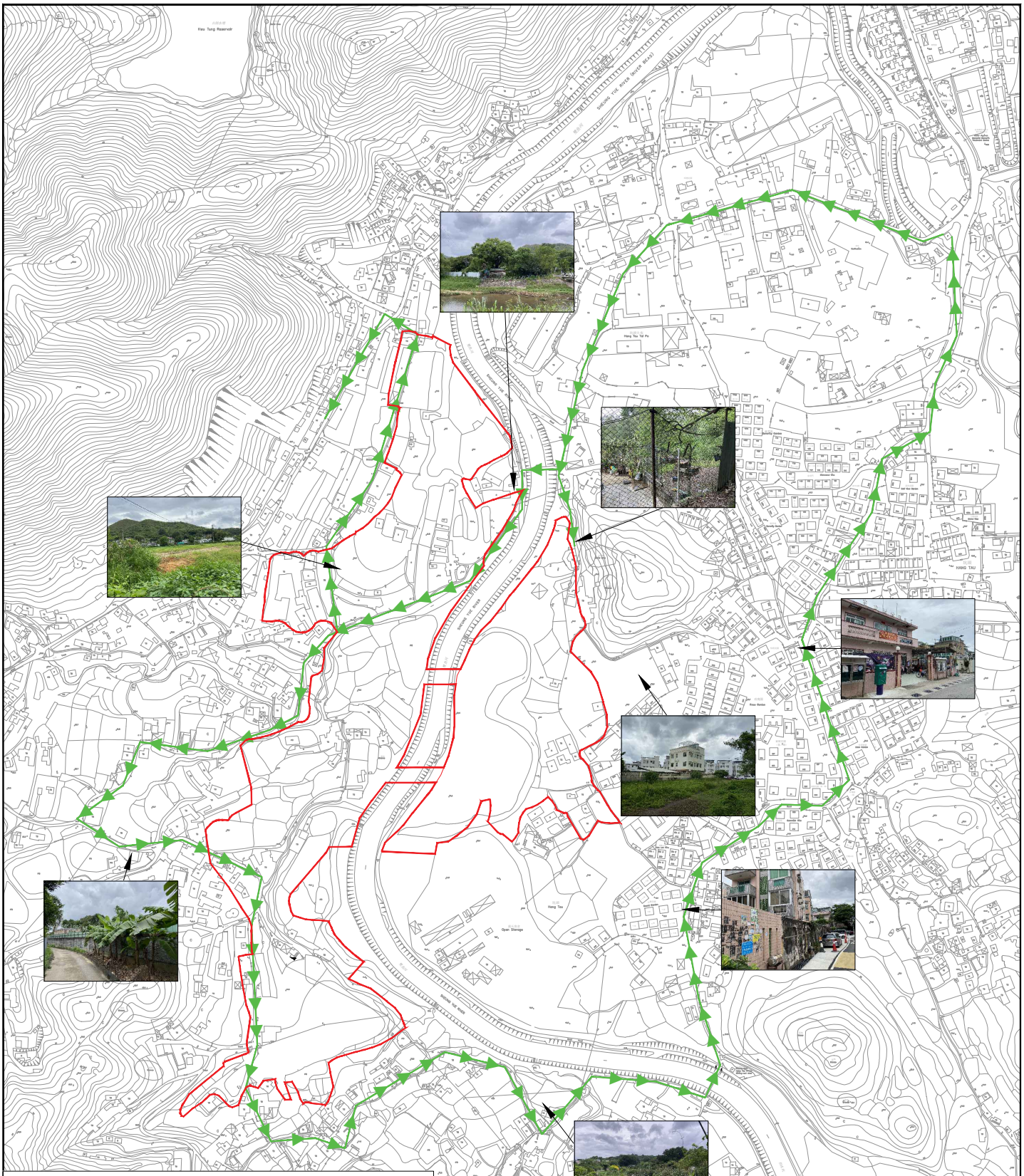


Figure:	3.3	RAMBOLL
Title:	Buffer Distances between Kerb Side of Nearest Carriageways and Application Site	Drawn by: TL Checked by: TC
Project:	Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories	Rev.: 1.1 Date: Jan 2026

Q:\Projects\HENKTSISEI00\05 Assessments\01 Air\AirNoise_251003.dwg



Details of Site Inspection
Date: 15 August 2025
Time: Between noon to 2 P.M.
Temperature: 28.2°C
Relative Humidity: 95%
Observation: No potential odour sources or odour were identified along the boundary of Application Site.

Legend:
- Application Site
- Inspection Route

Figure: 3.4	RAMBOLL
Title: Odour Inspection Route	Drawn by: TL
	Checked by: TC
Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories	Rev.: 1.1
	Date: Jan 2026

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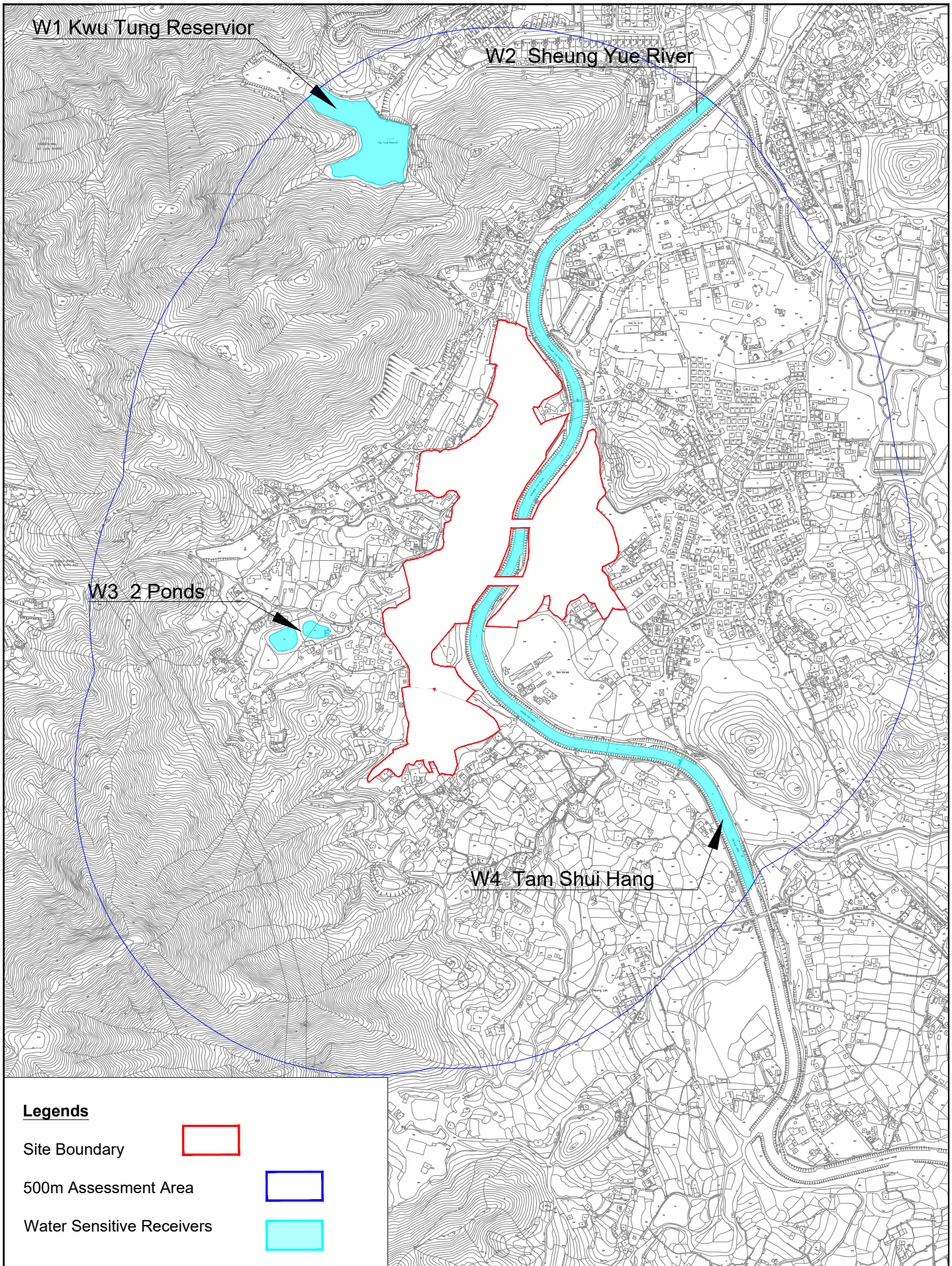


Figure: 6.1

Title: Water Sensitive Receivers

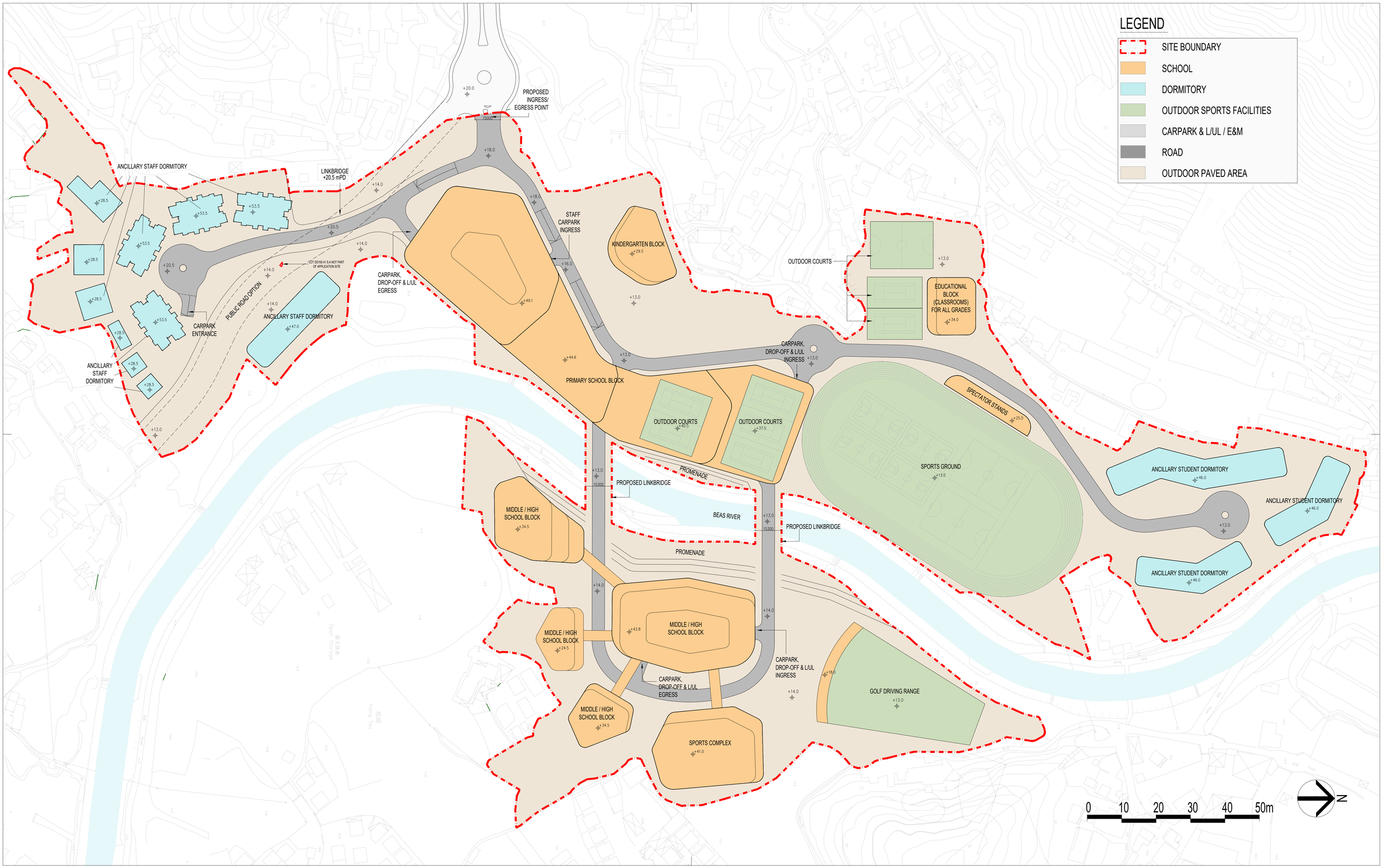
Project: Proposed School at Various Lots in D.D. 94, 98 &100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	SC
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

Q:\Projects\HENKTSISEI00\05 Assessments\07 Water\WSR.dwg

Appendix 1.1 Master Layout Plans



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_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
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Approved JHY Date 11-2025

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RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
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Project Title

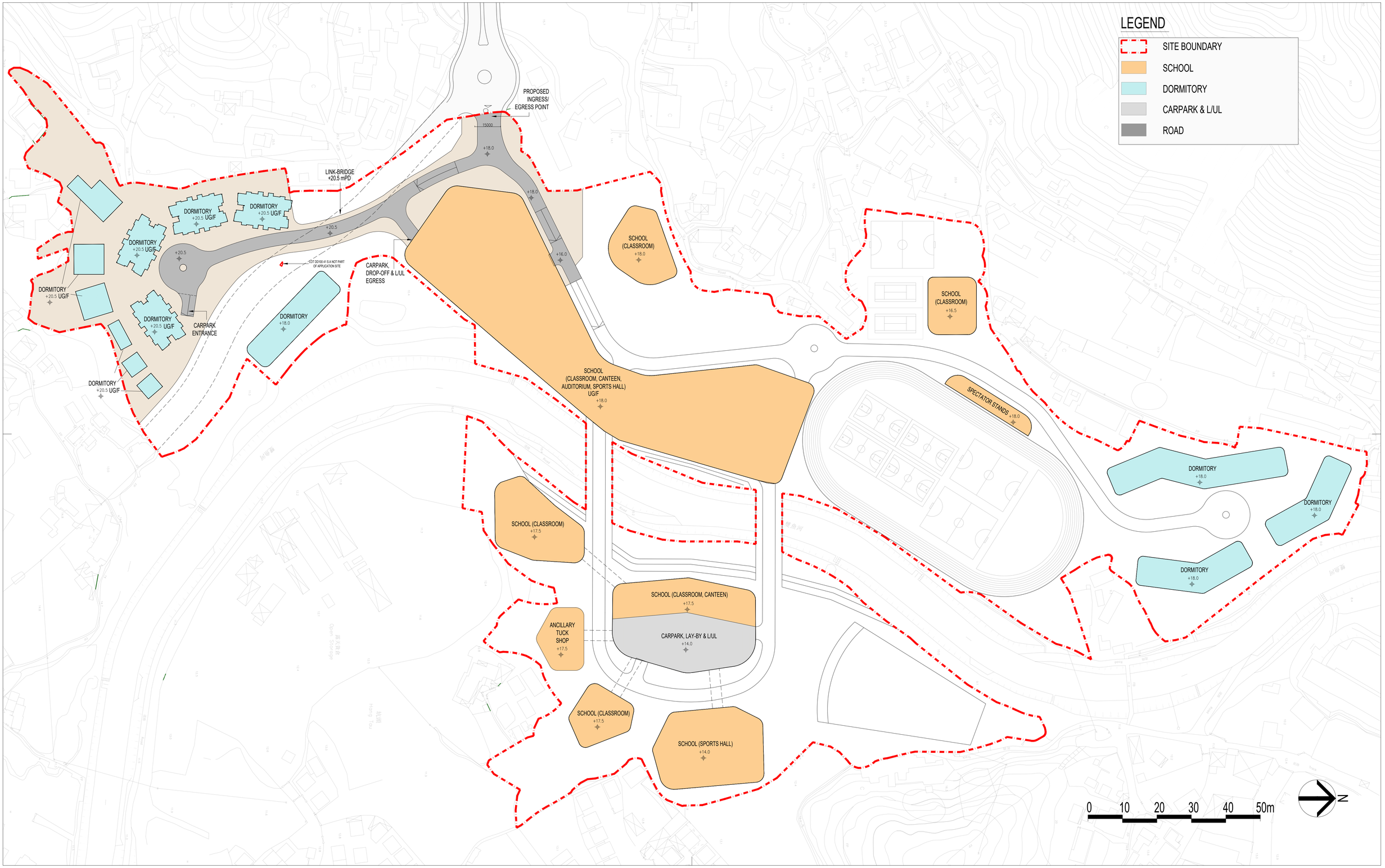
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



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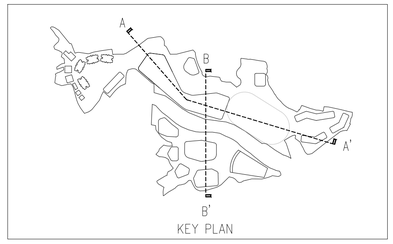
Project Title

Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_03

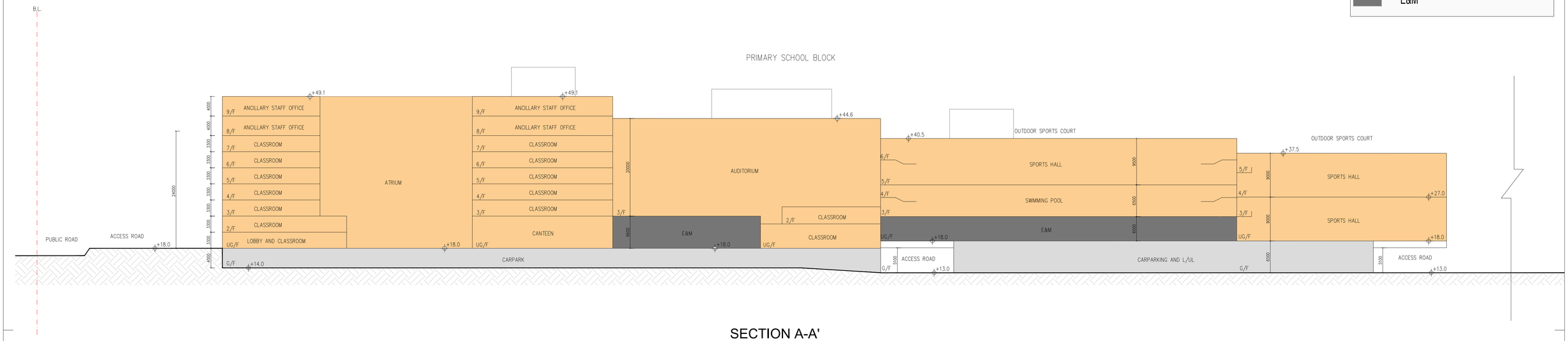
Drawing Purpose



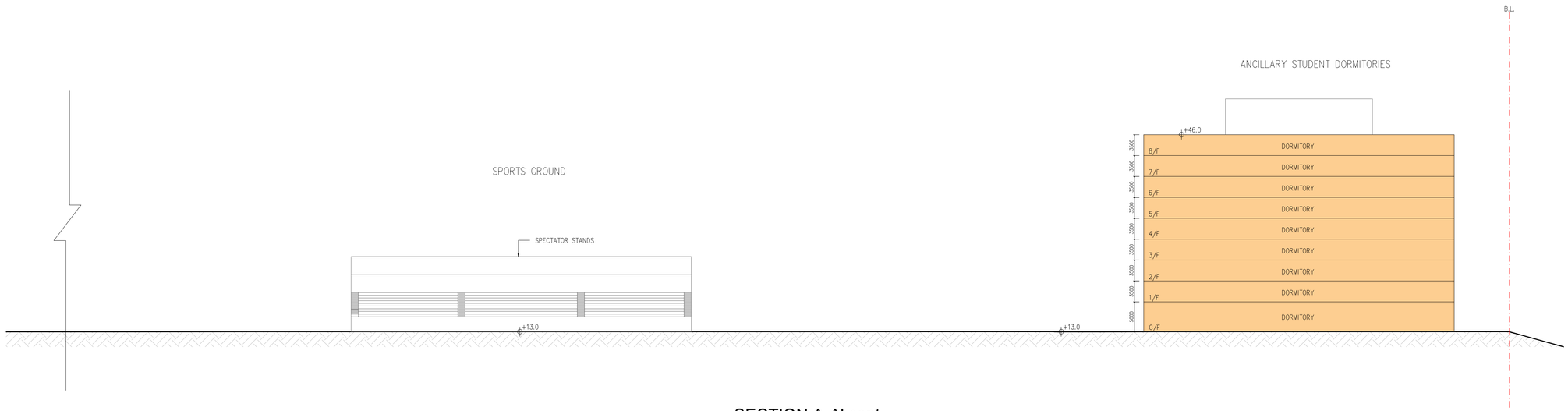
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



SECTION A-A' cont

Rev.	Description	Drawn	Checked	Approved	Date
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A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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Cad File No. P:\JHK\25018NT\planning submission\PLOT_BD\GBP_05

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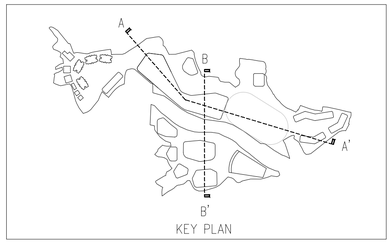
Project Title

Drawing Title
SECTION A-A

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_05

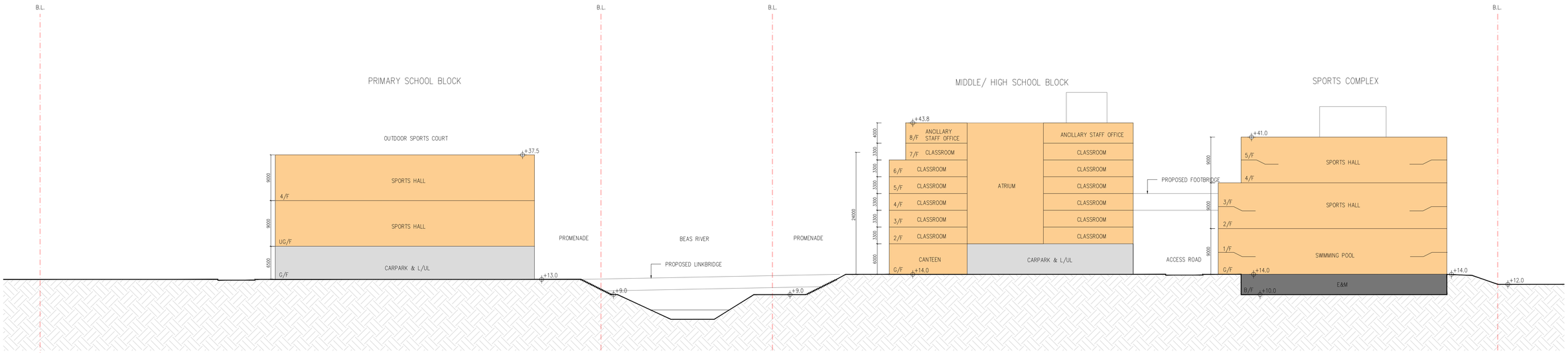
Drawing Purpose



KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION B-B'

Rev.	Description	Drawn	Checked	Approved	Date
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Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Appendix 4.1 Aerial Photos

Appendix: 4.1

Title: Aerial Photo (1995 - Ref No. CN09827)

Project: Proposed International School in Kwu Tung South

RAMBOLL

Drawn by:	SC
Checked by:	TC
Rev.:	1.0
Date:	Aug 2025

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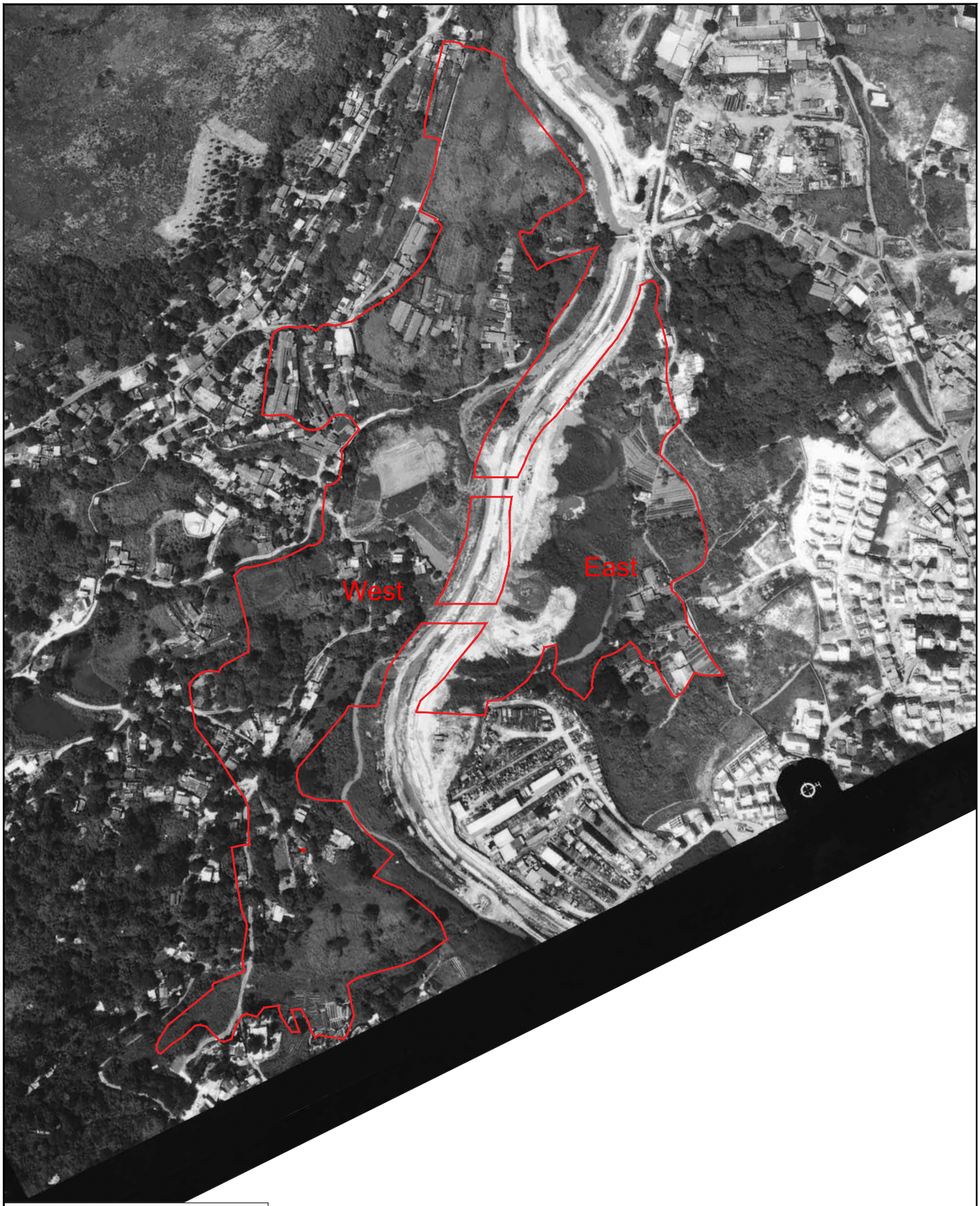

Legends

Site Boundary

Appendix: 4.1	RAMBOLL
Title: Aerial Photo (2000 - Ref No. A51043)	Drawn by: SC
	Checked by: TC
Project: Proposed International School in Kwu Tung South	Rev.: 1.0
	Date: Aug 2025

Q:\Projects\HENKTSISEI00\05 Assessments\08 Land Con\Aerial Photo\Aerial Photo.dwg

Appendix: 4.1	RAMBOLL
Title: Aerial Photo (2004 - Ref No. CW58299)	Drawn by: SC
	Checked by: TC
Project: Proposed International School in Kwu Tung South	Rev.: 1.0
	Date: Aug 2025

Q:\Projects\HENKTSISEI00\05 Assessments\08 Land Con\Aerial Photo\Aerial Photo.dwg

Appendix: 4.1

Title: Aerial Photo (2011 - Ref No. CS32953)

Project: Proposed International School in Kwu Tung South

RAMBOLL

Drawn by:	SC
Checked by:	TC
Rev.:	1.0
Date:	Aug 2025

Q:\Projects\HENKTSISEI00\05 Assessments\08 Land Con\Aerial Photo\Aerial Photo.dwg

Appendix: 4.1

Title: Aerial Photo (2015 - Ref No. CS59207)

Project: Proposed International School in Kwu Tung South

RAMBOLL

Drawn by:	SC
Checked by:	TC
Rev.:	1.0
Date:	Aug 2025

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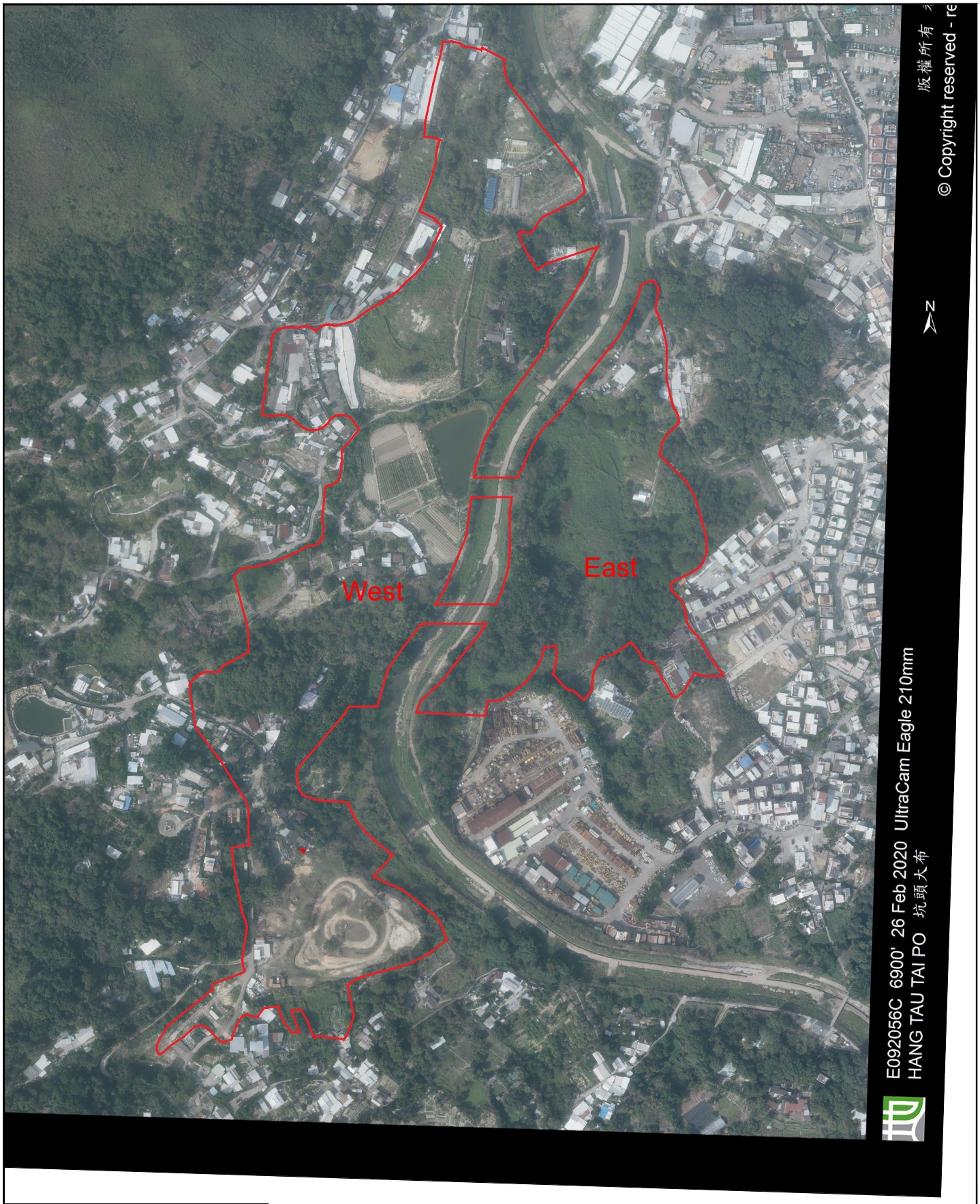

Legends

Site Boundary

Appendix: 4.1	RAMBOLL
Title: Aerial Photo (2020 - Ref No. E092056C)	Drawn by: SC
	Checked by: TC
Project: Proposed International School in Kwu Tung South	Rev.: 1.0
	Date: Aug 2025

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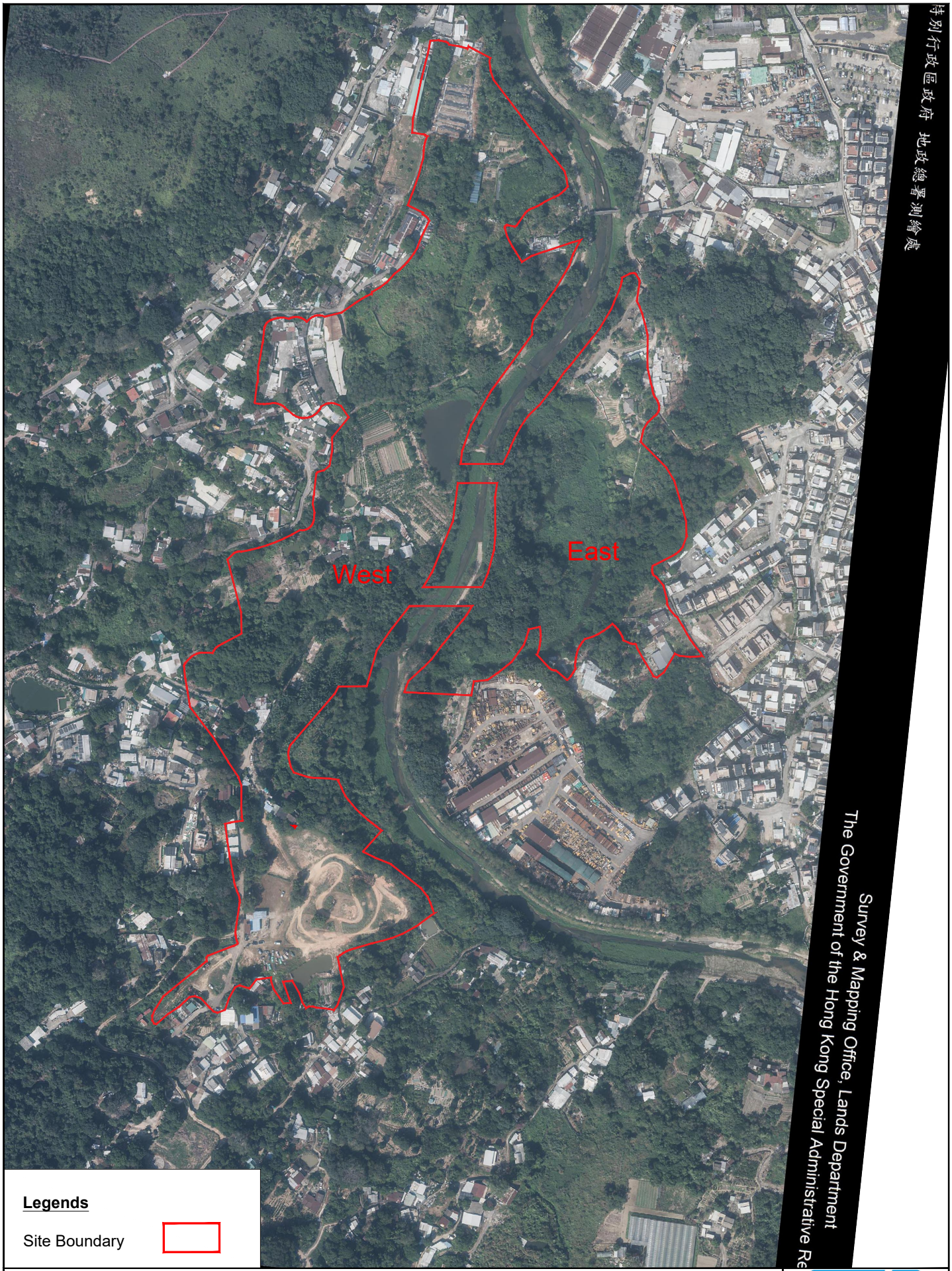

Appendix: 4.1	RAMBOLL
Title: Aerial Photo (2024 - Ref No. E239765C)	Drawn by: SC
	Checked by: TC
Project: Proposed International School in Kwu Tung South	Rev.: 1.0
	Date: Aug 2025

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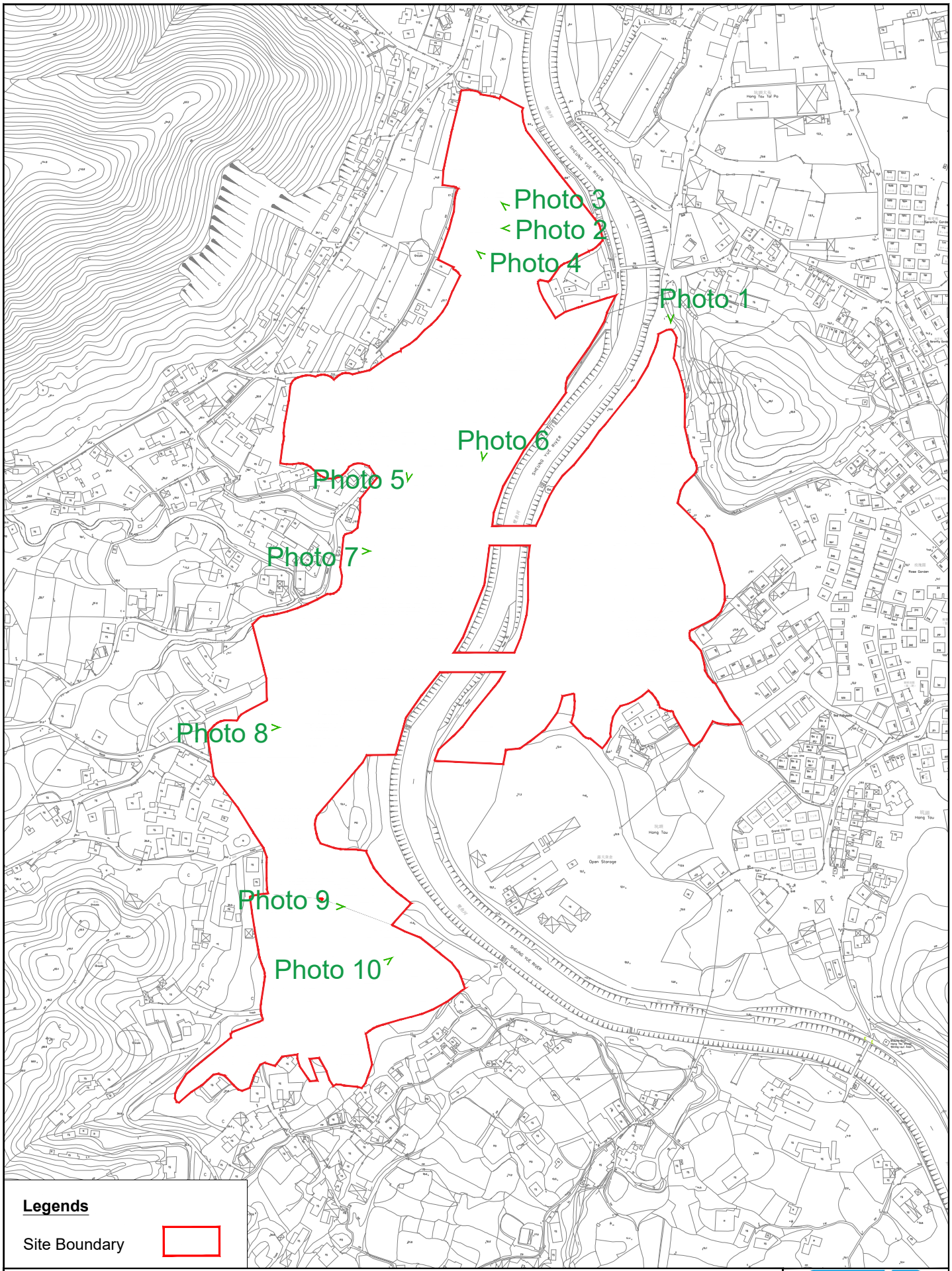
Appendix 4.2 Photo Records for Site Visit



Appendix: 4.2	RAMBOLL
Title: Photo Records for Site Visit	Drawn by: SC
	Checked by: TC
Project: Proposed International School in Kwu Tung South	Rev.: 1.1
	Date: Jan 2026

Q:\Projects\HENKTSISEI00\05 Assessments\08 Land Con\Site Visit Photo Record\Photo Location.dwg

Photo 1: The site cannot be accessed.

Photo 2: There are mainly trees. Village houses are observed

Photo 3: Village house is observed.

Photo 4: Village house is observed.

Photo 5: Farm land is observed.

Photo 6: The pond is observed

Photo 7: Farm land is observed

Photo 8: Many trees are observed

Photo 9: Many trees are observed.

Photo 10: Many trees are observed.

Appendix 4.3 Site walkover checklist

Annex C1

Reference from Annex C1 Site Walkover Checklist of Practice Guide for Investigation and Remediation of Contaminated Land (EPD, August 2011, Revised in April 2023)

Site Walkover Checklist

GENERAL SITE DETAILS

SITE OWNER/CLIENT	Global King Investment Limited, Winpost (HK) Investment Limited and Rand Development Limited
PROPERTY ADDRESS	Various Lots in DD94, DD98 & DD100 and Adjoining Government Land, Kwu Tung South, New Territories

PERSON CONDUCTING THE QUESTIONNAIRE

NAME	Sally Chiu
POSITION	Assistant Environmental Consultant (Ramboll Hong Kong Ltd.)

AUTHORIZED OWNER/CLIENT REPRESENTATIVE (IF APPLICABLE)

NAME	
POSITION	
TELEPHONE	

SITE ACTIVITIES

Briefly describe activities carried out on site, including types of products/chemicals/materials handled.

Obtain a flow schematic if possible.

Number of employees:	Full-time:	N/A
	Part-time:	N/A
	Temporary/Seasonal:	N/A
Maximum no. of people on site at any time:		N/A
Typical hours of operation:		N/A
Number of shifts:		N/A
Days per week:		N/A
Weeks per year:		N/A
Scheduled plant shut-down:		N/A

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Detail the main sources of energy at the site:

Gas	~~Yes~~/No
Electricity	Yes/~~No~~
Coal	~~Yes~~/No
Oil	~~Yes~~/No
Other	~~Yes~~/No

SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area: About 128,232m^2

What area of the site is covered by buildings (%): 0%

Please list all current and previous owners/occupiers if possible.

Is a site plan available? If yes, please attach. ~~Yes~~/No

Are there any other parties on site as tenants or sub-tenants? ~~Yes~~/No

If yes, identify those parties:

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

North: Rural

South: Rural

East: Residential: Grand Garden; Po Shu Garden

West: Rural

Confidential

Annex C1 – Site Walkover Checklist

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

Flat terrain with vegetation

State the size and location of the nearest residential communities.

Grand Garden (~50m to the east); Po Shu Garden (~80m to the east)

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

No

Questionnaire with Existing~~/Previous~~ Site Owner or Occupier

Ref.		
1.	What are the main activities/operations at the above address?	Storage
2.	How long have you been occupying the site?	N/A
3.	Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy?)	N/A
4.	Prior to your occupancy, who occupied the site?	NA
5.	What were the main activities/operations during their occupancy?	NA
6.	Have there been any major changes in operations carried out at the site in the last 10 years?	NA
7.	Have any polluting activities been carried out in the vicinity of the site in the past?	NA
8.	To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	NA
9.	Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	NA
10	Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	NA
11.	Are any chemicals used in your daily operations? (If yes, please provide details.)	NA
	• Where do you store these chemicals?	
12.	Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	NA
13.	Has the facility produced a separate hazardous substance inventory?	NA
14.	Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No
15.	How are materials received (e.g. rail, truck, etc.) and stored	NA

Confidential

	on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	
16.	Do you have any underground storage tanks? (If yes, please provide details.)	No
	▪ How many underground storage tanks do you have on site?	NA
	▪ What are the tanks constructed of?	NA
	▪ What are the contents of these tanks?	NA
	▪ Are the pipelines above or below ground?	NA
	▪ If the pipelines are below ground, has any leak and integrity testing been performed?	NA
	▪ Have there been any spills associated with these tanks?	NA
17.	Are there any disused underground storage tanks?	No
18.	Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	NA
19.	How are the wastes disposed of?	NA
20.	Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	No
21.	Have any spills occurred on site? (If yes, please provide details.)	No
	• When did the spill occur?	NA
	• What were the substances spilled?	NA
	• What was the quantity of material spilled?	NA
	• Did you notify the relevant departments of the spill?	NA
	• What were the actions taken to clean up the spill?	NA
	• What were the areas affected?	NA
22.	Do you have any records of major renovation of your site or rearrangement of underground utilities, pipe work/underground tanks (If yes, please provide details.)	No
23.	Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	No
24.	Are there any known contaminations on site? (If yes, please provide details.)	No
25.	Has the site ever been remediated? (If yes, please provide details.)	No

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Observations

1.	Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	NA	
2.	What are the conditions of the bund walls and floors?	-	
3.	Are any surface water drains located near to drum storage and unloading areas?	N/A	
4.	Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	No	
5.	Is there a storage site for the wastes?	No	
6.	Is there an on-site landfill?	No	
7.	Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8.	Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9.	Are there any potential off-site sources of contamination?	No	
10.	Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11.	Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12.	Any noticeable odours during site walkover?	No	
13.	Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	No	

Appendix 4.4 Letters Replies from Government Departments

Ref.: HENKTSISEI00_0_0001L.25.docx

22 August 2025
By Email and Post

Environmental Protection Department
Environmental Compliance Division
Regional Office (North), North

10th floor, Shatin Government Offices,
No .1 Sheung Wo Chue Road, Sha Tin, New Territories

Dear Cecilia Chan,

Request for Land Contamination Information for the Proposed International School in Kwu Tung South

We are the environmental consultant who are commissioned to conduct a land contamination assessment for the Proposed Internation School in Kwu Tung South. Location of the subject site is shown in **Figure 1.1**.

According to the "Practice Guide for Investigation and Remediation of Contaminated Land" published by Environmental Protection Department (EPD) of the HKSAR, information including site history and other available information regarding the site shall be reviewed during the site appraisal to identify potential current and historical, on and off-site activities that could result in contamination of the site.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighbouring areas; and

3. Any land contamination assessment that has conducted at the site or neighbouring areas.

Your reply by 5 September 2025 is highly appreciated as it would be very helpful to our assessment. Should you have any queries, please do not hesitate to contact the undersigned at 3465 2822 (email: tcheng@ramboll.com) or our Ms. Sally Chiu at 3465 2827 (email: shlchiu@ramboll.com).

Thank you very much for your attention.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Tony Cheng
Senior Manager

Encl.
Figure 1.1 Location of Subject Site

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

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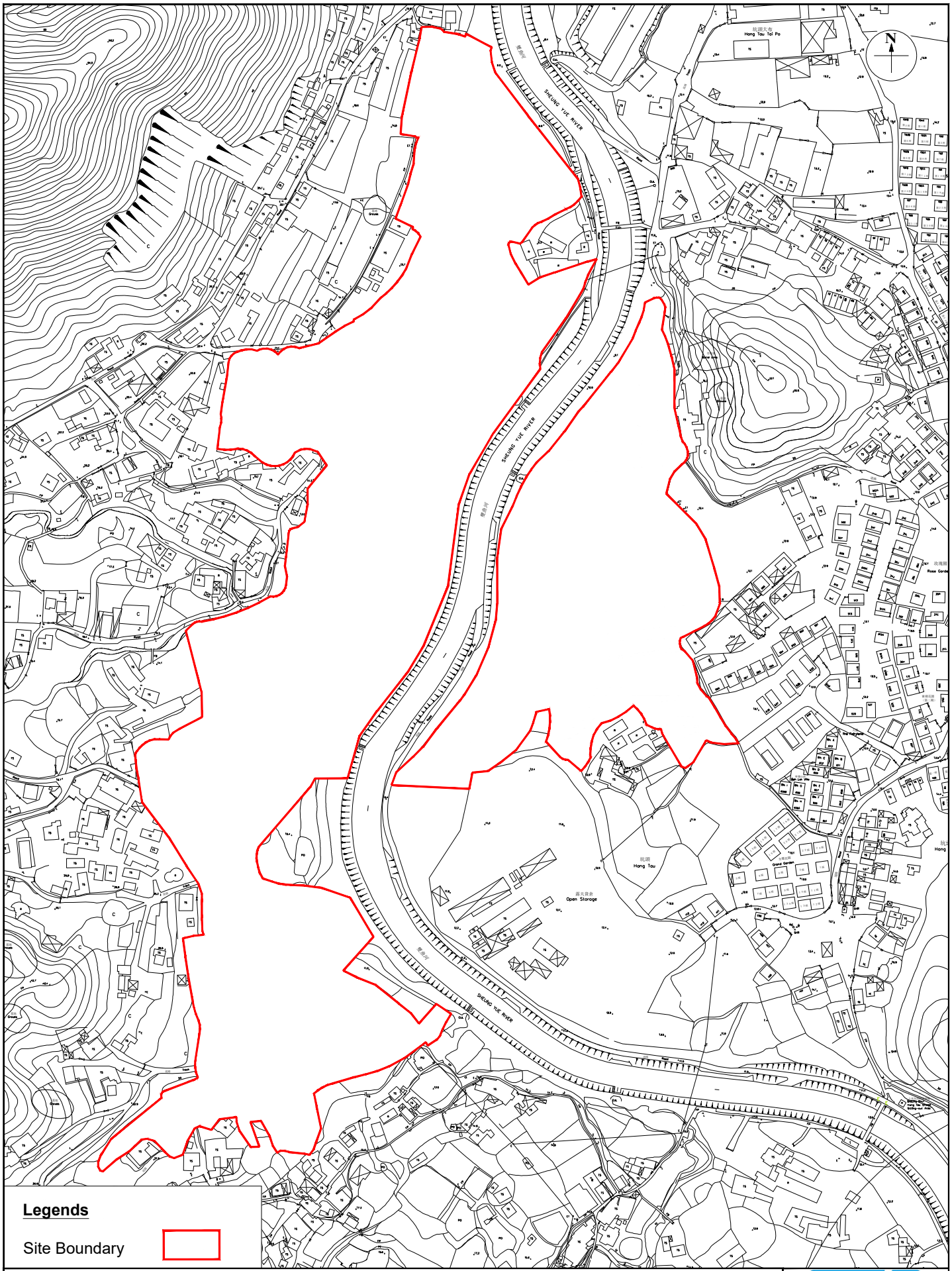

Figure: 1.1

Title: Site Location and its environs

Project: Proposed International School in Kwu Tung

RAMBOLL

Drawn by:	SC
Checked by:	TC
Rev.:	1.0
Date:	Aug 2025

Q:\Projects\HENKTSISEI00\05 Assessments\Site Boundary_250822.dwg

Sally Chiu

From: ceciliaymchan@epd.gov.hk
Sent: Wednesday, 27 August 2025 5:50 pm
To: Sally Chiu
Cc: Tony Cheng; Tony Ling
Subject: Re: Request for Land Contamination Information for the Proposed International School in Kwu Tung South

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ms. Chiu,

I refer to your email dated 22 Aug 2025 on the captioned.

Please kindly note that his Regional Office has no record of the 3 items mentioned in your email. You may also wish to seek input from other sections of this departmenr and/or relevant departments.
Thank you.

Regards,
Cecilia CHAN
Regional Office (North) / EPD

From: "Sally Chiu" <SHLCHIU@ramboll.com>
To: "ceciliaymchan@epd.gov.hk" <ceciliaymchan@epd.gov.hk>
Cc: "Tony Cheng" <tcheng@ramboll.com>, "Tony Ling" <TONYLING@ramboll.com>
Date: 22/08/2025 16:35
Subject: Request for Land Contamination Information for the Proposed International School in Kwu Tung South

---

Dear Cecilia,

We are the environmental consultant who are commissioned to conduct a land contamination assessment for the Proposed Internation School in Kwu Tung South. Location of the subject site is shown in **Figure 1.1**.

According to the "Practice Guide for Investigation and Remediation of Contaminated Land" published by Environmental Protection Department (EPD) of the HKSAR, information including site history and other available information regarding the site shall be reviewed during the site appraisal to identify potential current and historical, on and off-site activities that could result in contamination of the site.

In view of this, we would like to request for the following information for our assessment.

1. Potentially contaminating activities that have occurred at the site such as storage and handling of chemicals, oils and/or hazardous waste, on-site waste disposal, burn pits, etc;

2. Accidents, fires, explosions, spillages and any pollution incidents attributed to the site and any remediation that has occurred at the site or neighbouring areas; and

3. Any land contamination assessment that has conducted at the site or neighbouring areas.

Your reply by 5 September 2025 is highly appreciated as it would be very helpful to our assessment. Should you have any queries, please do not hesitate to contact the undersigned at 3465 2827 or our Mr. Tony Cheng at 3465 2822.

Thank you very much for your attention.

Kind regards

Sally Chiu

Assistant Environmental Consultant

D +852 3465 2827

shlchiu@ramboll.com

Sally Chiu

From: ado_lea_cs@hkfsd.gov.hk
Sent: Tuesday, 30 December 2025 8:35 am
To: Sally Chiu
Cc: OE8 CS/FSD
Subject: Re: Fw: Request for Land Contamination Information for the Proposed International School in Kwu Tung South
Attachments: (14)_Pt 60_ MC-incident_appendix A.pdf

Our reference: (14) in FSD GR 6-5/4 R Pt. 60
Your reference: HENKTSISEI00_0_0002L.25.docx

Dear Ms. CHIU,

Request for Land Contamination Information for the Proposed International School in Kwu Tung South
Request for Information – Dangerous Goods Record and Records of accidents of spillage/leakage

I refer to your emails of 25.8.2025 and 29.12.2025 regarding the captioned request and reply below in response to your questions:-

1. No Dangerous Goods Licence was issued in respect of the captioned address.

2. A total of 3 incident records were found at the subject location. Please refer to Appendix A for details.

(File-Checksum-00000001)

If you have further questions, please feel free to contact the undersigned.

Best regards,

LEE Yeung, Darwin
Assistant Divisional Officer (Legal Affairs) (Acting)
Corporate Services Division
Fire Services Department
Tel.: 2733 7896

Remark:
Lift incidents are excluded unless otherwise required.

Disclaimer:
**Fire Services Department uses its best endeavor to ensure the accuracy and reliability of the information provided, but cannot guarantee its accuracy and reliability and accepts no liability of any nature for any loss or damage arising from any inaccuracies or omissions that may from the information provided.*

Appendix A

Request for Land Contamination Information for the Proposed International School in Kwu Tung South

Request for Information of Dangerous Goods & Incident Records

No.	Date	Type of Incident	Address
1	14/6/2024	Landslide	Slope, Near Lamppost VD1325, Ki Lun Tsuen
2	13/3/2023	Vegetation Fire	Fenced Openground, Near Lamppost VD4493, Kwu Tung Ki Lun Tsuen
3	15/10/2022	Vegetation Fire	Openground, Near Lamppost VD4511, Ki Lun Tsuen

Attachment 7

Revised Sewerage Impact Assessment

Prepared by

Ramboll Hong Kong Limited

PROPOSED SCHOOL AT VARIOUS LOTS IN D.D. 94, 98 & 100 AND ADJOINING GOVERNMENT LAND, KWU TUNG SOUTH, NEW TERRITORIES

SEWERAGE IMPACT ASSESSMENT

Date	**January 2026**
Prepared by	**Sally Chiu** **Assistant Environmental Consultant**
Signed	
Approved by	**Tony Cheng** **Environmental Consultant**
Signed	
Project Reference	**HENKTSISEI00**
Document No.	**R9853_v1.2.docx**

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Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

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CHAPTERS

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2.4 Wastewater Generated by the Proposed Development 2-2

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APPENDIX

Appendix 1.1 Master Layout Plan
Appendix 2.1 Detailed Sewage Flow Calculation
Appendix 2.2 Locations of the STPs

1. INTRODUCTION

1.1 Background and Objectives

1.1.1 The applicants, Global King Investment Limited, Winpost (HK) Investment Limited and Rand Development Limited, seek to rezone the current "Agriculture" zoning with a minor portion of "Green Belt" of the Application Site as outlined in the approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22.

1.1.2 Ramboll Hong Kong Limited is commissioned to conduct the sewerage impact assessment based on the information regarding the proposed scheme.

1.2 Application Site and its Environs

1.2.1 The Application Site is situated along the Sheung Yue River which separate the Application Site into 2 portions (West and East Portions). It is bounded by Sheung Shui Hang Tau Village Sitting Out Area No.2 to the North and Po Shu Garden to the East.

1.2.2 **Figure 1.1** shows the location and the environs of the Proposed Development.

1.3 Proposed Development

1.3.1 Under the current application, the Application Site is proposed for an International School development. Details of the proposed development schedule are summarised in **Table 1.1** below and the layout plan is shown in **Appendix 1.1**.

Table 1.1 Development Schedule of the Proposed Development

Portions Located	West	East
Site Area (m^2)	~92,616	~35,616
Total GFA (m^2)	~126,850	~44,150
No. of Blocks	18	6
No. of Classrooms	76	65
No. of Students	1,600	1,400
No. of Staff (Including Teaching and Non-Teaching)	338	295
No. of Student/ Staff who can Live in the Accommodation	2243	0
Completion Year	2036	

2. SEWERAGE IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this study is to compare the sewage flow generated from the proposed development with the sewage flow generated from the existing usage, and to determine whether adverse sewage impact is anticipated.

2.2 Assessment Criteria and Methodology

2.2.1 The Commercial and Industrial Floor Space Utilization Survey (CIFSUS) conducted by the Planning Department has been used to determine the worker density for various economic activities and planned usage types.

2.2.2 Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) has been referred to for the purposes of estimating the quantity of the sewage generated from the Proposed Development and the existing catchment area. Sewage flow parameters and global peaking factors in this document have been adopted for this SIA.

2.2.3 According to the GESF, the overall unit flow is composed of flows due to employees and the associated activities. The following unit flow factors have been adopted in the SIA calculation in accordance with Tables T-1, T-2 and T-3 of the GESF:

- J10 Restaurants & Hotels: 1.58 m^3/day
- J11 Community, Social & Personal Services: 0.28 m^3/day
- Domestic Flow – Institutional and Special Class: 0.19 m^3/day

2.3 Existing and Future Sewerage System

2.3.1 With reference to the sewerage system shown in Geoinfo Map, there is currently no existing public sewerage system in the vicinity of the Application Site.

2.4 Wastewater Generated by the Proposed Development

2.4.1 The sewage generated by the proposed development is given in **Table 2.1** shown below. Detailed Calculation (including the breakdown for West and East Portions) refers to **Appendix 2.1**.

Table 2.1 Estimated Peak Flow (Overall)

Calculation for Sewage Generation Rate of the Proposed Development at the Application Site			
1. Internation School			
Total number of teachers & staff	=	633	people
Unit Flow Factors of teachers & staff	=	0.28	m^3/person/day (refer to Table T-2 of GESF, Community, Social & Personal Services)
Total number of students	=	3000	people
Unit Flow Factors of students	=	0.04	m^3/person/day (refer to Table T-2 of GESF, School Student)
Sewage Generation rate	=	**297.2**	m^3/ day
2. Swimming Pool			
Assumed area	=	2500	m^2
Assumed depth of water	=	1.5	m
Volume of water	=	3750	m^3
Turnover Rate	=	4.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (covered))
Surface loading rate of filter	=	50.0	$m^3/m^2/hr$
Filter areas required	=	7.5	m^2
Backwashing flow rate	=	30.0	$m^3/m^2/hr$
Design flow for backwashing	=	562.5	m^3/hr
Backwash duration	=	3.0	min/day
Backwash generation rate	=	28.1	m^3/day
Instant Peak Flow	=	156.3	L/s
3. Dormitory			
No. of residents	=	2243	people
Unit Flow Factors	=	0.19	m^3/person/day (Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	**426.2**	m^3/day
4. Canteen			
Assumed floor area	=	4500	m^2
Assumed floor area per employee	=	19.6	m^2/employee
Total number of employees	=	230	employees
Unit Flow Factors of commercial employees	=	1.58	m^3/employee/day
Sewage generation rate	=	**362.6**	m^3/day
Total Flow from the Proposed Development			
Flow rate	=	1114.1	m^3/day
Flow rate with P_{CIF}	=	1114.1	m^3/day (refer to Table T-4 of GESF – North District - 1.0)
Contributing population	=	4126	People (refer to Section 12 of GESF)
Peaking factor	=	4	(refer to Guidelines for the Design of Small Sewage Treatments Plants)
Peak flow	=	**51.6**	L/s

2.5 Assessment of Sewerage Impact

2.5.1 As mentioned in **Section 2.3.1**, there is no existing sewerage connection in the vicinity of the Proposed Development. It is proposed to construct private STPs in the development site to handle the development sewage.

2.5.2 The estimated Average Dry Weather Flow (ADWF) from the proposed development is approximately 705.7 m^3/day and 380.3 m^3/day in West and East Portion respectively. The estimated peak flow from the proposed development is approximately 33.3 L/s and 18.3 L/s in West and East Portion respectively. Detailed Sewage flow calculation refers to **Appendix 2.1**.

2.5.3 The sewage generated from the Proposed Development would be collected and treated on-site and ultimately be discharged to Sheung Yue River through proposed stormwater drain.

2.5.4 To avoid the contamination of the Sheung Yue River, no sewage can be passed through and discharged to the Sheung Yue River before treatment. Therefore, two private sewage treatment plants, namely STP – West and STP – East are proposed to treat the sewage discharge generated from West and East Portion of the development respectively. The design capacity of each STP is summarized in **Table 2.2** and the location of the STPs are presented in **Appendix 2.2**.

Table 2.2 Design Capacity of STPs

	Design Capacity (m^3/day)	**Design Capacity (L/s)**
STP – West	719.7	33.3
STP – East	394.4	18.3
Total	1114.1	54.6

2.5.5 The design capacity of STP – West and STP – East are calculated and the construction of STP – West and STP – East shall be completed before the school admission in 2036. The treated effluent will be discharged to Sheung Yue River through the proposed storm drain.

2.5.6 The exact treatment process would be subject to later detailed design and submissions. It will be necessary for the treatment facilities to achieve the necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. STP – West corresponds to flow category ">600 and <=800", while STP – East corresponds to flow category ">200 and <=400".

2.5.7 Membrane bioreactor with ultra-filtration (MBR) is generally recommended to achieve required effluent discharge standard and sludge dewatering system will be provided and designed in accordance with the requirement in the "Guidelines for the Design of Small Sewage Treatments Plants" issued by EPD.

2.5.8 Sludge storage tank with deodorisation facilities will be provided. Exhaust fan will be located and facing away from existing and planned air sensitive uses. The sludge after having been dewatered and thickened will be tanked away to the landfill for disposal subject to confirmation with future licensed collector/contractor. As good practice for sewage treatment facilities, measures will be incorporated into the design to minimize

the risk of emergency overflow from the treatment plant. These measures will include standby pumps, secure power supplies and appropriate alarms, as well as comprehensive Operation and Maintenance procedures, to keep the facilities in good working order. Holding tank for emergency storage/retention will be included with adequate capacity (e.g. to store 6-hours of ADWF discharge) to minimise need of emergency discharge. In the event of any emergency overflow, on-call crews will follow the overflow emergency response plan and proceed with the best response to correct the problem immediately. For example, the alarm system will be activated once overflow occurs. The on-call crews will provide instant response by acknowledging the alarm, to investigate the cause of overflow and correct the problem. The alarm system will repeat until it is acknowledged. In addition, the on-call crews will ensure the standby pump is switched on and contain the overflowed sewage using temporary weirs or vacuum trucks, where applicable.

2.6 Maintenance Responsibility

2.6.1 The Applicant will be responsible for construction of internal sewerage infrastructure (including the proposed STPs and storm drain) within the development site boundary.

2.6.2 The design of the proposed STPs will follow the Guidelines for the Design of Small Sewage Treatment Plants prepared by the EPD.

2.6.3 Future property management will be responsible for the maintenance of all the internal sewerage system (including the proposed STPs and storm drain) within the development site boundary.

2.6.4 The Applicant will be responsible for the construction, operation and maintenance of the STP. When there is a public sewer available in close proximity to the Application Site in future, the Applicant will make connection to the public sewer and dismantle the proposed underground STP subject to the agreement of DSD and EPD. As the sewage generated from the Application Site will be discharged to the public sewer in accordance with the Water Pollution Control (Sewerage) Regulation, no adverse quality impact is anticipated.

2.6.5 The Applicant will be responsible for the future sewer connection upon its availability in future and STP decommissioning with connection details subject to agreement of DSD.

3. OVERALL CONCLUSION

3.1.1 The SIA has been carried out to assess the impact on the existing sewerage system due to the Proposed Development.

3.1.2 The estimated Average Dry Weather Flow (ADWF) from the Proposed Development is about 1114.1 m^3/day with 719.7 m^3/day in West Portion and 380.3 m^3/day in East Portion. The estimated peak flow from the proposed development is approximately 51.6 L/s with 33.3 L/s and 18.3 L/s in West and East Portion respectively.

3.1.3 2 on-site sewage treatment plants are proposed to treat the sewage discharge generated from West and East Portion and the treated effluent will be discharged to Sheung Yue River through the proposed storm drains.

3.1.4 It is concluded that no adverse sewerage impact is anticipated.

Figures

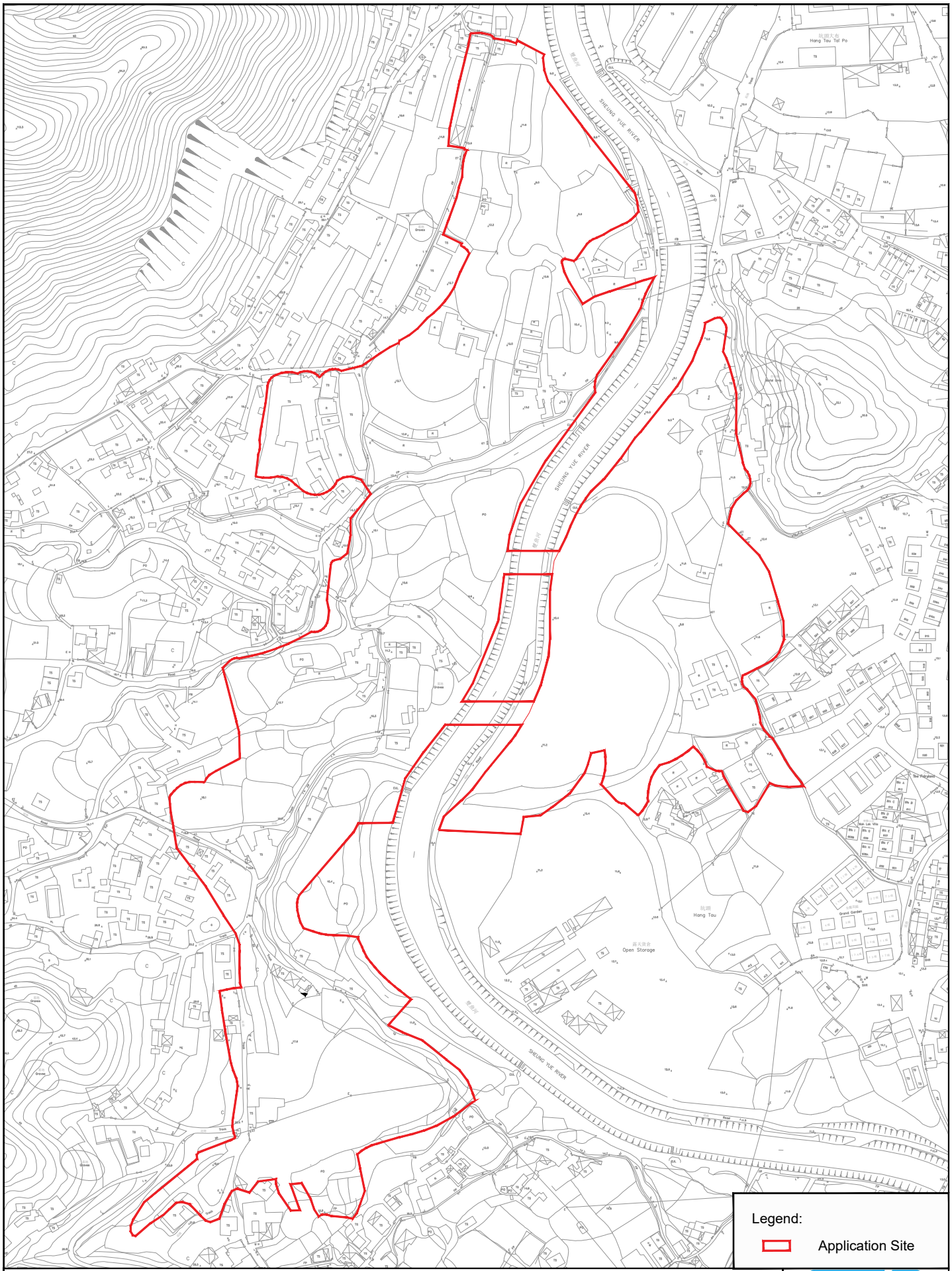

Figure: 1.1

Title: Location of the Application Site and its environs.

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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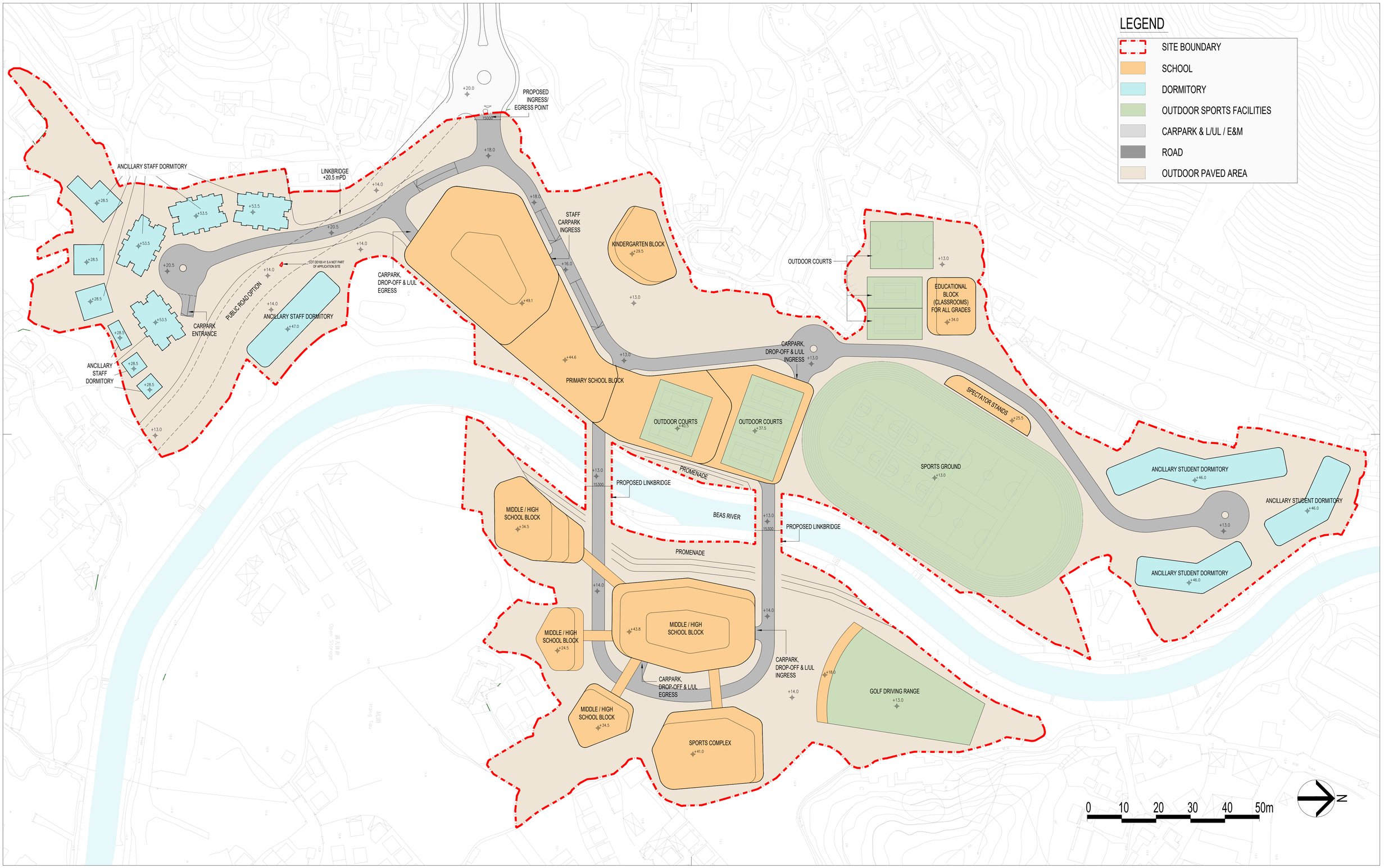
Appendix 1.1 Master Layout Plan of the Application Site



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呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

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Project Title

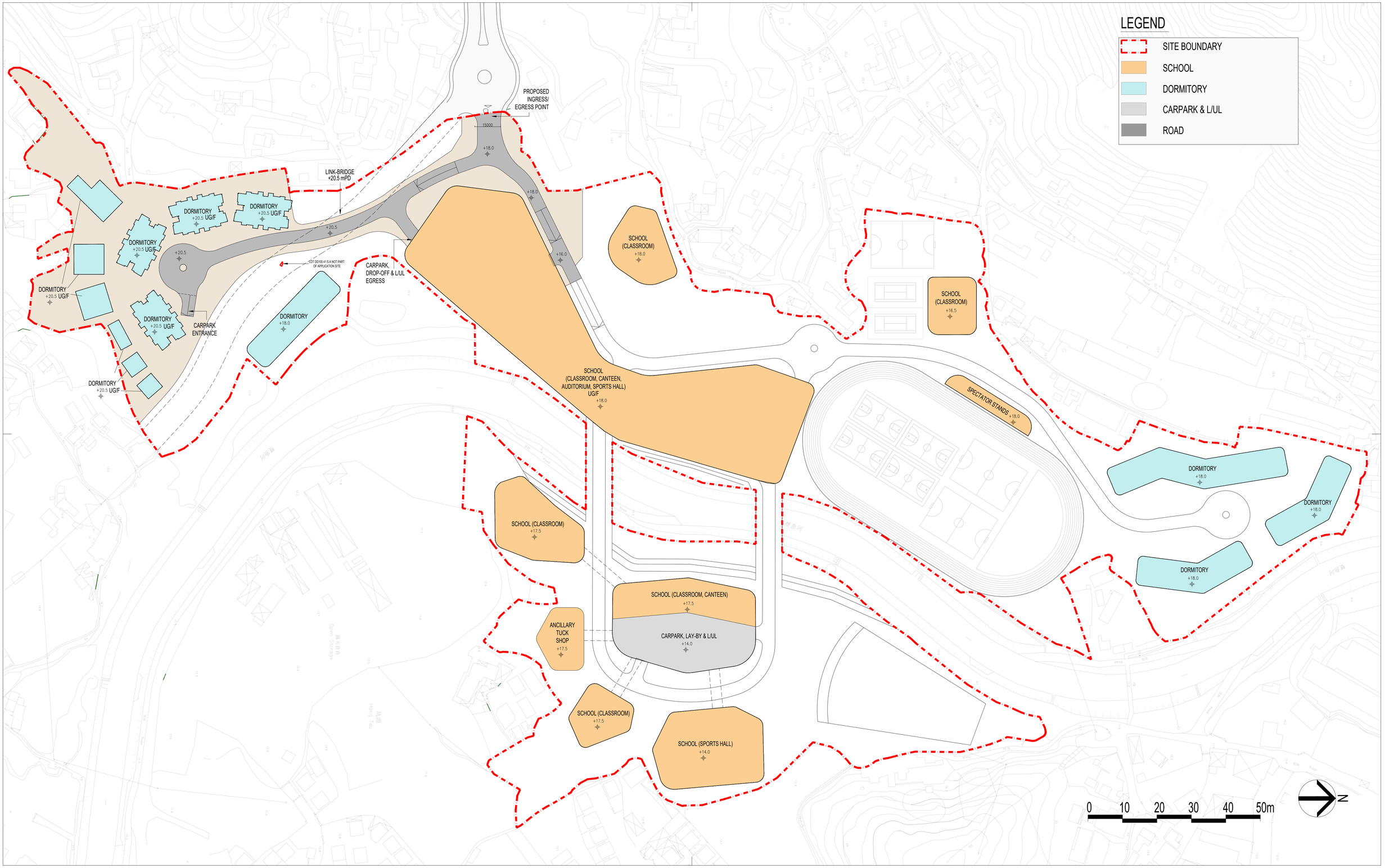
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



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Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

Project No. 25018NT
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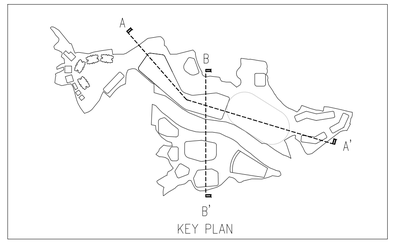
Drawing No. A/GBP_03

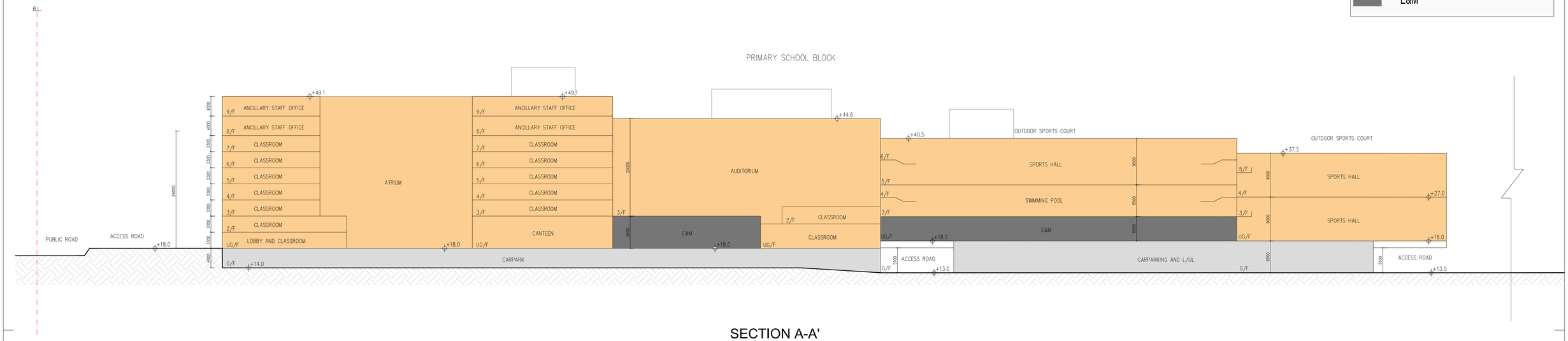
Drawing Purpose



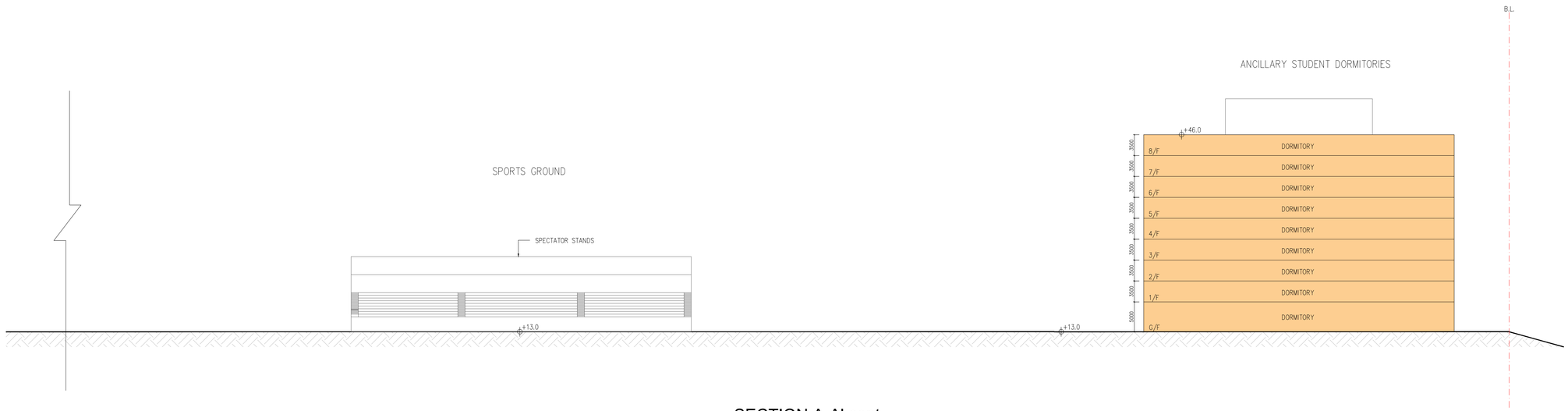
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



SECTION A-A' cont

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Drawing Title
SECTION A-A

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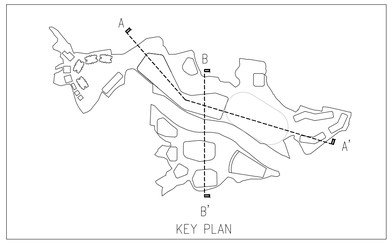
Drawing No. A/GBP_05

Drawing Purpose



KEY PLAN

LEGEND

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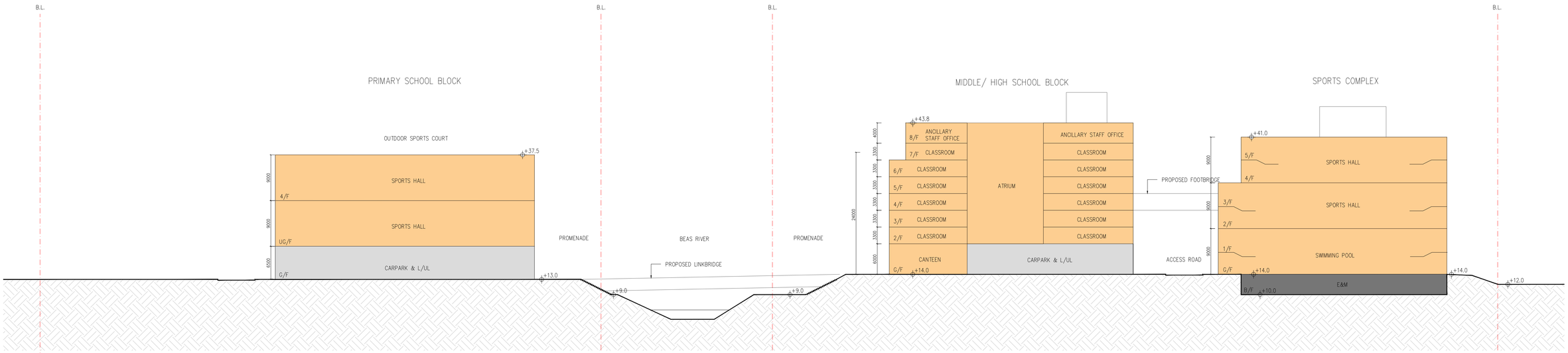
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION B-B'

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Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Appendix 2.1 Detailed Sewerage Impact Assessment Calculations

Table 1 Calculation for Sewage Generation Rate of the Proposed Development (Overall)

1. International School			
Total number of teachers & staff	=	633	people
Unit flow factors of teachers & staff	=	0.28	m^3/person/day (refer to Table T-2 of GESF , Community, Social & Personal Services)
Total number of students	=	3000	people
Unit flow factors of students	=	0.04	m^3/person/day (refer to Table T-2 of GESF, School Student)
Sewage Generation rate	=	**297.2**	m^3/day
2. Indoor Swimming Pool			
Assumed area	=	2500	m^2
Assumed depth of water	=	1.5	m
Volume of water	=	3750	m^3
Turnover Rate	=	4.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (covered))
Surface loading rate of filter	=	50.0	$m^3/m^2/hr$
Filter areas required	=	18.8	m^2
Backwashing flow rate	=	30.0	$m^3/m^2/hr$
Unit flow factors of backwashing	=	562.5	m^3/hr
Backwash duration	=	3.0	min/day
Backwash generation rate	=	**28.1**	m^3/day
Instant Peak Flow	=	156.3	L/s
3. Dormitory for Student and Staff			
Number of residents	=	2243	residents
Unit flow	=	0.19	m^3/day (Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	**426.2**	m^3/day
4. Canteen			
Assumed Floor Area	=	4500	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurant)
Total number of employees	=	230	employees
Unit flow factors of commercial employees	=	1.58	m^3/employee/day -- (refer to Table T-2 of GESF - J10 Restaurant & Hotels)
Sewage generation rate	=	**362.6**	m^3/day
Total Flow from the Proposed Development			
Flow rate	=	1114.1	m^3/day
Flow rate with P_{CIF}	=	1114.1	m^3/day (refer to Table T-4 of GESF - North District - 1.00)
Contributing population	=	4126	people (refer to Section 12 of GESF)
Peaking factor	=	4	(refer to Guidelines for the Design of Small Sewage Treatments Plants)
Peak flow	=	**51.6**	litre/sec

Table 2
Calculation for Sewage Generation Rate of the Proposed Development (West)

1. International School			
Total number of teachers & staff	=	338	people
Unit Flow Factors of teachers & staff	=	0.28	m^3/person/day (refer to Table T-2 of GESF , Community, Social & Personal Services)
Total number of students	=	1,600	people
Unit Flow Factors of students	=	0.04	m^3/person/day (refer to Table T-2 of GESF, School Student)
Sewage Generation rate	=	**158.6**	m^3/day
2. Indoor Swimming Pool			
Assumed area	=	1250	m^2
Assumed depth of water	=	1.5	m
Volume of water	=	1875	m^3
Turnover Rate	=	4.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (covered))
Surface loading rate of filter	=	50.0	$m^3/m^2/hr$
Filter areas required	=	9.4	m^2
Backwashing flow rate	=	30.0	$m^3/m^2/hr$
Unit Flow Factors of backwashing	=	281.3	m^3/hr
Backwash duration	=	3.0	min/day
Backwash generation rate	=	**14.06**	m^3/day
Instant Peak Flow	=	78.1	L/s
3. Dormitory for Student and Staff			
Number of residents	=	2243	people
Unit Flow Factors	=	0.19	m^3/day (Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	**426.2**	m^3/day
4. Canteen			
Assumed floor area	=	1500	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurant)
Total number of employees	=	77	employees
Unit Flow Factors of commercial employees	=	1.58	m^3/employee/day -- (refer to Table T-2 of GESF - J10 Restaurant & Hotels)
Sewage generation rate	=	**120.9**	m^3/day
Total Flow from the Proposed Development (West)			
Flow rate	=	719.7	m^3/day
Flow rate with P_{CIF}	=	719.7	m^3/day (refer to Table T-4 of GESF - North District - 1.0)
Contributing population	=	2666	people (refer to Section 12 of GESF)
Peaking factor	=	4	(refer to Guidelines for the Design of Small Sewage Treatments Plants)
Peak flow (without swimming pool)	=	**33.3**	litre/sec

Table 3
Calculation for Sewage Generation Rate of the Proposed Development (East)

1. International School			
Total number of teachers & staff	=	295	people
	=	0.28	m^3/person/day (refer to Table T-2 of GESF , Community, Social & Personal Services)
Total number of students	=	1400	people
Unit flow factors of students	=	0.04	m^3/person/day (refer to Table T-2 of GESF, School Student)
Sewage Generation rate	=	**138.6**	m^3/day
2. Indoor Swimming Pool			
Assumed area	=	1250	m^2
Assumed depth of water	=	1.5	m
Volume of water	=	1875.0	m^3
Turnover Rate	=	4.0	hr (CAP132CA, Section 9 Swimming Pools Regulation (covered))
Surface loading rate of filter	=	50.0	$m^3/m^2/hr$
Filter areas required	=	9.4	m^2
Backwashing flow rate	=	30.0	$m^3/m^2/hr$
Unit flow factors of backwashing	=	281.3	m^3/hr
Backwash duration	=	3.0	min/day
Backwash generation rate	=	14.06	m^3/day
Instant Peak Flow	=	78.1	L/s
3. Dormitory for Student and Staff			
Number of residents	=	0	people (All dormitory are at the West Portion of the Site)
Unit flow factor	=	0.19	m^3/day (Institutional and Special Class in Table T-1 of GESF)
Sewage generation rate	=	**0.0**	m^3/day
4. Canteen			
Assumed floor area	=	3000	m^2
Assumed floor area per employee	=	19.6	m^2 per employee -- (refer to Table 8 of CIFSUS - Restaurant)
Total number of employees	=	153	employees
Unit flow factors of commercial employees	=	1.58	m^3/employee/day -- (refer to Table T-2 of GESF - J10 Restaurant & Hotels)
Sewage generation rate	=	**241.7**	m^3/day
Total Flow from the Proposed Development (East)			
Flow rate	=	394.4	m^3/day
Flow rate with P_{CIF}	=	394.4	m^3/day (refer to Table T-4 of GESF - North District - 1.0)
Contributing population	=	1461	people (refer to Section 12 of GESF)
Peaking factor	=	4	(refer to Guidelines for the Design of Small Sewage Treatments Plants)
Peak flow	=	**18.3**	litre/sec

Appendix 2.2 Locations of the STPs

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

+14.0

+14.0

CUT DO100 41 S.A NOT PART OF APPLICATION SITE

PUBLIC ROAD OPTION

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

Location of Proposed STP - West & its emergency storage tanks

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

Location of Proposed STP - East & its emergency storage tanks

CARP
DROF
INGRI

CARPARK,
DROP-OFF & L/UL
EGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

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RONALD LU & PARTNERS

呂元祥建築師事務所

Project Title

Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose

Attachment 8

Revised Water Supply Impact Assessment

Prepared by

Ramboll Hong Kong Limited

PROPOSED SCHOOL AT VARIOUS LOTS IN D.D. 94, 98 & 100 AND ADJOINING GOVERNMENT LAND, KWU TUNG SOUTH, NEW TERRITORIES

WATER SUPPLY IMPACT ASSESSMENT

Date	**January 2026**
Prepared by	**Sally Chiu** **Assistant Environmental Consultant**
Signed	
Approved by	**Tony Cheng** **Senior Manager**
Signed	
Project Reference	**HENKTSISEI00**
Document No.	**R9854_v1.1.docx**

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Email: hkinfo@ramboll.com

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CHAPTERS

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1.1 Project Background 1-1
1.2 The Application Site and Its Environs 1-1
1.3 Proposed Development 1-1

2. WATER SUPPLY IMPACT ASSESSMENT 2-1

2.1 Scope of Work 2-1
2.2 Assessment Criteria and Methodology 2-1
2.3 Assessment of Water Demand 2-1
2.4 Existing and Proposed Water Supply System 2-2
2.5 Construction and Maintenance 2-3

3. CONCLUSION 3-1

FIGURES

Figure 1.1 Location of the Application Site and its Environs

Figure 2.1 Existing and Proposed Freshwater Supply System for Proposed Development

APPENDICES

Appendix 1.1 Master Layout Plan

Appendix 2.1 Records Obtained from Water Supplies Department

Appendix 2.2 Detailed Water Supply Impact Assessment Calculations

1. INTRODUCTION

1.1 Project Background

1.1.1 The applicants, Global King Investment Limited, Winpost (HK) Investment Limited and Rand Development Limited, seek to rezone the current "Agriculture" zoning with a minor portion of "Green Belt" of the Application Site as outlined in the approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/22.

1.1.2 The Water Supply Impact Assessment (WSIA) is prepared as a technical supporting document to estimate the water demand arising from the Proposed Development.

1.2 The Application Site and Its Environs

1.2.1 The Application Site is situated along the Sheung Yue River which separate the Application Site into 2 portions (West and East Portions). It is bounded by Sheung Shui Hang Tau Village Sitting Out Area No.2 to the North and Po Shu Garden to the East.

1.2.2 **Figure 1.1** shows the location of the Application Site and its environment.

1.3 Proposed Development

1.3.1 Under the current application, the Application Site is proposed for an International School development. Details of the proposed development schedule are summarised in **Table 1-1** below and the layout plan is shown in **Appendix 1.1**.

Table 1-1 Development Schedule of the Proposed Development

Portions Located	West	East
Site Area (m^2)	~92,616	~35,616
Total GFA (m^2)	~126,850	~44,150
No. of Blocks	18	6
No. of Classrooms	76	65
No. of Students	1,600	1,400
No. of Staff (Including Teaching and Non-Teaching)	338	295
No. of Student/ Staff who can Live in the Accommodation	2243	0
Completion Year	2036	

2. WATER SUPPLY IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this study is to assess whether the capacity of the existing water supply facilities serving the Application Site is sufficient to cope with the water demands from the Proposed Development. Data and record plans from Water Supplies Department (WSD) were obtained to facilitate the WSIA.

2.2 Assessment Criteria and Methodology

2.2.1 The freshwater and the salt water of the Proposed Development is supplied by Kwu Tung Fresh Water Service Reservoir. Although the Kwu Tung Fresh Water Service Reservoir is fully loaded at present, it is understood that the Tong Hang No. 3 Fresh Water Service Reservoir (TH3FWSR) is under construction under Contract No. 3/WSD/18 for taking up part of the supply zone of KTFWSR. The infrastructure project under Public Works Project (PWP) No.: 9355WF, which includes the construction of TH3FWSR, shal be completed by fourth quarter of 2024. Freshwater supply to TH3FWSR will be provided by Tai Po Tau Treatment Works and the storage capacity of TH3FWSR is about 55,000 m^3.

2.2.2 The capacity of Kwu Tung Reservoir is summarized in **Table 2-1**.

Table 2-1 Capacity of Kwu Tung water service reservoirs

	Kwu Tung Fresh Water Service Reservoir
Capacity (m^3)	30,853

2.2.3 The existing fresh water supply network are provided in **Appendix 2.1**.

2.2.4 Reference has been made to the Water Supplies Department's Departmental Instruction 1309 (WSD DI 1309), as well as Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF). In addition, Planning Department's (PlanD) Commercial and Industrial Floor Space Utilization Survey (CIFUS) have also been used.

2.2.5 WSD DI 1309 sets out the design criteria for water supplies in Hong Kong and includes unit water demands for various classes of consumer. Apart from the above, EPD's GESF includes unit sewage flow factors for various residential development.

2.2.6 For this WSIA, WSD's data from DI 1309 has been referenced to provide unit water demands for the various population categories with the relevant EPD GESF unit sewage flow factors to determine overall unit water demand factors. PlanD's CIFSUS has been also referenced for calculation of the population density where necessary.

2.2.7 The unit water demand has been combined with the relevant development parameters to assess the future water demands, from which the potential impacts have been assessed. Calculations for the water demands of the Proposed Development are included in **Appendix 2.2**.

2.3 Assessment of Water Demand

2.3.1 The water demand from the West and East Portions of the Proposed Development have been assessed in **Table 2-2** and **Table 2-3** below and detailed calculation is shown in **Appendix 2.2**.

Table 2-2 Water Demand from the Proposed Development (West Portion)

	Daily Water Demand (without swimming pool)	Peaking Factor	Peak Water Demand (without swimming pool)	Peak Water Demand (with swimming pool)
	m^3/day		m^3/day	m^3/day
Freshwater	2039.4	3	6118.2	7993.2
Flushing Water	303.2	2	606.4	606.4
			Total	**8599.6 [1]**

[1] Assume both fresh water and flushing water are provided from Kwu Tung Water Service Reservoir

Table 2-3 Water Demand from the Proposed Development (East Portion)

	Daily Water Demand (without swimming pool)	Peaking Factor	Peak Water Demand (without swimming pool)	Peak Water Demand (with swimming pool)
	m^3/day		m^3/day	m^3/day
Freshwater	837.4	3	2512.2	4387.2
Flushing Water	139.7	2	279.4	279.2
			Total	**4666.6 [1]**

[1] Assume both fresh water and flushing water are provided from Kwu Tung Water Service Reservoir

2.3.2 According to **Table 2-2** and **Table 2-3**, the Proposed Development will be taking minor portions of the freshwater reservoirs capacities (i.e. 27.9% from West Portion and 15.1% from East Portion).

2.3.3 Given that the contribution is not significant, the Proposed Development would unlikely pose any adverse impact to existing service reservoir capacity.

2.4 Existing and Proposed Water Supply System

2.4.1 The existing water supply system is provided in **Appendix 2.1**.

2.4.2 5 x 80mm and 8 x 40mm freshwater mains are proposed to connect to the existing water mains 80GIL91 and 40GIL01 located at the West Portion and East Portion of the Proposed Development respectively for freshwater and flushing water supply. The alignment of the existing and proposed freshwater mains is shown in **Figure 2.1**.

2.5 Construction and Maintenance

2.5.1 The Project Proponent will take up the design and construction cost for the future water main connection. The detailed design and assessment will be submitted for comments/ approval at detailed design stage.

2.5.2 The responsibility for operation and maintenance of the proposed waterworks will be discussed and agreed with WSD and relevant departments during detailed design stage.

3. CONCLUSION

3.1.1 The water supply impact assessment has been carried out for the Proposed Development. The assessment results show that the peak water demand from the West and East Portions of the Proposed Development are 8599.6 m^3/day and 4666.6 m^3/day which only accounts for the existing Kwu Tung Fresh Water Service Reservoirs of 27.9% and 15.1% respectively.

3.1.2 Given that the contribution is not significant, the Proposed Development would unlikely pose any adverse impact to existing freshwater supply system.

Figures

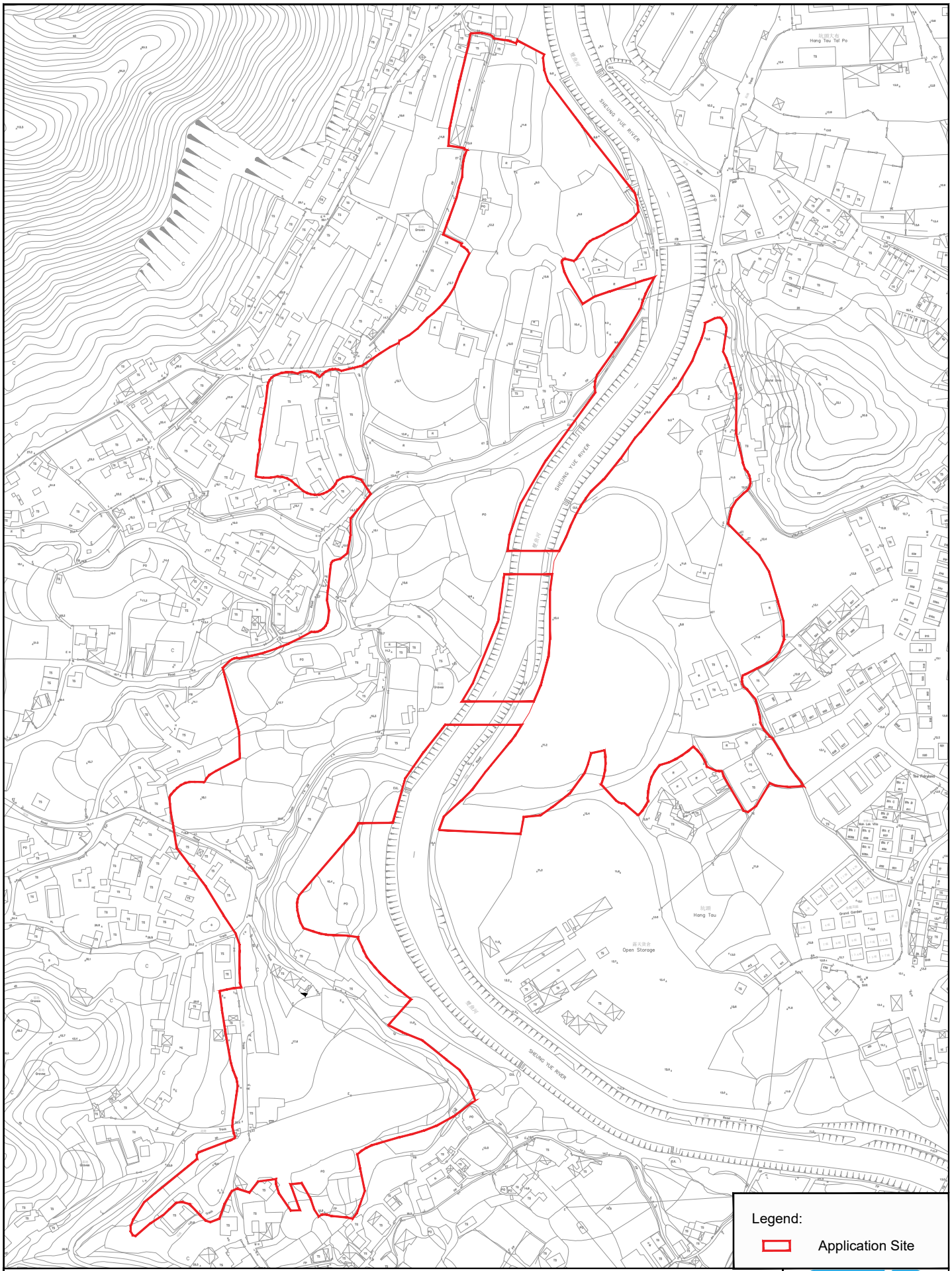

Figure: 1.1

Title: Location of the Application Site and its environs.

Project: Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

RAMBOLL

Drawn by:	TL
Checked by:	TC
Rev.:	1.1
Date:	Jan 2026

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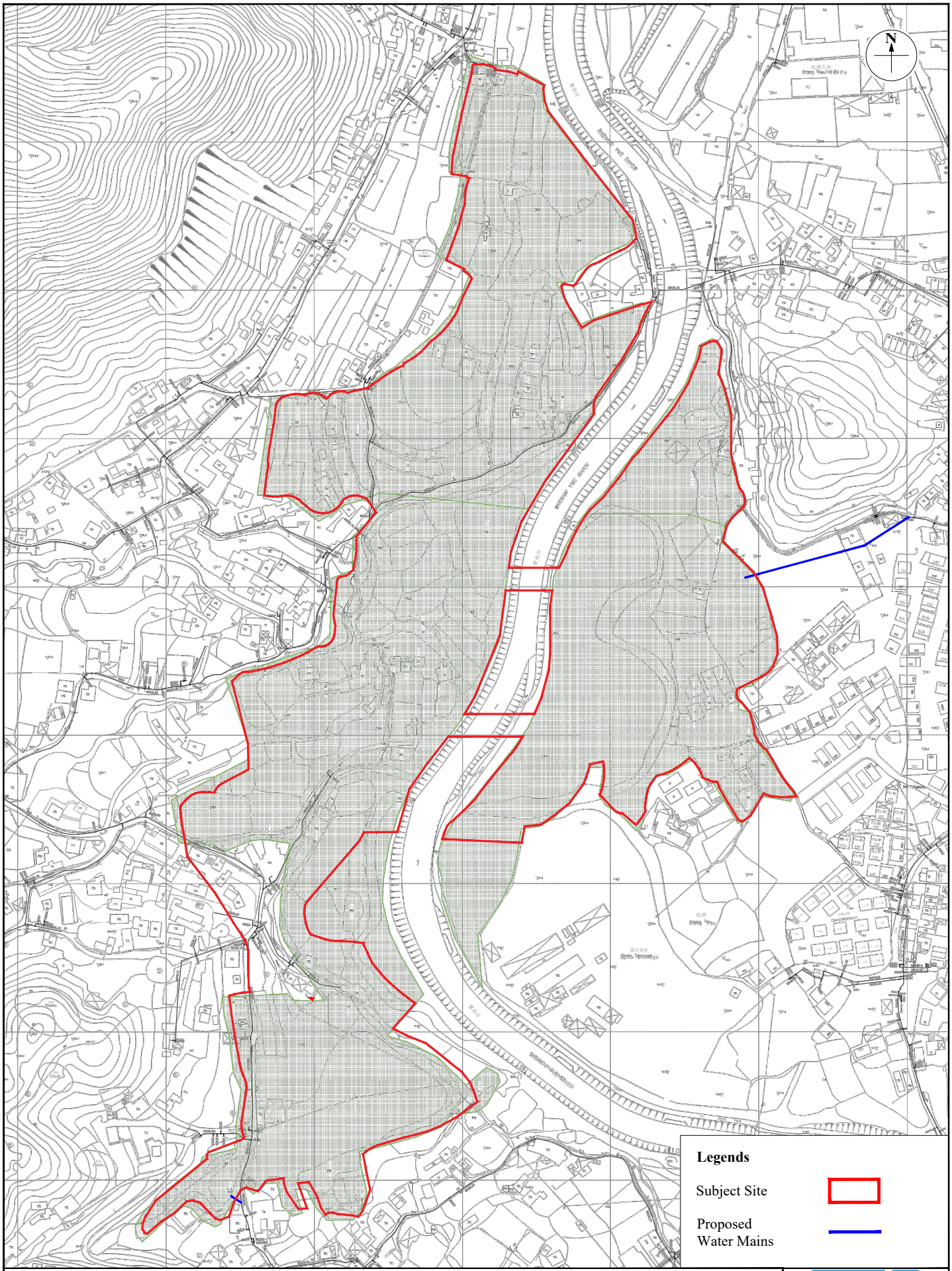

Figure: 2.1a	RAMBOLL
Title: Existing and Proposed Fresh Water Supply System for Proposed Development (Overall)	Drawn by: SC Checked by: TC
Project: Proposed School at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories	Rev.: 1.0 Date: Sep 2025

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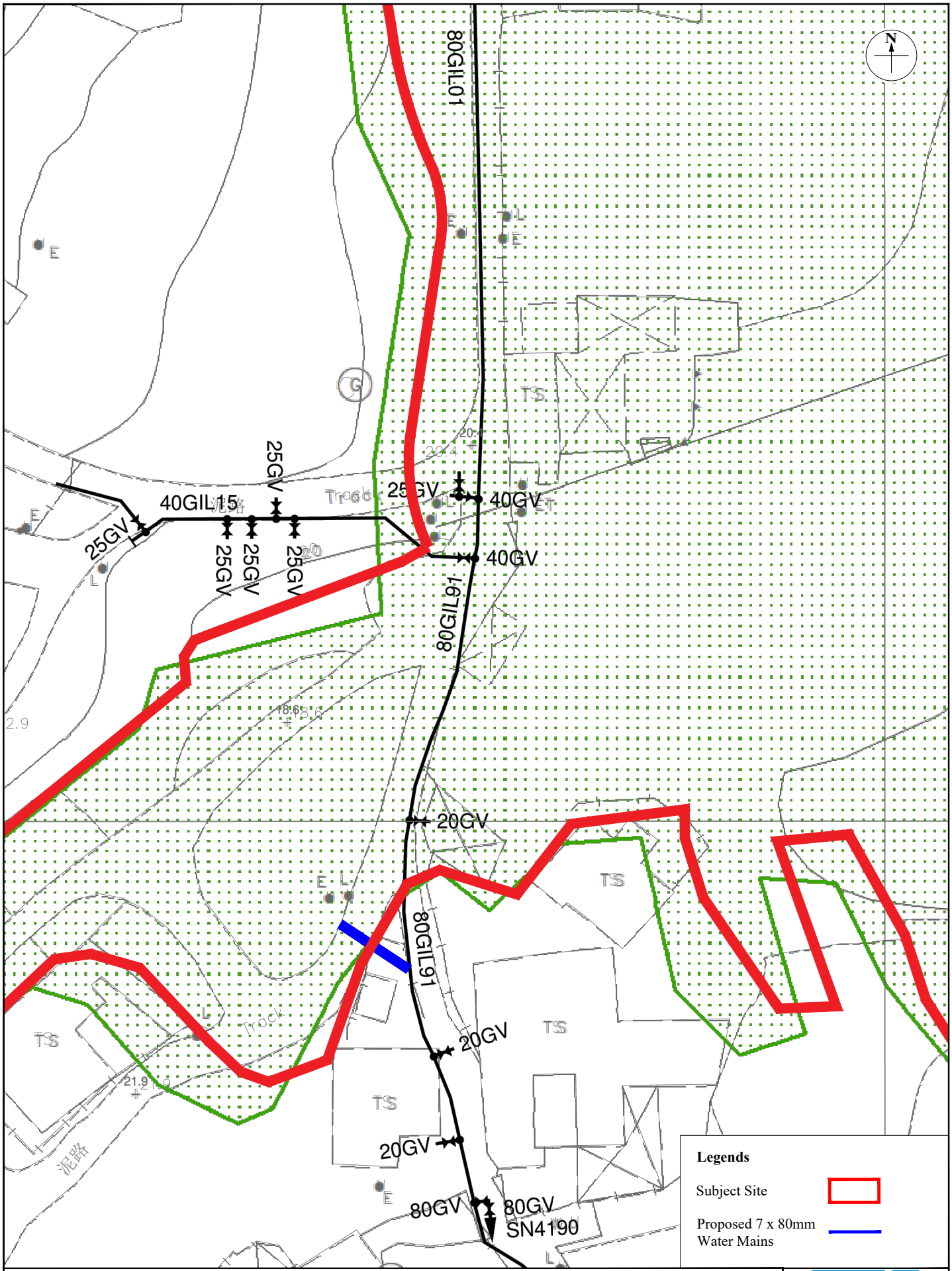

Figure:	2.1b	RAMBOLL
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Project:	Proposed School at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories	Rev.: 1.0 Date: Sep 2025

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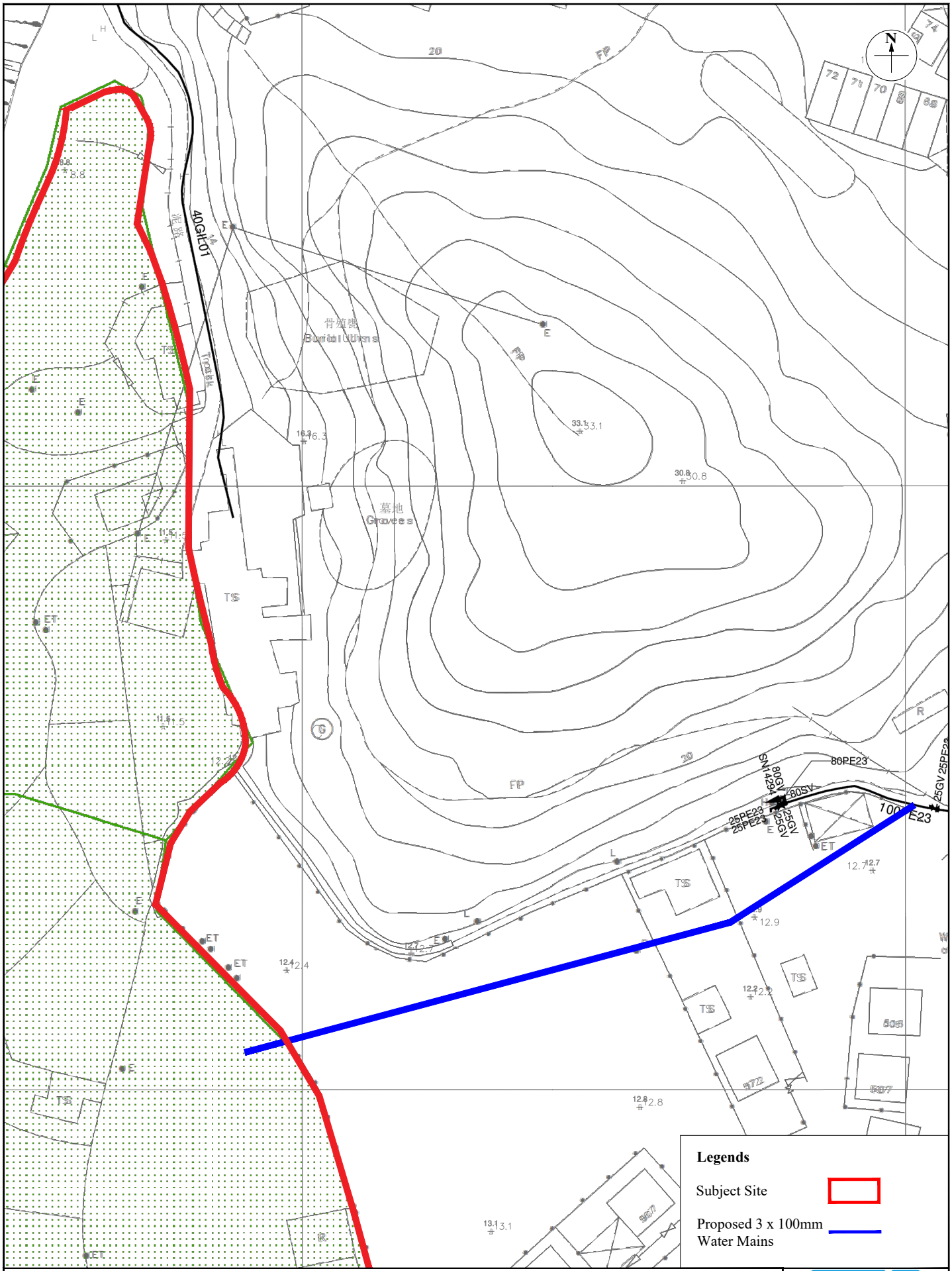

Figure:	2.1c	RAMBOLL
Title:	Existing and Proposed Fresh Water Supply System for Proposed Development (East)	Drawn by: SC Checked by: TC
Project:	Proposed School at Various Lots in D.D.94, 98 & 100 and Adjoining Government Land, Kwu Tung South, New Territories	Rev.: 1.0 Date: Sep 2025

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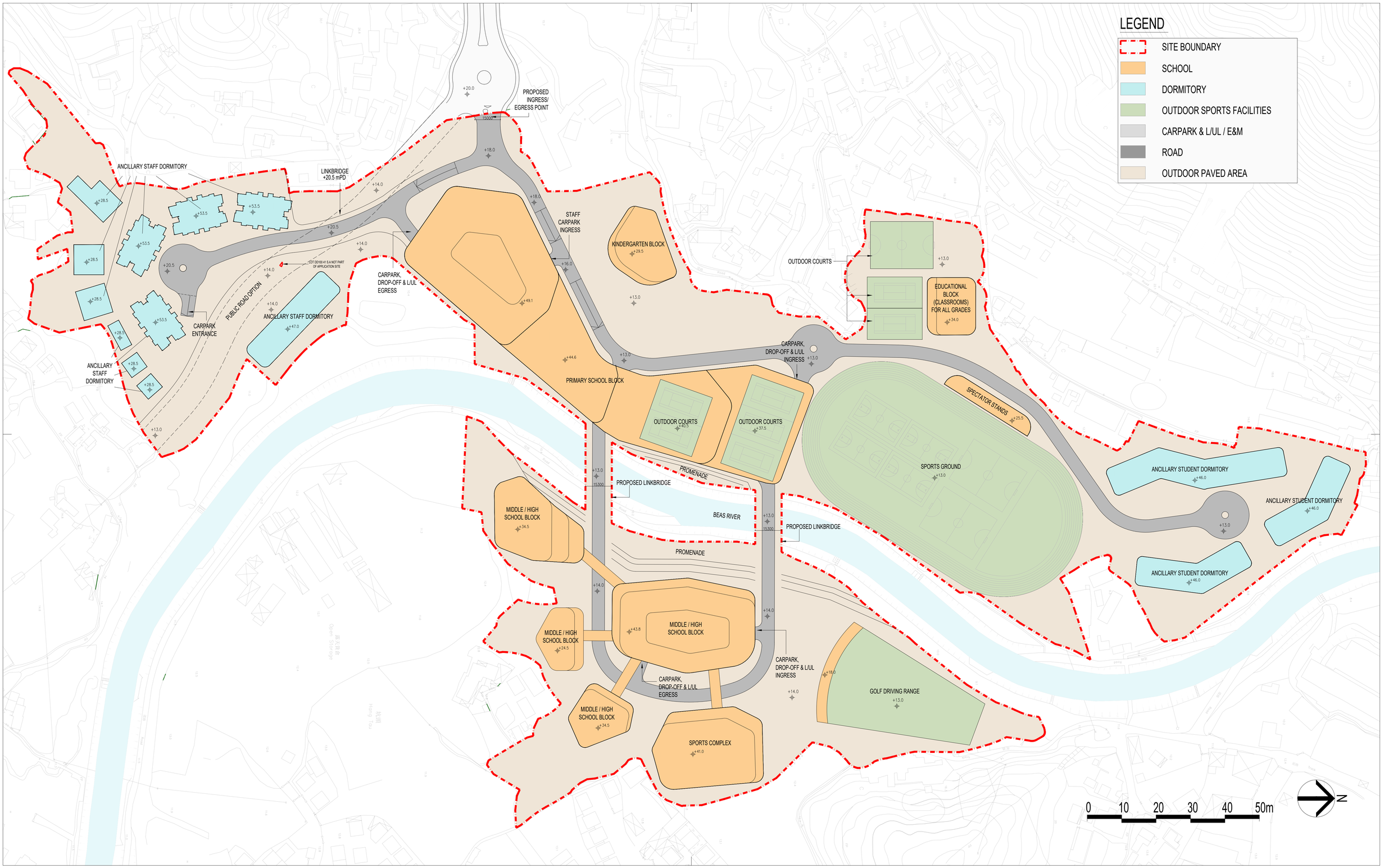
Appendix 1.1 Master Layout Plan



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_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

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Project Title

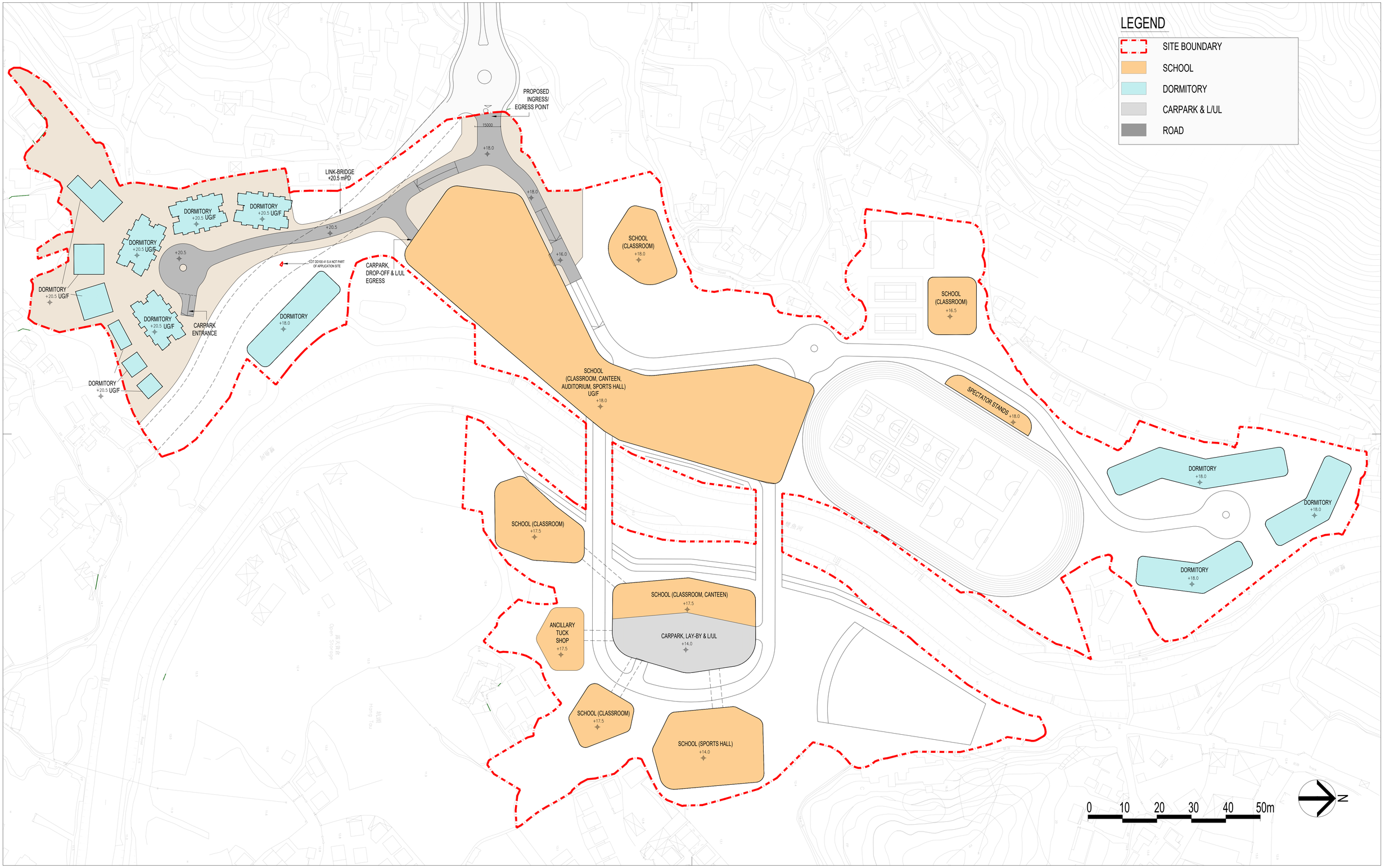
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



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Project Title

Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_03

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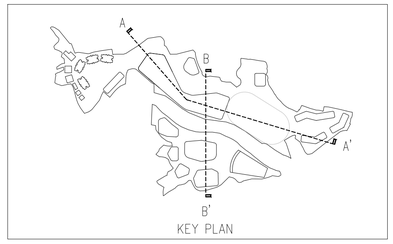
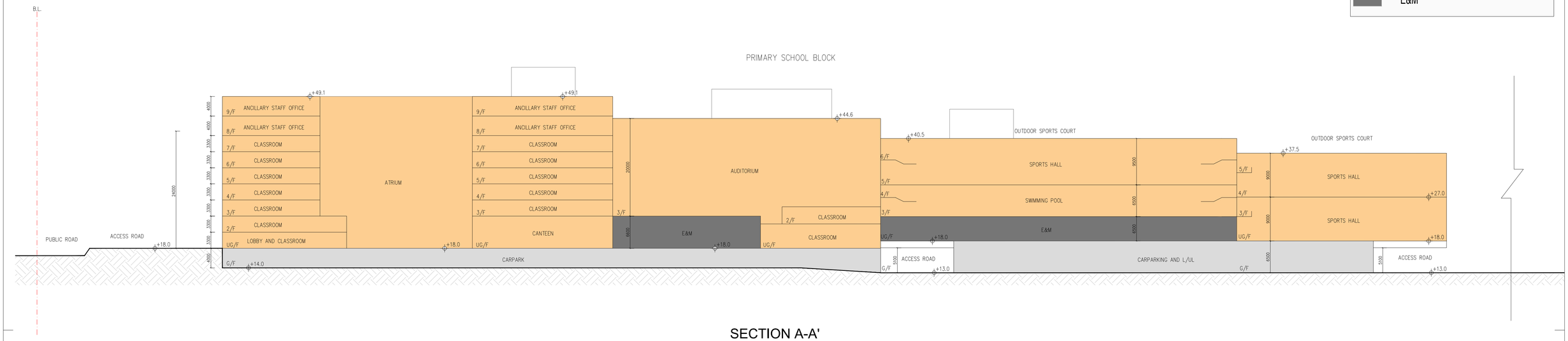


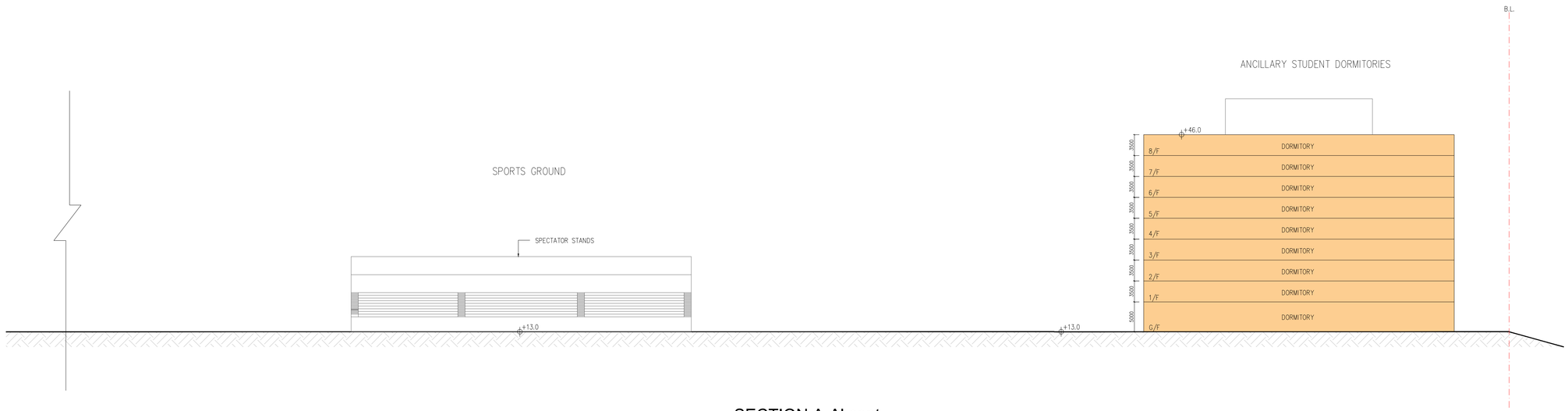
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



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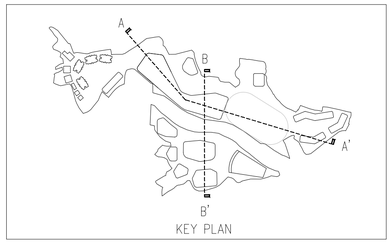

KEY PLAN

LEGEND

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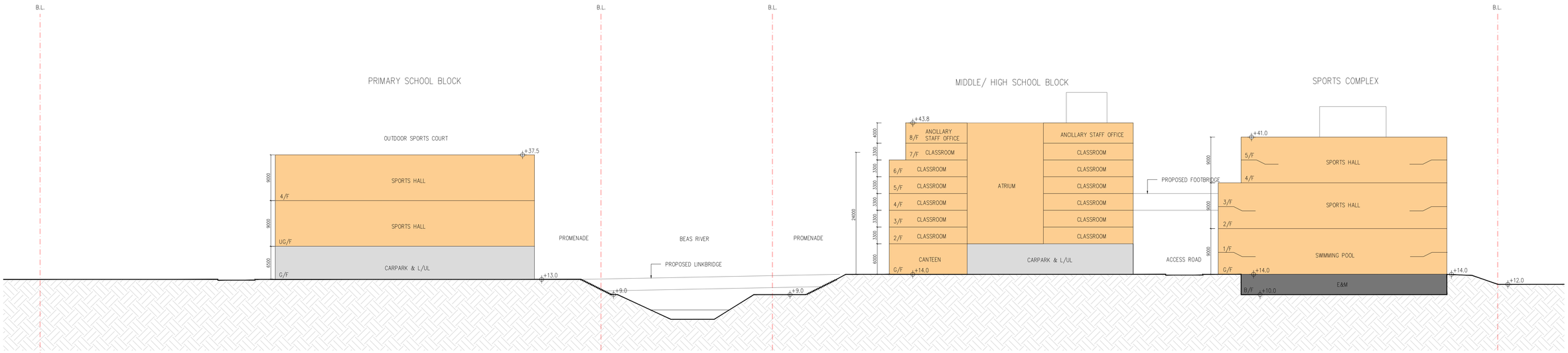
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



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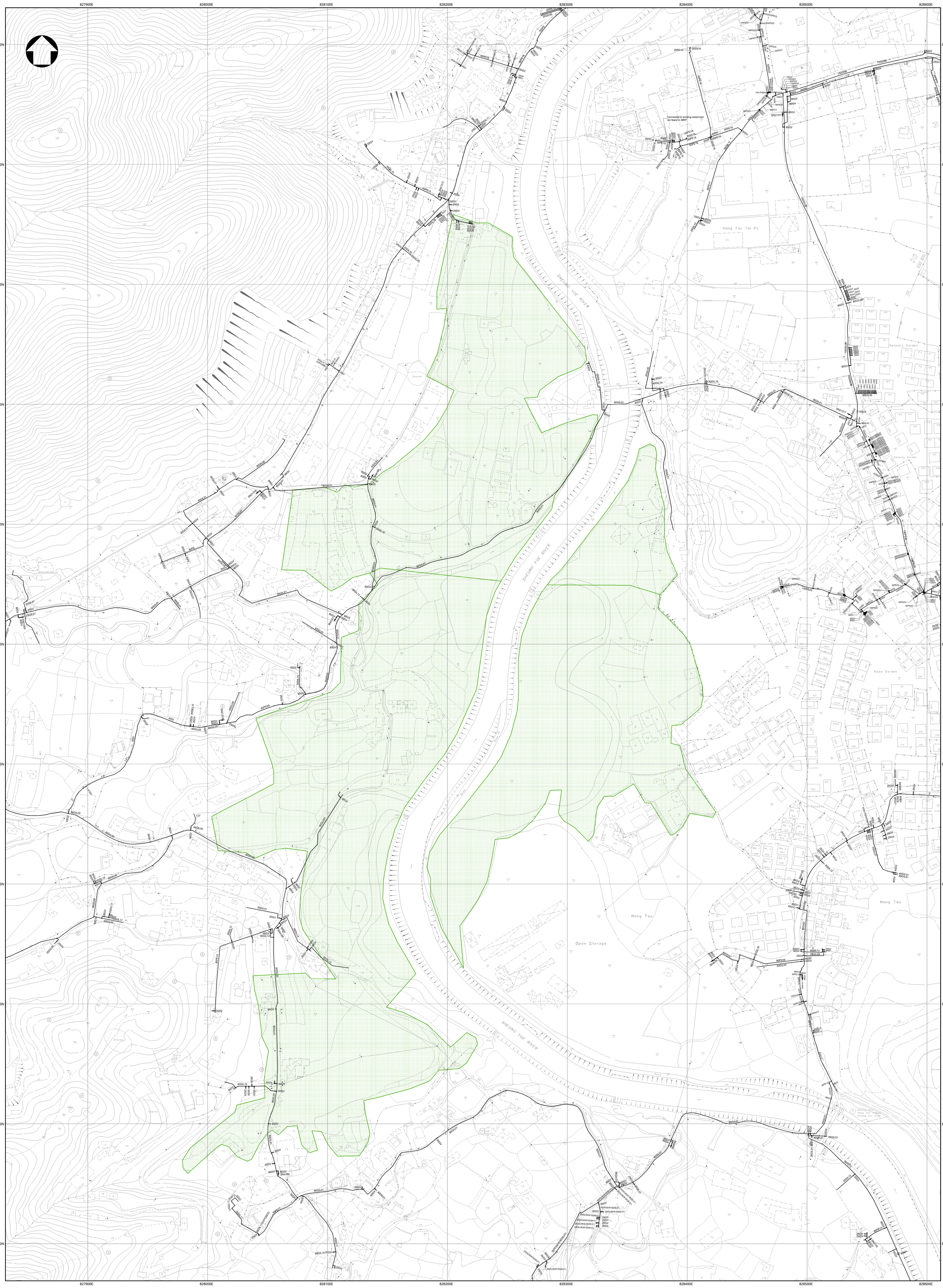
Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Appendix 2.1 Records Obtained from Water Supplies Department



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO PROPOSED WATER MAINS IN THE VICINITY OF THE SITE.
7. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
8. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
9. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
10. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
11. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.
12. ASBESTOS CEMENT / UNKNOWN MATERIALS MAINS WAS FOUND IN THE VICINITY OF THE SITE.
13. NO CATHODIC PROTECTION MAINS ON THE VICINITY OF THE SITE.

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/2-SE-9D, 10C, 14B, 14D, 15A & 15C

FILE REF: WSIA

REF. CODE: 33W25M	SHEET 1 OF 1	SCALE 1:1000

水 務 署
Water Supplies Department

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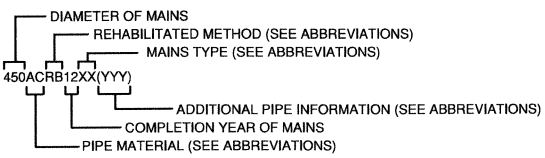
SIGN CONVENTIONS

TYPE	LEGEND
MAINS	
FRESH / SALT WATER MAINS	
RAW / UNTREATED WATER MAINS / CONDUIT	
WASHOUT PIPE / OVERFLOW PIPE	
SLUDGE PIPE	
TREATED EFFLUENT MAINS	
WATER MAINS REQUIRE REGULAR FLUSHING	
PIPE LAID IN SLEEVE	
PIPE LAID IN TROUGH	
PIPE LAID INSIDE TUNNEL	
BEING LAID MAINS	
WATER TUNNEL	
PROPOSED MAINS	
PRIVATE MAINS (SEE NOTE 2)	
MAINS OF OTHER DEPARTMENTS (SEE NOTE 3)	
FIRE SERVICE	
PEDESTAL FIRE HYDRANT	PH
GROUND FIRE HYDRANT	GH
HEAVY DRAW-OFF FIRE HYDRANT	HD
SWAN NECK FIRE HYDRANT	SN
TWIN OUTLET SWAN NECK FIRE HYDRANT	SN
VALVE	
VALVE (SEE ABBREVIATIONS)	
NORMALLY CLOSED VALVE	
FLAP VALVE	FV
FLOW REGULATING VALVE	FRV
NON RETURN / REFLUX VALVE	NRV
PRESSURE CONTROL / REDUCING / RELIEF VALVE	PRV
AIR VALVE	
AIR VALVE (SEE ABBREVIATIONS)	
AIR VALVE ON INSPECTION TEE (SEE ABBREVIATIONS)	
METER	
METER (SEE ABBREVIATIONS)	
VENTURI TUBE	VEN
CRITICAL PRESSURE POINT	PP
OTHERS	
CHANGE IN PIPE	
BLANK FLANGE / END CAP	
EXTENTS SHOWING FEATURES OF WATER MAINS	
INSPECTION TEE (SEE ABBREVIATIONS)	
PIPES CONNECTED	
STANDPIPE	STP
STRAINER	STR
CATHODIC PROTECTION INSTALLATION (SEE ABBREVIATIONS)	
LEAK NOISE CORRELATION POINT	LNC
LEAKAGE COLLECTION CHAMBER	LCC
FLOW MEASUREMENT CHAMBER	FMC
INSPECTION MANHOLE	IMH
MULTI - PURPOSE INSERTION CHAMBER	MIC
ESSENTIAL VALVE REFERENCE NUMBER (ALPHABET SEE ABBREVIATIONS)	C 888888
PIPES CROSS OVER	

DESIGNATIONS



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NOTES

1. WSD MAINS INCLUDE:
   (a) MAINS LAID AND MAINTAINED BY WSD.
   (b) MAINS LAID BY OTHER DEPARTMENTS OR PRIVATE PARTIES BUT MAINTAINED BY WSD AT WSD'S COST.
2. PRIVATE MAINS INCLUDE MAINS IN PRIVATE ROADS, PRIVATE HOUSING ESTATES, ETC. NOT MAINTAINED BY WSD.
3. MAINS OF OTHER DEPARTMENTS INCLUDE MAINS LAID BY OTHER GOVERNMENT DEPARTMENTS NOT MAINTAINED BY WSD.

ABBREVIATIONS

PIPE MATERIAL

AC	ASBESTOS CEMENT
CI	CAST IRON
CONC	CONCRETE
COPP	COPPER ALLOY
DI	DUCTILE IRON
GI	GALVANIZED IRON
GIL	LINED GALVANIZED IRON
GMS	GALVANIZED MILD STEEL
GRP	GLASS FIBRE REINFORCED PLASTIC
MDPE	MEDIUM DENSITY POLYETHYLENE
MS	MILD STEEL
PE	POLYETHYLENE
S	STEEL
SS	STAINLESS STEEL
UPVC	UNPLASTICISED POLYVINYL CHLORIDE

REHABILITATION METHOD

RA	CURED IN PLACE PIPE
RB	CLOSED FIT (FOLD AND FORM SYSTEM)
RD	SLIP LINING / SLIP INSERTION
RE	CLOSE FIT (SWAGELINING SYSTEM)
RF	FIBRE REINFORCED PLASTIC SYSTEM
RG	INTERNAL LINING REPAIRED
RH	EXTERNAL COATING REPAIRED
RK	COMBINATION OF INTERNAL LINING REPAIRED AND EXTERNAL COATING REPAIRED
RL	PIPE BURSTING
RM	EXTERNAL FIBRE REINFORCED PLASTIC (FRP) SYSTEM
RN	JOINT SEALANT WORKS
RP	PRIMUS LINE
RS	SPRAY POLYURETHANE SYSTEM

MAINS TYPE

F	FIRE SERVICE MAINS
OF	OVERFLOW PIPE
WO	WASHOUT PIPE

INSPECTION TEE

IT	INSPECTION TEE
MIT	MULTI - PURPOSE INSPECTION TEE

ADDITIONAL PIPE INFORMATION

(400)	OUTSIDE DIAMETER OF THE INSERTED PE PIPE FOR SPECIFIED REHABILITATED MAINS
(CPS10)	CATHODIC PROTECTION SYSTEM NO. 10
(DRY)	DRY MAINS
(E)	MAINS LAID UNDER ENTRUSTMENT WORKS
(EXPOSED)	EXPOSED PIPE
(IRRIGATION)	IRRIGATION PIPE
(L)	MAINS WITH LEAKAGE COLLECTION SYSTEM
(PC)	PENDING COMMISSIONED MAINS
(SCM100)	SHALLOW COVERED MAINS NO. 100
(SUBMARINE)	SUBMARINE PIPE
(TE)	TREATED EFFLUENT MAINS
(TMF)	TEMPORARY MAINS FOR FLUSHING
(W20163)	DRAWING REFERENCE
(WSD 437/....)	WSD FILE REFERENCE

METER

EMFM	ELECTROMAGNETIC FLOWMETER
FM	FLOWMETER
WDM	WASTE DETECTION METER
DM	DISTRICT METER

VALVE

BV	BUTTERFLY VALVE
GV	GATE VALVE
SC	STOP COCK
SV	SLUICE VALVE
V	GENERIC VALVE
WOV	WASHOUT VALVE

AIR VALVE

AV	GENERIC AIR VALVE
SAV	SINGLE AIR VALVE
DAV	DOUBLE AIR VALVE
MDAV	MULTI - PURPOSE DOUBLE AIR VALVE
ATV	GENERIC AIR VALVE ON INSPECTION TEE
STV	SINGLE AIR VALVE ON INSPECTION TEE
DTV	DOUBLE AIR VALVE ON INSPECTION TEE

ALPHABET OF ESSENTIAL VALVE REFERENCE NUMBER

FRESH WATER NETWORK SYSTEM

B	CONTROL VALVES OF DIRECT TEEING OFF TO SUPPLY FROM FRESH WATER TRUNK MAINS
C	CUT- LINE VALVES
D	ALL OTHER ESSENTIAL VALVES
M	DISTRICT BOUNDARY VALVES FOR DISTRICT METERING AREAS AND PRESSURE MANAGEMENT AREAS
S	SCOUR VALVES
T	TRUNK MAIN VALVES INCLUDING THOSE AT TEES
V	VALVES UNDER CHINA WATER SCHEME, HIGH ISLAND WATER SCHEME AND PLOVER COVE WATER SCHEME

SALT WATER NETWORK SYSTEM

X	ESSENTIAL VALVES

CATHODIC PROTECTION INSTALLATION

TS1	TEST STATION NO.1
HA2(1)	HORIZONTAL ANODE NO. 2 (1 GROUP OF ANODE)
VA3(2)	VERTICAL ANODE NO. 3 (2 GROUPS OF ANODE)

編號 no.	日期 date	摘 要 description	簽署 initial
C	6/12/19	GENERAL REVISION	SE/PGIS
B	11/02/11	GENERAL REVISION	(Signed) L.H. LAM SE/Dev(SD)
A	16/06/05	GENERAL REVISION	(Signed) K.T. CHAN SE/AM

修 訂 REVISION

圖則名稱 drawing title	簽署 initial	日期 date	圖則編號 drawing no. / 比例 scale
MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS	繪製 drawn N.I. CHEUNG	03/03/98	SK 3988C / NOT APPLICABLE
	核對 checked		
	加簽 endorsed		
	核准 approved (Signed) C.C. CHAN CE/RA	12/03/98	

水 務 署
Water Supplies Department

A4 210 X 297

CAD REF. SK3988C.DWG
PLOTTING SCALE 1 : 1

Appendix 2.2 Detailed Water Supply Impact Assessment Calculations

Table 1a - Population Estimation for Proposed Development (Overall)

Table 4b- Mains Capacity Calculation for Proposed Development (East Portion)	**Dormitory**				
	Total number of residents	=	2243	people	
	Total	**=**	**2243**	**people**	
Non-Domestic (School)	**1. International School**				
	Total number of Students	=	3000	people	
	Total number of Teachers & Staff	=	633	people	
	Total	**=**	**3633**	**people**	
	2. Canteen				
	Total Area	=	4500	m^2	
	3. Swimming Pool				
	Volume	=	3750	m^3	(2 x 1250 m^2 x 1.5m depth)
	4. Irrigation				
	Area	=	25400	m^3	(Assume 20% of Site Area)

Table 1b - Population Estimation for Proposed Development (West)

Table 4b- Mains Capacity Calculation for Proposed Development (East Portion)	**Dormitory**				
	Total number of residents	=	2243	people	
	Total	**=**	**2243**	**people**	
Non-Domestic (School)	**1. International School**				
	Total number of Students	=	1600	people	
	Total number of Teachers & Staff	=	338	people	
	Total	**=**	**1938**	**people**	
	2. Canteen				
	Total Area	=	1500	m^2	
	3. Swimming Pool				
	Volume	=	1875	m^3	(1250 m^2 x 1.5m depth)
	4. Irrigation				
	Area	=	18400	m^3	(Assume 20% of Site Area - West)

Table 1c - Population Estimation for Proposed Development (East)

Table 4b- Mains Capacity Calculation for Proposed Development (East Portion)	**Dormitory**				
	Total number of residents	=	0	people	
	Total	**=**	**0**	**people**	
Non-Domestic (School)	**1. International School**				
	Total number of Students	=	1400	people	
	Total number of Teachers & Staff	=	295	people	
	Total	**=**	**1695**	**people**	
	2. Canteen				
	Total Area	=	3000	m^2	
	3. Swimming Pool				
	Volume	=	1875	m^3	(1250 m^2 x 1.5m depth)
	4. Irrigation				
	Area	=	10500	m^3	(Assume 20% of Site Area - East)

Table 2a - Daily Water Demands Calculation for Proposed Development (Overall)

Type	Population (head)	Freshwater		Flushing Water	
		Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)
Non-Domestic (Dormitory) [1]	2,243	0.300	672.90	0.070	157.01
Non-Domestic - International School	1695	0.025	42.38	0.07	118.65
Type	**GFA (m^2)**	**Freshwater**		**Flushing Water**	
		Daily Unit Demand (m^3/m^2/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/m^2/day)	Daily Demand (m^3/day)
Non-Domestic - Canteen	4,500	0.020	90.00	0.007	31.50
Non-Domestic - Swimming Pool [2]	-	-	3750	-	-
Non-Domestic - Irrigation	25400	0.070	1778	-	-
		Total for Proposed Development	**6333.3**		**307.2**

[1] The residential R2 Type consideres all students and staff living in the Dormitory

[2] Two 1250 m2 x 1.5m depth of swimming pool are provided

Table 2b - Daily Water Demands Calculation for Proposed Development (West Portion)

Type	Population (head)	Freshwater		Flushing Water	
		Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)
Non-Domestic (Dormitory) [1]	2,243	0.300	672.90	0.070	157.01
Non-Domestic - International School	1938	0.025	48.45	0.07	135.66
Type	**GFA (m^2)**	**Freshwater**		**Flushing Water**	
		Daily Unit Demand (m^3/m^2/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/m^2/day)	Daily Demand (m^3/day)
Non-Domestic - Canteen	1,500	0.020	30.00	0.007	10.50
Non-Domestic - Swimming Pool	-	-	1875	-	-
Non-Domestic - Irrigation	18400	0.070	1288	-	-
		Total for Proposed Development	**3914.4**		**303.2**

[1] The residential R2 Type consideres all students and staff living in the Dormitory

Table 2c - Daily Water Demands Calculation for Proposed Development (East Portion)

Type	Population (head)	Freshwater		Flushing Water	
		Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/head/day)	Daily Demand (m^3/day)
Non-Domestic (Dormitory) [1]	0	0.300	0.00	0.070	0.00
Non-Domestic - International School	1695	0.025	42.38	0.07	118.65
Type	**GFA (m^2)**	**Freshwater**		**Flushing Water**	
		Daily Unit Demand (m^3/m^2/day)	**Daily Demand (m^3/day)**	**Daily Unit Demand (m^3/m^2/day)**	**Daily Demand (m^3/day)**
Non-Domestic - Canteen	3,000	0.020	60.00	0.007	21.00
Non-Domestic - Swimming Pool	-	-	1875	-	-
Non-Domestic - Irrigation	10500	0.070	735	-	-
		Total for Proposed Development	**2712.4**		**139.7**

[1] The residential R2 Type consideres all students and staff living in the Dormitory

Table 3a- Mains Capacity Calculation for Proposed Development (East Portion)

Site Demand	Mean Daily Demand (without swimming pool)	Peak Factor	Peak Flow (without swimming pool)	Peak Flow (with swimming pool)
	m^3/day	-	m^3/day	m^3/day
Fresh Water	2583.3	3	7749.9	11499.9
Flushing Water	307.2	2	614.4	614.4
			Total* =	12114.3

* Assume both fresh water and flushing water are provided from Kwu Tung Water Service Reservoir

Table 3b- Mains Capacity Calculation for Proposed Development (West Portion)

Site Demand	Mean Daily Demand (without swimming pool)	Peak Factor	Peak Flow (without swimming pool)	Peak Flow (with swimming pool)
	m^3/day	-	m^3/day	m^3/day
Fresh Water	2039.4	3	6118.2	7993.2
Flushing Water	303.2	2	606.4	606.4
			Total* =	8599.6

* Assume both fresh water and flushing water are provided from Kwu Tung Water Service Reservoir

Table 3c- Mains Capacity Calculation for Proposed Development (East Portion)

Site Demand	Mean Daily Demand (without swimming pool)	Peak Factor	Peak Flow (without swimming pool)	Peak Flow (with swimming pool)
	m^3/day	-	m^3/day	m^3/day
Fresh Water	837.4	3	2512.2	4387.2
Flushing Water	139.7	2	279.4	279.4
			Total* =	4666.6

* Assume both fresh water and flushing water are provided from Kwu Tung Water Service Reservoir

Table 4a- Mains Capacity Calculation for Proposed and Existing Development (West Portion)

(A) Proposed Main Capacity

Pipe Designation	Diameter	Area	Peak Flow [1]	Velocity	Peak Flow within
	mm	sqm	m3/day	m/s	0.9 to 3.0m/s ?
7 New Fresh Water Mains	80	0.005027	1228.5	2.8288	yes
1 Existing Fresh Water Main	80	0.005027	1228.5	2.8288	yes

[1] The total peak flow is 8599.6 m3/day. As 7 new fresh water mains are proposed, the peak flow for each water main = 8599.6 /7 = 1228.5 m3/day.

Table 4b- Mains Capacity Calculation for Proposed and Existing Development (East Portion)

(A) Proposed Main Capacity

Pipe Designation	Diameter	Area	Peak Flow	Velocity	Peak Flow within
	mm	sqm	m3/day	m/s	0.9 to 3.0m/s ?
3 New Fresh Water Mains	100	0.007854	1555.5	2.2923	yes
1 New Existing Water Main	100	0.007854	1555.5	2.2923	yes

[1] The total peak flow is 4666.6 m3/day. As 3 new fresh water mains are proposed, the peak flow for each water main = 4666.6 /3 = 1555.5 m3/day.

Attachment 9

Replacement Pages to the Landscape Master Plan and Broad Brush Tree Survey

1.0 Introduction

1.1 SCENIC Landscape Studio Limited have been commissioned to prepare a Landscape Proposal for a planning application for a Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories (hereafter referred to as the Application Site).

1.2 This application proposes the establishment of a new international school at Ki Lun Tsuen, strategically positioned adjacent to the emerging San Tin Technopole. The San Tin Technopole is envisioned as a critical node for the city's future growth, designed to attract local and international technology enterprises, start-ups, and research talent from across the globe. The school site has a unique setting that balances environmental serenity with accessibility to these cutting-edge industries. As the development of San Tin Technopole accelerates, the provision of a quality international school will enhance the attractiveness of San Tin as a family-friendly destination for tech professionals and contribute to the sustainable, vibrant growth of the Northern Metropolis.

1.3 This report seeks to present the landscape design proposal. It will outline the landscape design objectives and landscape treatment for each component of the proposed Development Site. This report has been prepared in accordance with Buildings Department, Lands Department and Planning Department Joint Practice Note No. 3 concerning the Re-engineering of Approval Process for Land and Building Developments and adheres to the requirements of Buildings Department Practice Notes PNAP APP-152 Sustainable Building Design Guidelines for the calculation of the green coverage.

1.4 The Landscape Master Plan is presented as **Figures 5.1 to 5.5** and sections through the landscape as **Figures 5.6** to **5. 8**.

2.0 Existing Site Description

2.1 The Application Site is located to the western side of the village of Hang Tau, Tai Po, covering an area of approximately 128,232 m^2. The overall site is an irregular, elongated shape and comprised two sections located on the eastern and western sides of the Sheung Yue River / River Beas, bounded by Hang village to the east, and Ki Lun village to the west. The site also includes the two proposed link bridges. The site area on the western side of the river generally slopes upwards with a cross fall of an east - west incline. At the southern portion existing site levels range from approximately +20.4 down to +11.2mPD near the riverside and at the central portion from around +18.8 down to +9.9mPD. At the northern portion the slopes are less pronounced, ranging between +14.4 down to +8.8mPD. On the eastern side of the river the land is generally flatter and more low lying, with levels ranging from +11.6 down to +8.8mPD.

2.2 The majority of the site is zoned as Agriculture (AGR), with a small portion at the south-west corner zoned as Green Belt (GB). The site currently contains a mix of land uses, including small holdings, orchards and wooded areas at the higher elevated parts and agricultural fields, ponds and some overgrown areas at the lower lying parts adjacent to the river. There are several existing trees on the site, with a mix of mature, native trees notable along the river corridor, but also weed trees, and tree groups comprising both native and exotic species, including several fruit trees. These existing Landscape Resources are described at **Section 4**.

3.0 Description of the Proposed Scheme

3.1 Under the current application, the proposed International School development consists of a campus set out in functional clusters of buildings and proposed land uses along an approximately 800m long section of the meandering River Beas. Land on both sides of the river is utilized, with a primary school and sport complex forming the core of a building cluster set out along the western side of the river and a middle school and departmental school buildings forming the development

on the eastern side of the river. At the northern and southern ends of the site clusters of dormitory buildings are proposed, with the southern cluster of blocks with Max. B.H. +53.5mPD and the northern area of student and staff accommodation with B.H. +46mPD.

3.2 Road access to the site is from the western side of the river, where a new public road from the San Tin Technopole Development and the Northern Metropolis Highway is proposed. The main entrance from this external public road at the central western edge of the site leads to a north to south orientated boulevard which forms a spine road connecting all the development areas on the western bank of the river. At the central section of the site, this road joins two east to west routes forming a loop road which crosses the river at two proposed bridges. These cross-river links provide convenient connections between the main school-related facilities on either side of the river at the central section of the proposed scheme.

3.3 The central portion of the scheme includes development proposals on both sides of the river. The northern section is dedicated to outdoor sports facilities, with a sports field and a running track and a sports education area on the western side of the river and a proposed golf driving range on the eastern side. To the south of these recreational spaces the main school facilities are proposed. On the eastern side of the river middle / high school blocks (B.H. +43.8mPD, +41.0mPD, +34.5mPD, and +24.5mPD) occupy the river frontage and southern part. To the west a stepped development block (B.H. +49.1mPD, B.H. +44.6mPD, B.H. +40.5mPD -and +37.5mPD) are proposed.

3.4 The development is set back from the river edge to create a riverside park and continuous waterfront greenery, open space and pedestrian connections from north to south, through the centre of the campus. The disposition of the proposed buildings across the site includes a variety of heights and building forms, reflecting the different building typologies required for the campus area. The main development blocks on the western side of the river are set against the wooded valley side slopes, with clustering of different building typologies to create an interesting development form which responds to the surrounding terrain and meandering river frontage. The forms of several blocks also step down towards the riverside to create a more subtle transition between the existing landscape and the development proposals.

4.0 Landscape Impact Assessment

Existing Landscape Resources

4.1 There are eight Landscape Resources (LRs) within the Application Site which are potentially affected by the Proposed Scheme. **Figure 4.1** maps the LRs within the Application Site, and **Figures 4.2** to **4.5** provide photographs of these LRs.

LR1 Secondary Woodland and Tree Groups

4.2 This LR covers an area of approximately 36,232m^2 within the Application Site. LR1 is characterised by clusters of woodland, including some mature, native trees, but also weed trees, and tree groups comprising both native and exotic species, including several fruit trees. Owing to mixed composition, overall LR1 is considered to have a medium sensitivity to change.

LR2 Rivers and Streams

4.3 A small stream flows towards the Sheung Yue River at the north western periphery of the Application Site. This small stream course covers an area of approximately 2,000m^2 of the Application Site. Although following a sinuous course at some areas, the stream course appears to have been modified to facilitate agricultural use of the valley floor. The stream edges are lined by a combination of trees and shrubs. Owing to the modified nature of the watercourse LR2 is considered to have a medium sensitivity to change.

LR3 Ponds and Marshy Ground

4.4 Remnant meanders of the Sheung Yue River, associated marshy ground and agricultural irrigation ponds flank the Sheung Yue River channel at the central part of the Application Site, covering an area of approximately 12,000m^2. The agricultural ponds are well maintained, however the meanders and marshy ground appear unmanaged and overgrown, with self sown species such as *Macaranga* and *Leuceana* in evidence. Owing to the modified and overgrown nature of these waterbodies, LR3 is considered to have a medium sensitivity to change.

LR4 Open Grass Areas

4.5 This LR is located at open areas at the north and south of the site, with a combined area of approximately 22,000m^2. These areas appear to have been formed by recent vegetation clearance to create mown, grassy fields with occasional single trees. Owing to its recent, man-made origin LR4 is considered to have a medium sensitivity to change.

LR5 Scrub and Waste Ground

4.6 LR5 covers and area of approximately 14,000m^2 of the Application Site. This LR is characterised by disturbed and unmaintained, weed-infested land punctuated by occasional scrubby trees, including weed trees. Owing to its disturbed nature this area is not considered to be sensitive to change.

LR6 Agricultural Land

4.7 This LR covers an area of approximately 15,000m^2 within the Application Site. LR6 is characterised by agricultural land including orderly areas of crops such as bananas, as well as less intensively managed and overgrown areas of vegetation and orchards, all located on the fertile flood plain areas of the valley floor. Owing to the transient nature of the vegetation in such cultivated areas this LR is considered to have a medium sensitivity to change.

LR7 Workshops and Storage Yard

4.8 LR7 is located at the western side of Application Site with and area of approximately 5,000m^2. This LR is characterised by light industrial, storage and workshop concerns with a series of shed-like

structures with areas of hardstanding. These are punctuated by occasional fruit trees and self sown tree groups. Owing to its disturbed nature this area is not considered to be sensitive to change.

LR8 Houses and Small Holdings

4.9 The more elevated areas of the site include small holdings and single residences, typically shack-like buildings and associated garden areas punctuated by garden planting, fruit trees and small tree groups. This LR covers an areas of approximately 22,000m^2. Owing to the developed and sometime ramshackle nature of LR8, this area is not considered to be sensitive to change.

Landscape Impact Assessment

This section of the report describes the residual landscape impacts for the identified LRs following the implementation of the proposed landscape measures.

LR1 Secondary Woodland and Tree Groups

4.10 Approximately 35,432m^2 (98%) of this LR will be affected by the Proposed Scheme. The Master Plan for the site aims to create a riverside parkland along the river, with the opportunity to maintain some of the existing riverside trees, whilst some areas of existing trees may also be preserved at peripheral boundary areas. However the requirements for site formation to facilate the development require most of this LR to be removed at other areas of the site. This is mitigated to some extent by the fact that some of the larger native trees are located at the preserved areas at the riverside and near the site boundary.

LR2 Rivers and Streams

4.11 Approximately 2,000m^2 (100%) of this LR will be affected by the Proposed Scheme, however given the modified nature of the watercourse and the small proportion of the site this LR occupies it is considered that the impacts will not be significant.

LR3 Ponds and Marshy Ground

4.12 Approximately 12,000m^2 (100%) of this LR will be affected by the Proposed Scheme. The requirements for site formation to facilate the development require landfilling, affecting the viability of LR3. It is noted that there are some smaller ponds in the existing landscape areas to the immediate soutrh of the site. The overgrown and unmaintained nature of the existing landscape also reduces the significance of this loss to some extent.

LR4 Open Grass Areas

4.13 Approximately 22,000m^2 (100%) of this LR will be affected by the Proposed Scheme. However given the recent, manmade origins of the existing landscape and the potential to recreate this LR within the landscape of the new development the impacts are not considered to be significant.

LR5 Scrub and Waste Ground

4.14 Approximately 14,000m^2 (100%) of this LR will be affected by the Proposed Scheme. However given the disturbed nature of the existing landscape it is considered that the impacts will not be significant.

LR6 Agricultural Land

4.15 Approximately 15,000m^2 (100%) of this LR within the Application site will be affected by the Proposed Scheme. Noting the transient nature of this LR and that there are similar landscape areas to the immediate south of the site, associated with the Lohas Organic Farm, it is considered that the impacts will not be significant, after implemenation of the new landscape scheme.

LR7 Workshops and Storage Yards

4.16 Approximately 5,000m^2 (100%) of this LR will be affected by the Proposed Scheme. However given the disturbed nature of the existing landscape it is considered that the impacts will not be significant and infact may be beneficial after implemenation of the new landscape scheme.

North

LOT DD100 43 S.A
NOT PART OF
APPLICATION SITE

SHEUNG YUE RIVER

APPLICATION SITE BOUNDARY
LR1 SECONDARY WOODLAND / TREE GROUPS (36232m2)
LR2 RIVERS AND STREAMS (2000m2)
LR3 PONDS AND MARSHY GROUND (12000m2)
LR4 OPEN GRASS AREAS (22000m2)
LR5 SCRUB AND WASTE GROUND (14000m2)
LR6 AGRICULTURAL LAND (15000m2)
LR7 WORKSHOPS AND STORAGE YARDS (5000m2)
LR8 HOUSES AND SMALL HOLDINGS (22000m2)

PROJECT TITLE	Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories		
		SCALE	1:2500 @ A3
		DATE	13/02/2026
		CHECKED	JBC
		DRAWN	JH
LANDSCAPE RESOURCES		DRAWING NO	HLDP071-Figure 4.1
		REV	C

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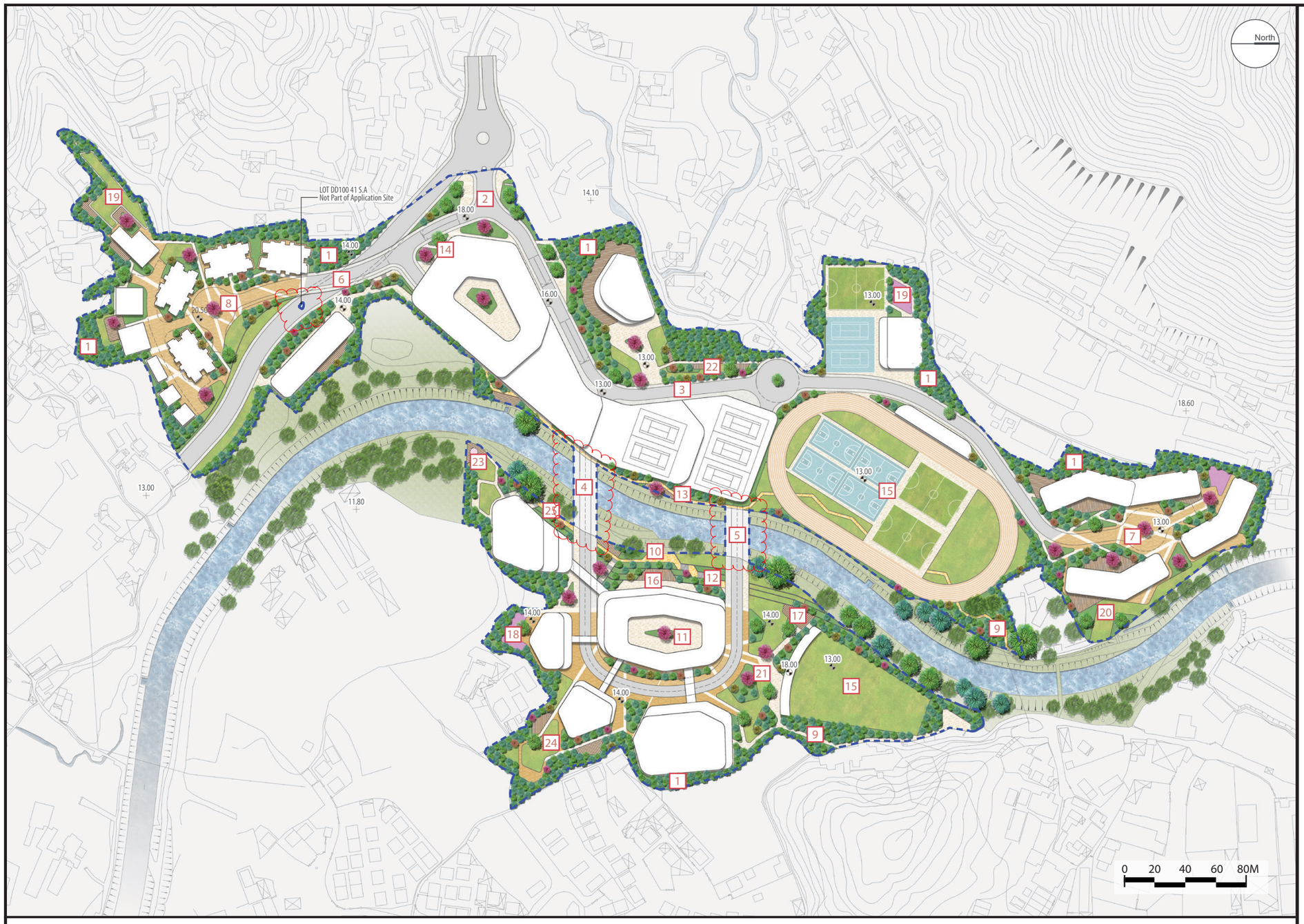

LEGEND

- Application Site Boundary
- xx.xx Existing Levels
- xx.xx Proposed Levels
- Proposed Architectural Scheme
- Proposed New Tree Planting
- Proposed Retained Trees
- Proposed Feature Tree Planting
- Proposed Lawn
- Proposed Paving
- Proposed Timber Deck

LANDSCAPE COMPONENTS

1. Landscape Screen Planting
2. Main Entrances
3. Central Loop Road
4. South Bridge
5. North Bridge
6. Streetscape Promenade
7. Academic's Plazza
8. Scholar's Plazza
9. Pedestrian Green Connector
10. Central Riverside Park
11. School Block Atriums
12. Central Garden Terraces
13. Besa River Walk
14. Gateway Plaza
15. Central Sports Arena
16. School Compound Landscape
17. Pocket Gardens
18. Children's Play Areas
19. Exercise Garden
20. Tranquillity Garden
21. Natural Garden
22. Blossom Walk
23. Art and Performance Garden
24. Discovery Sculpture Garden
25. Colour Garden

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Landscape Master Plan - All Areas

SCALE	A.S.	DATE	JAN 2026
CHECKED	JBC	DRAWN	DN/JH
FIGURE NO.	Figure 5.1	REV	B

SCENIC Landscape Studio Limited
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Website: scenic@studioscenic.com

LEGEND

- Application Site Boundary
- xx.xx Existing Levels
- xx.xx Proposed Levels
- Proposed Architectural Scheme
- Proposed New Tree Planting
- Proposed Retained Trees
- Proposed Feature Tree Planting
- Proposed Lawn
- Proposed Paving
- Proposed Timber Deck

LANDSCAPE COMPONENTS

1. Landscape Screen Planting
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3. Central Loop Road
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9. Pedestrian Green Connector
10. Central Riverside Park
11. School Block Atriums
12. Central Garden Terraces
13. Besa River Walk
14. Gateway Plaza
15. Central Sports Arena
17. Pocket Gardens
18. Children's Play Areas
21. Natural Garden
22. Blossom Walk
23. Art and Performance Garden
24. Discovery Sculpture Garden
25. Colour Garden

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Landscape Master Plan - Enlargement (Central)

SCALE	A.S.	DATE	JAN 2026
CHECKED	JBC	DRAWN	DN/JH
FIGURE NO.	Figure 5.2	REV	B

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LEGEND

- Application Site Boundary
- xx.xx — Existing Levels
- xx.xx — Proposed Levels
- Proposed Architectural Scheme
- Proposed New Tree Planting
- Proposed Retained Trees
- Proposed Feature Tree Planting
- Proposed Lawn
- Proposed Paving
- Proposed Timber Deck

LANDSCAPE COMPONENTS

1. Landscape Screen Planting
3. Central Loop Road
5. North Bridge
7. Academic's Plazza
9. Pedestrian Green Connector
12. Central Garden Terraces
15. Central Sports Arena
17. Pocket Gardens
19. Exercise Garden
20. Tranquillity Garden
21. Natural Garden
22. Blossom Walk

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Landscape Master Plan - Enlargement (North)

SCALE	A.S.	DATE	JAN 2026
CHECKED	JBC	DRAWN	DN/JH
FIGURE NO.	Figure 5.3	REV	B

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LANDSCAPE ARCHITECTURE, LANDSCAPE PLANNING & ASSESSMENT
12/F So Hong Commercial Building, 41-47 Jervois Street, Sheung Wan, Hong Kong
Telephone: 2468 2422
Facsimile: 3016 2422
Website: scenic@studioscenic.com

LEGEND

- Application Site Boundary
- xx.xx Existing Levels
- xx.xx Proposed Levels
- Proposed Architectural Scheme
- Proposed New Tree Planting
- Proposed Retained Trees
- Proposed Feature Tree Planting
- Proposed Lawn
- Proposed Paving
- Proposed Timber Deck

LANDSCAPE COMPONENTS

1. Landscape Screen Planting
2. Main Entrances
4. South Bridge
6. Streetscape Promenade
8. Scholar's Plazza
14. Gateway Plaza
18. Children's Play Areas
19. Exercise Garden
23. Art and Performance Garden
24. Discovery Sculpture Garden
25. Colour Garden

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Landscape Master Plan - Enlargement (South)

SCALE	A.S.	DATE	JAN 2026
CHECKED	JBC	DRAWN	DN/JH
FIGURE NO.	Figure 5.4	REV	B

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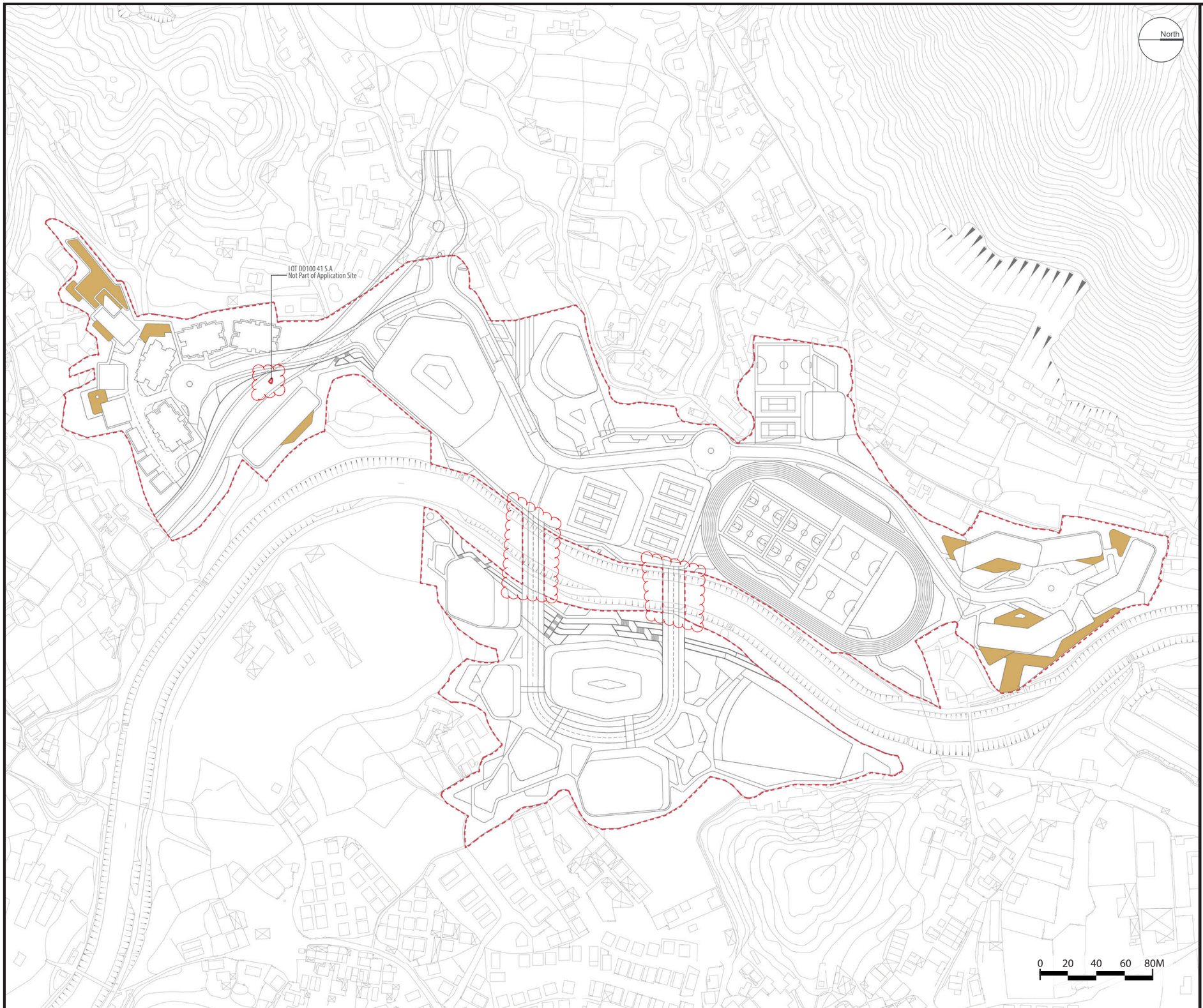

LEGEND

Application Site Boundary

Private Open Space
(Passive Use)

Private Open Space:

Application Site
not less than 2,243 m²

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Open Space – All Areas

SCALE	A.S.	DATE	JAN 2026
CHECKED	JBC	DRAWN	DN / JH
FIGURE NO.	Figure 6.1	REV	D

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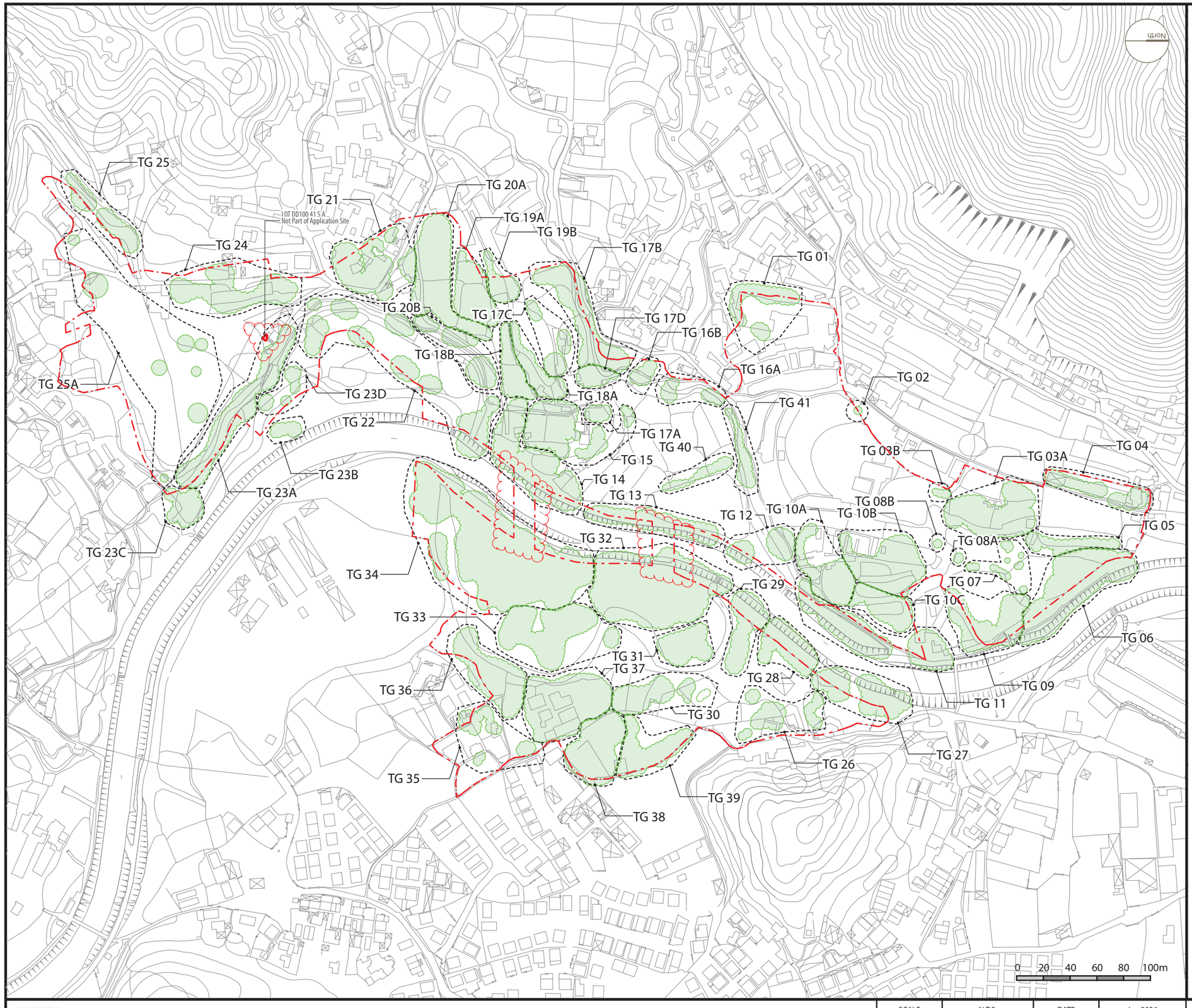
Website: scenic@studioscenic.com



LEGEND

- Application Site Boundary
- Existing Tree Group
- Existing Tree Group Boundary

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Tree Group Location Plan

SCALE	N.T.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	HLDP071 - T - TG	REV	A

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North

LOT DD100 41 S.A
Not Part of Application Site

T16 T15 T14 T17 T18 T20 T19 T21 T22 T10 T09 T11 T27 T50 T48 T47 T49 T52 T40 T36 T34 T33 T32 T30 T06 T13 T12 T04 T51 T46 T39 T41 T26 T05 T54 T55 T01 T28 T53 T45 T44 T42 T37 T38 T35 T31 T03 T08 T07 T02 T29 T25 T24 T23 T43

0 20 40 60 80m

LEGEND

- Application Site Boundary
- Existing Individual Tree

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Individual Tree Location Plan

SCALE	N.T.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	HLDP071 - IN - TL	REV	A

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North

MATCH LINE TO HLDP057-LP001

TG12
TG41
TG32
TG31
TG30
TG13
TG16A
TG40
TG39
TG16B
TG17B
TG15
TG33
TG37
TG38
TG17D
TG17A
TG14
TG18A
TG34
TG35
TG17C
TG19B
TG18B
TG20B
TG36
TG19A
MATCH LINE TO HLDP057-LP003
TG20A
TG22
TG34
TG21

LEGEND

- APPLICATION SITE BOUNDARY
- +6.36 EXISTING LEVEL
- EXISTING TOPO PLAN
- PROPOSED DEVELOPMENT PLAN
- EXISTING TREE GROUP TO BE REMOVED
- EXISTING TREE GROUP BOUNDARY
- EXISTING INDIVIDUAL TREE TO BE RETAINED
- EXISTING INDIVIDUAL TREE TO BE REMOVED

PROJECT TITLE	Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories		
		SCALE	1:1200 @ A3
		DATE	14/01/2026
		CHECKED	JBC
		DRAWN	JH
TREE GROUP RECOMMENDATION PLAN (SHEET 2)		DRAWING NO	HLDP071-LP-002
		REV	C

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North

TG20A

TG21

TG22

TG23A

TG23B

TG23C

TG23D

TG24

TG25

TG25A

TG34

MATCH LINE TO HLDP057-LP002

坑頭
Hang Tau

露天貨倉
Open Storage

雙魚河

墓地
Graves

道路
Road

Track

泥路

LEGEND

- APPLICATION SITE BOUNDARY
- +6.36 EXISTING LEVEL
- EXISTING TOPO PLAN
- PROPOSED DEVELOPMENT PLAN
- EXISTING TREE GROUP TO BE REMOVED
- EXISTING TREE GROUP BOUNDARY
- EXISTING INDIVIDUAL TREE TO BE RETAINED
- EXISTING INDIVIDUAL TREE TO BE REMOVED

PROJECT TITLE	Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories		
		SCALE	1:1200 @ A3
		DATE	14/01/2026
		CHECKED	JBC
		DRAWN	JH
TREE GROUP RECOMMENDATION PLAN (SHEET 3)		DRAWING NO	HLDP071-LP-003
		REV	C

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Attachment 10

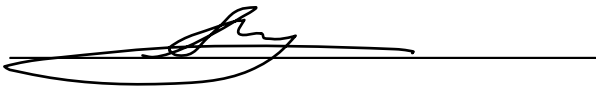
Revised Drainage Impact Assessment

Prepared by

Ramboll Hong Kong Limited

PROPOSED SCHOOL AT VARIOUS LOTS IN D.D. 94, 98 & 100 AND ADJOINING GOVERNMENT LAND, KWU TUNG SOUTH, NEW TERRITORIES

DRAINAGE IMPACT ASSESSMENT

Date	**February 2026**
Prepared by	**Sunny Yeung** **Assistant Engineer**
Signed	
Approved by	**Tony Cheng** **Senior Manager**
Signed	_____
Project Reference	**HENKTSISEI00**
Document No.	**R9864_v1.2 _260202.docx**

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CHAPTERS

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Figure K2 Existing Catchment Area

Figure K3 Existing Drainage Systems

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Annex 1 Master Layout Plan

Annex 2 Runoff Calculations

Annex 3 Design of Drainage System

Annex 4 Sensitivity Checking of River Beas

Annex 5 As-built Record of River Beas

1. INTRODUCTION

1.1 Project Background

1.1.1 Ramboll Hong Kong Limited in associated with Binnies Hong Kong Limited (Binnies) has been commissioned to carry out drainage impact assessment (DIA) for the Proposed International School in Kwu Tung South. (Application Site).

1.1.2 The Application Site is divided into eastern and western parts by the River Beas, with a few local village houses. Access to the Application Site is provided via Hang Tau Road and village track roads (**Figure K1**).

1.1.3 The Application Site covers an area of approximately 128,232 m².

1.1.4 The Proposed Development consists of kindergartens, primary schools, middle & high schools and ancillary facilities, with a total plot ratio of 1.33. The scheduled year of completion of 2036. A summary of key information of the Proposed Development is shown below in **Table 1-1.**

Table 1-1 Development Schedule (Final Phase)

Development Parameter	Proposed Development
Site Area	About 128,232 m²
Plot Ratio	About 1.33
Total Gross Floor Area (GFA)	About 171,000 m²
Anticipated Population	
Kindergarten	About 600
Grades 1-5	About 1,000
Grades 6-12	About 1,400

1.1.5 This DIA is prepared based on available information and requirement under Drainage Services Department (DSD) Advice Note No. 1 – Application to Drainage Impact Assessment Process to Private Sector Projects.

2. EXISTING DRAINAGE NETWORK

2.1 The Application Site

2.1.1 The Application Site is currently occupied by a number of temporary structures. The land use of the Application Site will be changed to approximately 70% paved after the Proposed Development.

2.2 Existing Catchment Drainage

2.2.1 The Application Site lies in the middle reach of River Beas. River Beas runs from the south to the north and discharges into River Indus, which further discharges into Shenzhen River to the north. Shenzhen River flows to the west and eventually discharges into Deep Bay.

2.2.2 River Beas locates within the Indus Basin forming one of the tributaries of River Indus and serves the southwest part of the Indus Basin.

2.3 Site Drainage and Sub-catchments

2.3.1 The identified relevant sub-catchments for and in vicinity of the Application Site are shown on **Figure K2**. The existing drainage system in vicinity of the Application Site is shown on **Figure K3**.

2.3.2 Runoff from all sub-catchments (Catchments 1 to 6) drains to the River Beas. Runoff from these area passes through the Application Site and discharge to the River Beas.

2.4 Ground Levels

2.4.1 The western part of the Application Site slopes downward from the south and west in general, and dipped gently towards River Beas.

2.4.2 The existing ground level of the western part falls gently from +10.0 mPD to +20.5 mPD (south to north). The existing ground level of the eastern part falls gently from +13.0 mPD to +10 mPD (north to south).

3. METHODOLOGY AND DESIGN PARAMETERS

3.1.1 The assessment criteria for the Application Site is based on the standards as set out in DSD's 5th edition of Stormwater Drainage Manual (SDM) published in January 2018 and the updates pursuant to Corrigendum No. 1/2022 and No.1/2024 promulgated. Table 10 of the SDM provides the recommended design return periods based on flood levels for the various drainage systems depending on the land use.

3.1.2 According to the SDM, 50-year design return period is recommended for the design of drainage system.

3.1.3 The Rational Method is adopted for evaluating the runoff for the drainage design.

3.1.4 According to the rainfall zone as shown in Figure 3 of SDM, the Application Site is located in an area that adopts rainfall statistics of North District Area. Hence, the design storm constants are adopted in accordance with Table 3a of the SDM corrigendum No.1/2024. The storm constants are shown in **Table 3.1** below.

Table 3-1 Storm Constants with 50-year Return Period

Parameter	Value
A	474.6
B	2.9
C	0.371

3.1.5 The runoff coefficient (C) values for the Rational Method were adopted in accordance with Clause 7.5.2 of the SDM. A table of runoff coefficient is shown in **Table 3.2** below.

Table 3-2 Runoff Coefficient

Land Use	Runoff Coefficient (C) Value
Unpaved (e.g. existing tree groups)	0.35
Paved (e.g. concrete)	0.95

3.1.6 The effects of climate change are considered in accordance with Clause 6.8, Table 28 and Table 29 of the SDM corrigendum No.1/2022. A summary of increased rainfall due to climate change is shown in **Table 3.3** below.

Table 3-3 Rainfall Increase due to Climate Change

Classification	Rainfall Increase (%)	Sea Level Rise (m)
End of 21st Century (2081-2100)	16.0	0.47

3.1.7 Design allowance in the End-21st Century is considered in the calculation as well and summarized in **Table 3–4**.

Table 3-4 Design Allowance in End of 21st Century

Rainfall Increase	Sea Level Rise (m)
12.1%	0.23

3.1.8 The roughness values of pipes were adopted in accordance with Table 13 and 14 of the SDM. As a conservation approach, 10% (of flow area) sedimentation is adopted for the proposed drainage system in design checking. A summary of roughness coefficients is shown in **Table 3-5** below.

Table 3-5 Roughness Coefficient

Classification	Roughness Coefficient	Remarks
Poor Precast Concrete Pipes	Colebrook-White k_s = 0.6mm	Concrete Pipe
Rectangular Channel	Mannings'n = 0.015	Peripheral drains

4. POTENTIAL DRAINAGE IMPACT OF PROPOSED DEVELOPMENT

4.1.1 The Application Site will be developed into an international school. The Master Layout Plan of the Proposed Development is shown in **Annex 1**.

4.2 Changes to Drainage Characteristics

4.2.1 The Proposed Development will induce changes to the land use of the Application Site. The percentage of paved area comprising building blocks, concrete structures, roads and other paved facilities will be increased. As a result, there will be an increase in surface runoff generated from the Application Site.

4.3 Volume of Runoff and Peak Runoff Rate

4.3.1 The increase in the peak runoff rates due to the Proposed Development at the Application Site against various rainstorm return periods are shown in **Tables 4-1** below.

4.3.2 The relevant calculations are included in **Annex 1**.

Table 4-1 Estimated Peak Runoff Rate

Return Period	Peak Runoff Rate (m^3/s)		
	Before Development (1)	After Development (2)	Increase in Runoff (2) — (1)
50 years	4.454	6.470	2.016
200 years	5.051	7.338	2.287

5. PROPOSED DRAINAGE IMPACT MITIGATION MEASURES

5.1.1 To intercept existing overland flow blocked by the Proposed Development, surface channels will be provided along the site boundaries of the Proposed Development. The catchment of the flow intercepted and the proposed drainage system are shown on **Figure K4**.

5.1.2 The flow will be discharged to River Beas through the proposed 1200 mm to 1800 mm diameter drains along the public road inside the Application Site.

5.1.3 Details of the hydraulic calculations and results of hydraulic check of the proposed drainage system along the public road inside the Application Site are contained in **Annex 3**.

5.1.4 The sensitivity checking of River Beas is included in **Annex 4**.

5.1.5 The runoff from the Proposed Development and its adjacent catchment as shown in **Figure K4**.

6. MAINTENANCE AND CONSTRUCTION CONSIDERATIONS

6.1 Maintenance Considerations

6.1.1 The parties responsible for managing and maintaining the completed proposed drainage works are listed in **Table 6-1**.

Table 6-1 Preliminary Management and Maintenance Matrix

Description of Proposed Drainage Works	Management and Maintenance Party
Stormwater Storage facilities, box culverts, drainage pipes and associated manholes on public roads or outside boundaries	Drainage Services Department
U-channels and associated catchpits which received the surface water inside the Development sites	The Applicant
Stormwater drainage facilities exclusively used for public roads (I.e. carriageway and footpaths.)	Highways Department

6.2 Construction Considerations

6.2.1 The contractor for the Proposed Development will be responsible for the maintenance of the existing drainage conditions in the vicinity of the Proposed Development during the construction stage. The contract documents will specify that the contractor must put in place appropriate temporary drainage measures to ensure that the flooding conditions during the construction period must not be worse than those under existing conditions.

6.2.2 The contractor's attention shall be drawn to the diversion of the existing U-channel along the boundary of the Proposed Development. Such measures must be submitted to the Authorised Person or his representative for approval before construction activities commence.

6.2.3 A settling basin will be installed to intercept runoff from the construction Application Site before discharge into the River Beas.

7. CONCLUSION

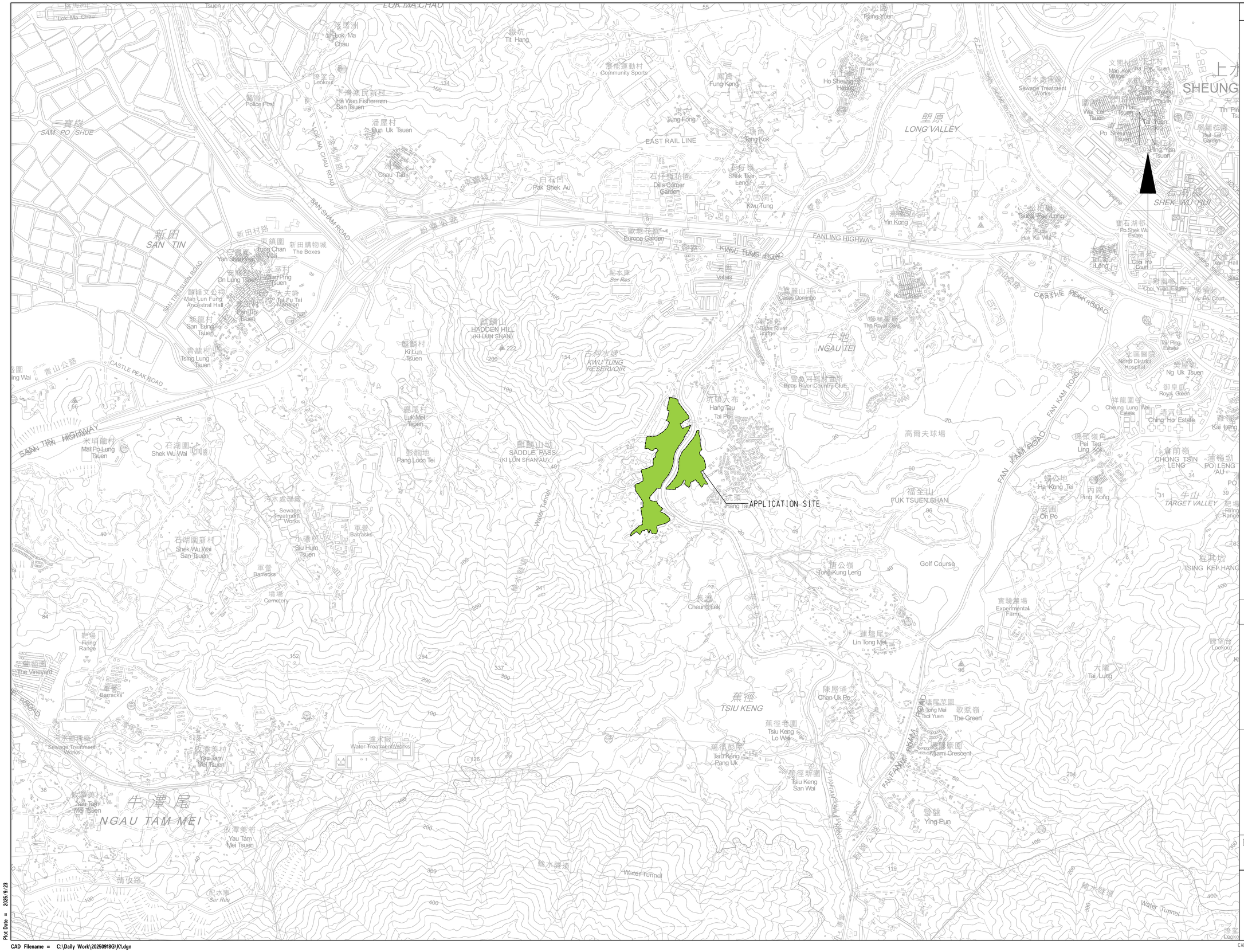
7.1.1 The runoff from the Proposed Development and from the adjacent catchment area of the Proposed Development will be diverted by the project proponent. The runoff will be conveyed by the proposed 1200 mm to 1800 mm diameter drains along public road inside Application Site.

7.1.2 The runoff generated from the Proposed Development and its adjacent catchment would only utilize about 87% of the proposed 1200 mm diameter drain, about 74% of the proposed 1350 mm diameter drain, about 72% of the proposed 1650 mm diameter drain and about 94% of the proposed 1800 mm diameter drain. The proposed drain in public road inside Application Site discharges into the upstream section of the River Beas.

7.1.3 Temporary drainage measures shall be implemented to ensure that the flooding conditions will not be worsened during construction. Periodic inspection by the Authorized Person or his representative will be carried out during construction.

7.1.4 With the implementation of the above proposed drainage measures and temporary drainage works, the Proposed Development at the Application Site is technically feasible from drainage impact point of view.

Figures



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LEGEND:

THE APPLICATION SITE

Initial	Date	Checked	Date

Project

S16 APPLICATION FOR PROPOSED INTERNATIONAL SCHOOL IN KWU TUNG SOUTH

Title

LOCATION PLAN

Figure No.	Scale
K1	A3 1 : 20000

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

Plot Date = 2025/9/23

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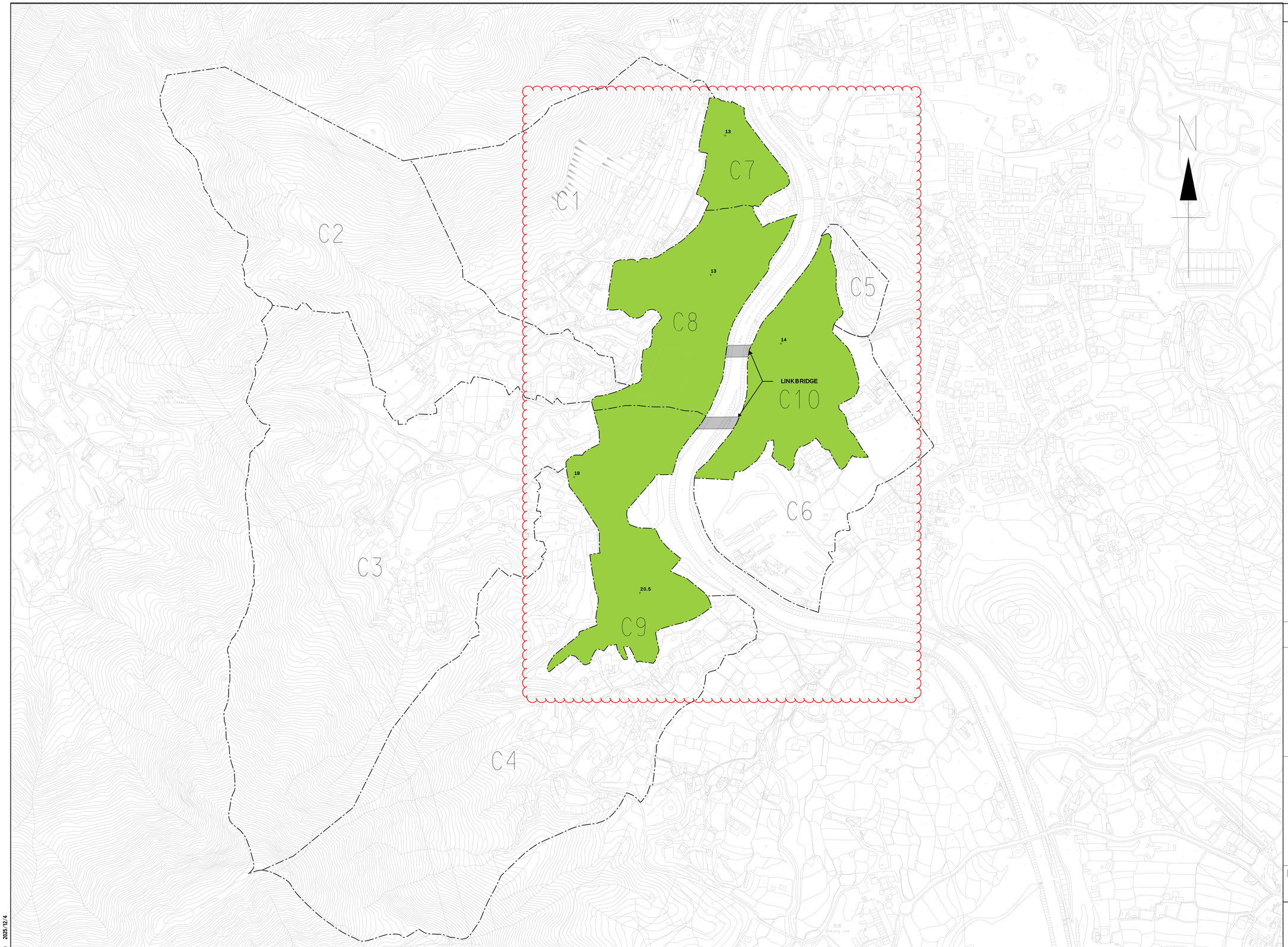

LEGEND:

THE APPLICATION SITE

CATCHMENT	AREA (m^2)
C1	99045
C2	122826
C3	211950
C4	164692
C5	7603
C6	46806
C7	**12500**
C8	**39500**
C9	**40000**
C10	35300

Initial	Date	Checked	Date

Project

S16 APPLICATION FOR PROPOSED INTERNATIONAL SCHOOL IN KWU TUNG SOUTH

Title

EXISTING CATCHMENT AREA

Figure No.	Scale
K2	**A3 1 : 5000**

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

Plot Date = 2025/12/4

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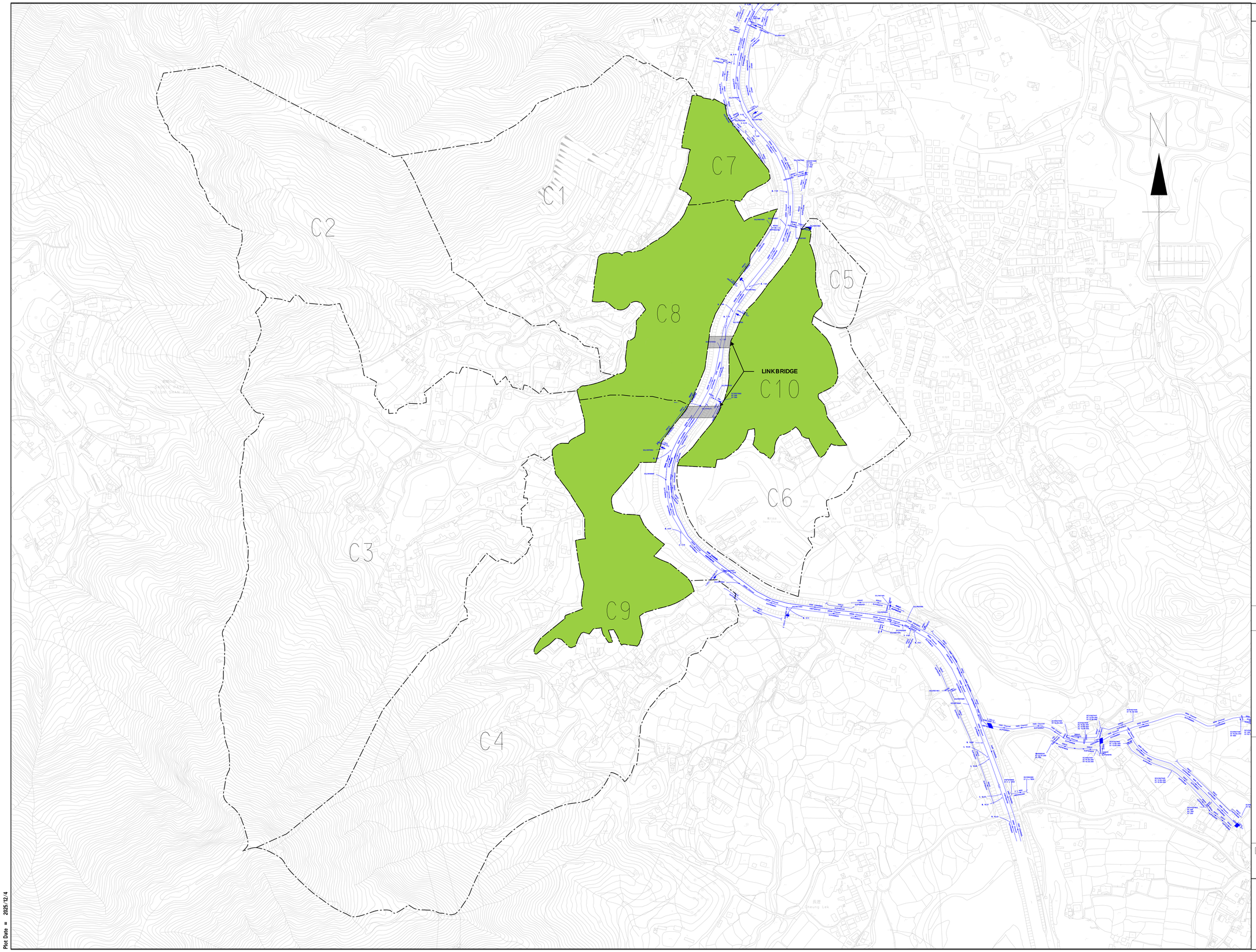

LEGEND:

- EXISTING CATCHPIT
- THE APPLICATION SITE
- EXISTING DRAINAGE PIPE/ CHANNEL

CATCHMENT	AREA (m^2)
C1	99045
C2	122826
C3	211950
C4	164692
C5	7603
C6	46806
C7	**12500**
C8	**39500**
C9	**40000**
C10	35300

Initial	Date	Checked	Date

Project

S16 APPLICATION FOR PROPOSED INTERNATIONAL SCHOOL IN KWU TUNG SOUTH

Title

EXISTING DRAINAGE SYSTEMS

Figure No. K3

Scale A3 1 : 5000

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賓尼斯工程顧問有限公司

Plot Date = 2025/12/4

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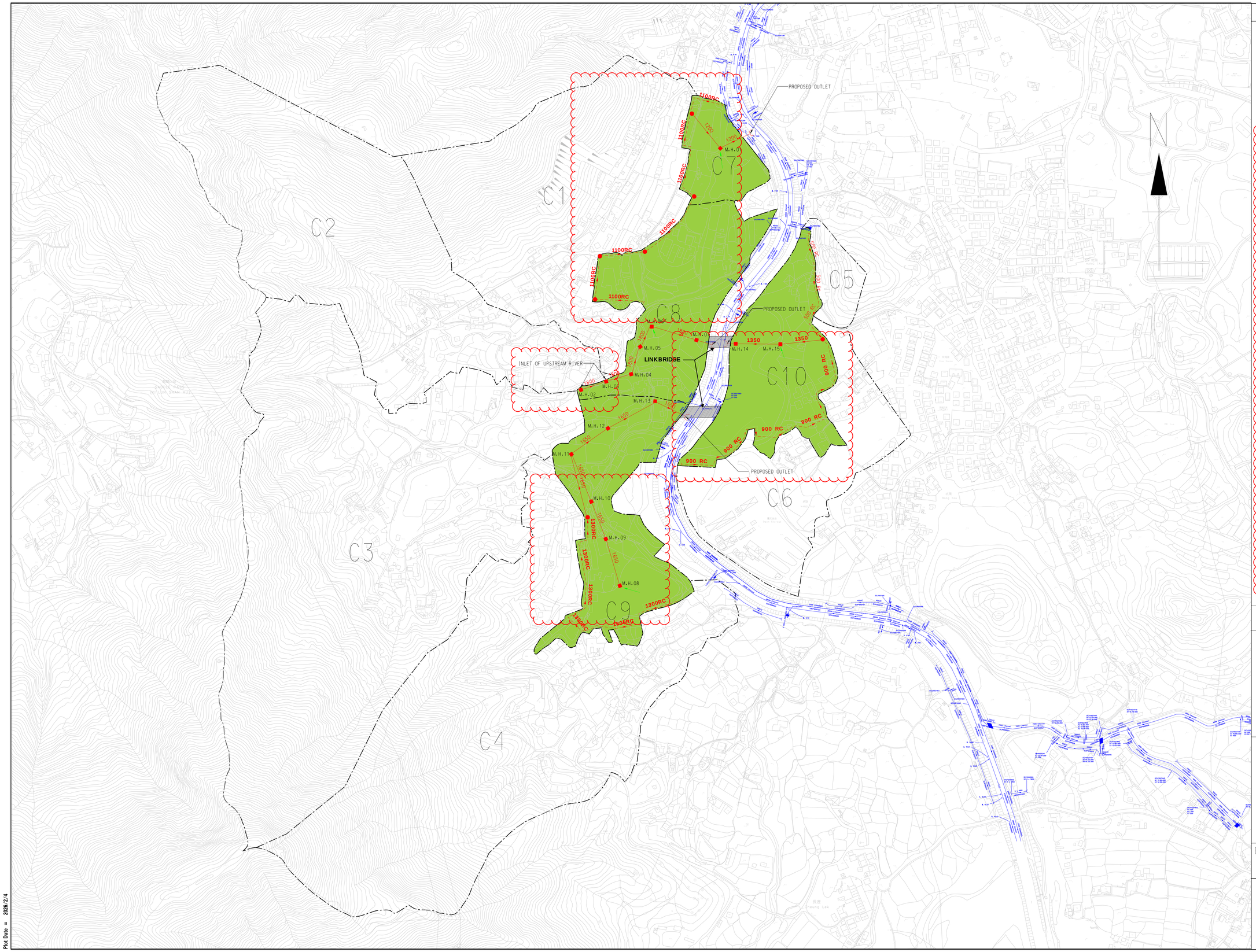

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LEGEND:

- EXISTING CATCHPIT
- THE APPLICATION SITE
- EXISTING DRAINAGE PIPE/ CHANNEL
- PROPOSED CATCHPIT
- PROPOSED MANHOLE
- RC. 500 — PROPOSED 500mm RECTANGULAR CHANNEL
- RC. 900 — PROPOSED 900mm RECTANGULAR CHANNEL
- RC. 1100 — PROPOSED 1100mm RECTANGULAR CHANNEL
- RC. 1300 — PROPOSED 1300mm RECTANGULAR CHANNEL
- DIA. 1200 — PROPOSED 1200mm DIAMETER STORMWATER DRAIN
- DIA. 1350 — PROPOSED 1350mm DIAMETER STORMWATER DRAIN
- DIA. 1650 — PROPOSED 1650mm DIAMETER STORMWATER DRAIN
- DIA. 1800 — PROPOSED 1800mm DIAMETER STORMWATER DRAIN
- PROPOSED OUTLET
- DISCHARGE OF CATCHMENT AREA WITHIN PROPOSED DEVELOPMENT

CATCHMENT	AREA (m^2)
C1	99045
C2	122826
C3	211950
C4	164692
C5	7603
C6	46806
C7	**12500**
C8	**39500**
C9	**40000**
C10	35300

Initial	Date	Checked	Date

Project

S16 APPLICATION FOR PROPOSED INTERNATIONAL SCHOOL IN KWU TUNG SOUTH

Title

PROPOSED DRAINAGE SYSTEMS

Figure No.	Scale
K4	**A3 1 : 5000**

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

Plot Date = 2026/2/4

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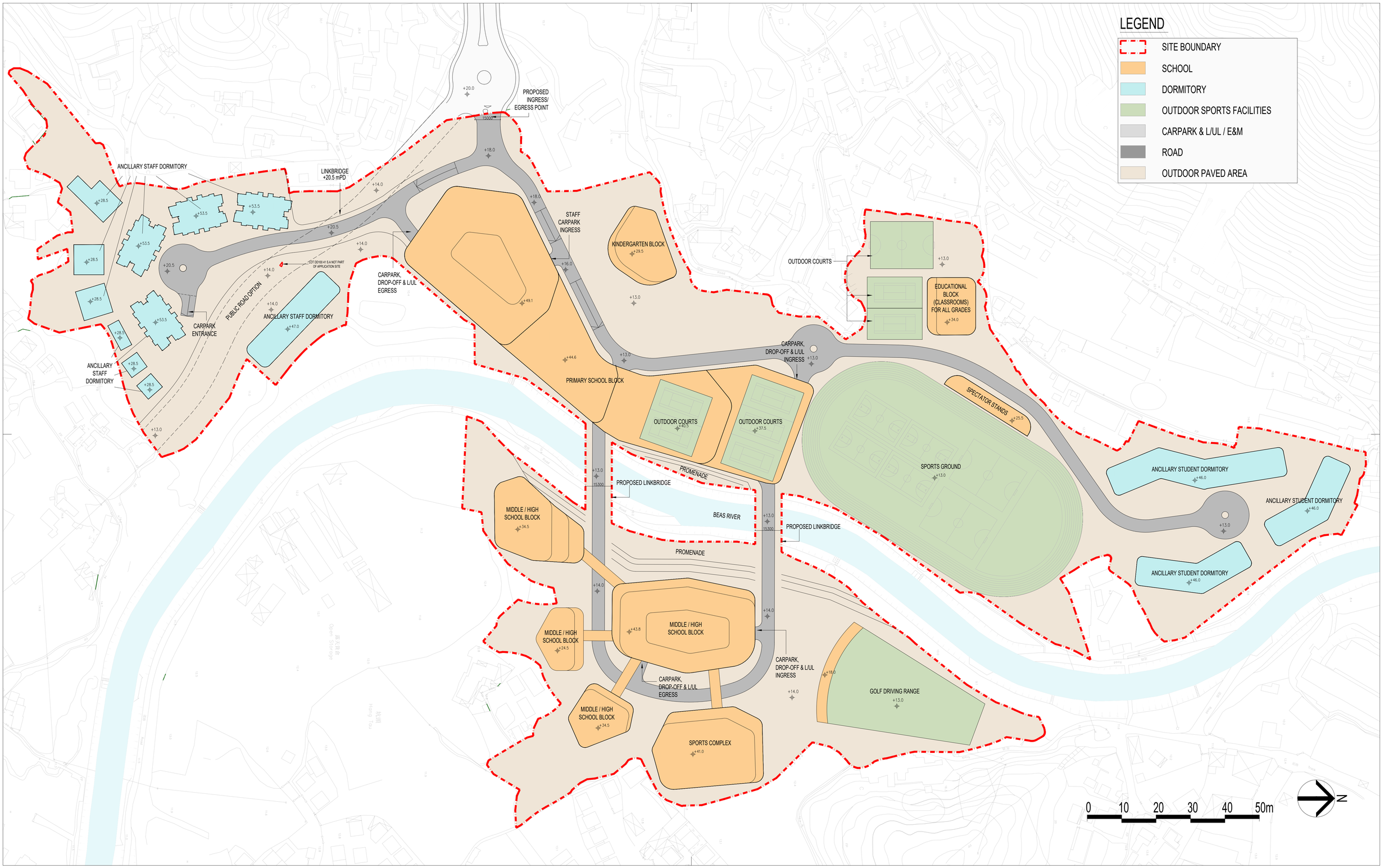
Annex 1
Master Layout Plan



Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

Check all measurements on site. Do not scale off drawings.

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F.S.D. Ref. _
D.L.O. Ref. _

Drawn HKO Date 11-2025
Checked JHK Date 11-2025
Approved JHY Date 11-2025

Cad File No. P:\JHK\25018NT\planning submission\PLOT_BD\GBP_01_

RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title
PROPOSED INTERNATIONAL SCHOOL DEVELOPMENT AT KWU TUNG SOUTH

Drawing Title
FULL PHASE – MASTER LAYOUT PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_01_

Drawing Purpose

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL / E&M
- ROAD
- OUTDOOR PAVED AREA

UNEXCAVATED

UNEXCAVATED

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

PUBLIC ROAD OPTION

+14.0

+14.0

LOT DD100 41 S.A NOT PART OF APPLICATION SITE

DORMITORY
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

+13.0

STAFF
CARPARK
INGRESS

+16.0

CARPARK,
LAY-BY & L/UL/ E&M
+14.0

SCHOOL (KINDERGARTEN)
+13.0

OUTDOOR COURTS

+13.0

SCHOOL
(CLASSROOM)
+13.0

+13.0

+13.0

CARPARK,
LAY-BY & L/UL/ E&M
+13.0

CARPARK,
DROP-OFF & L/UL
INGRESS

+13.0

SPECTATOR STANDS +13.0

SCHOOL (SPORTS GROUND)
+13.0

DORMITORY
+13.0

+13.0

DORMITORY
+13.0

DORMITORY
+13.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

SCHOOL (CLASSROOM)
+14.0

PROMENADE +9.0

PROPOSED LINKBRIDGE

+14.0

SCHOOL
(CLASSROOM)
+14.0

ANCILLARY
TUCK
SHOP
+14.0

CARPARK,
LAY-BY & L/UL
+14.0

CARPARK,
DROP-OFF & L/UL
EGRESS

CARPARK,
DROP-OFF & L/UL
INGRESS

+14.0

GOLF DRIVING RANGE
+14.0

SCHOOL (CLASSROOM)
+14.0

SCHOOL (SWIMMING POOL)
+14.0

E&M BASEMENT
BELOW AT +10.0

0 10 20 30 40 50m

N

Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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Cad File No. P:\JHK\25018NT\planning submission\PLOT_BD\GBP_04

RONALD LU & PARTNERS

呂元祥建築師事務所

Project Title

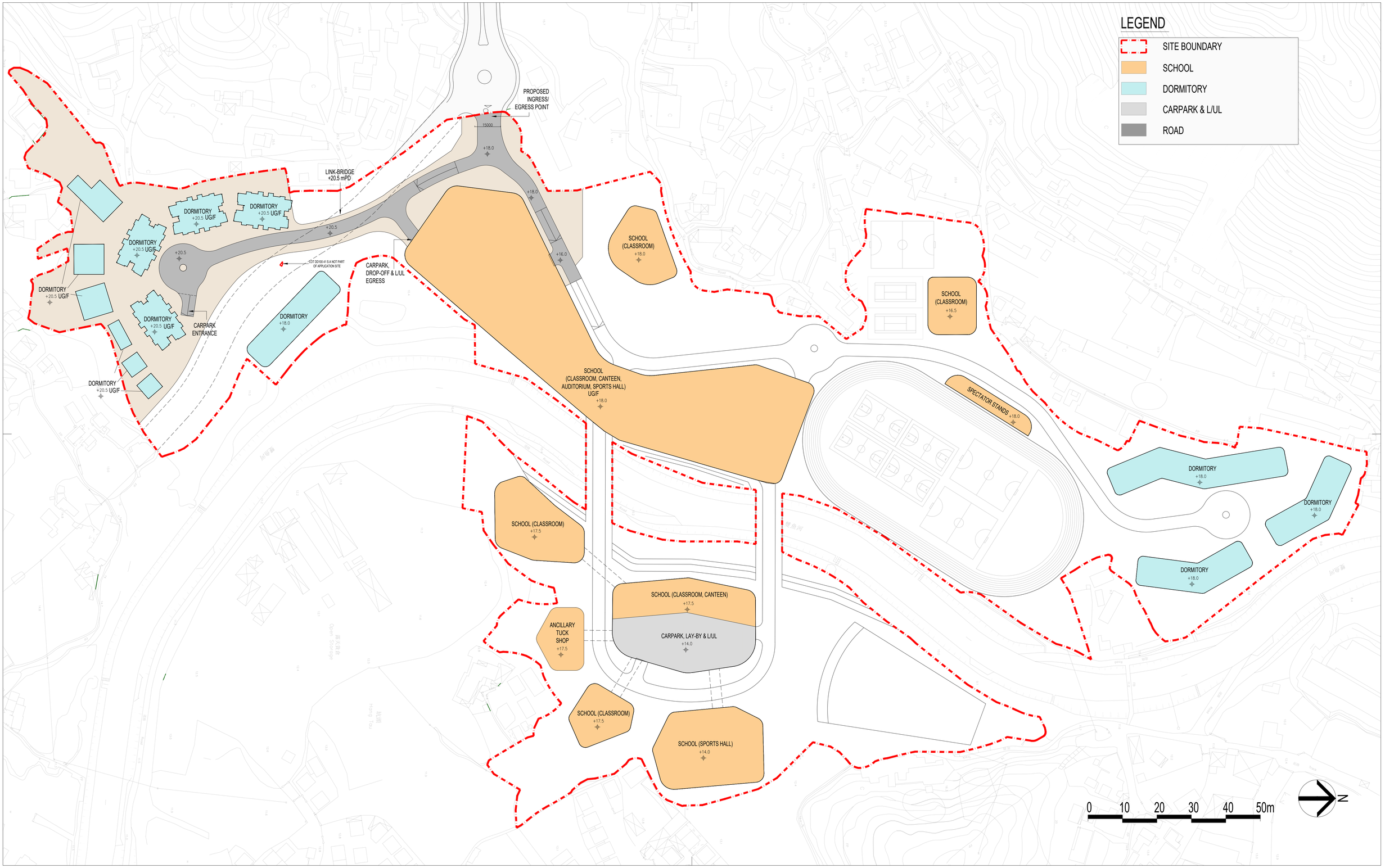
Drawing Title
FULL PHASE –
GROUND FLOOR PLAN

Project No. 25018NT

Scale 1 : 1000 Issue Date NOV 2025

Drawing No. A/ GBP_02

Drawing Purpose



Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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Drawn HKO Date 11-2025
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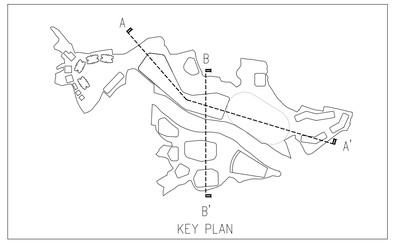
RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title

Drawing Title
FULL PHASE –
FIRST FLOOR PLAN

Project No. 25018NT
Scale 1 : 1000 Issue Date NOV 2025
Drawing No. A/GBP_03

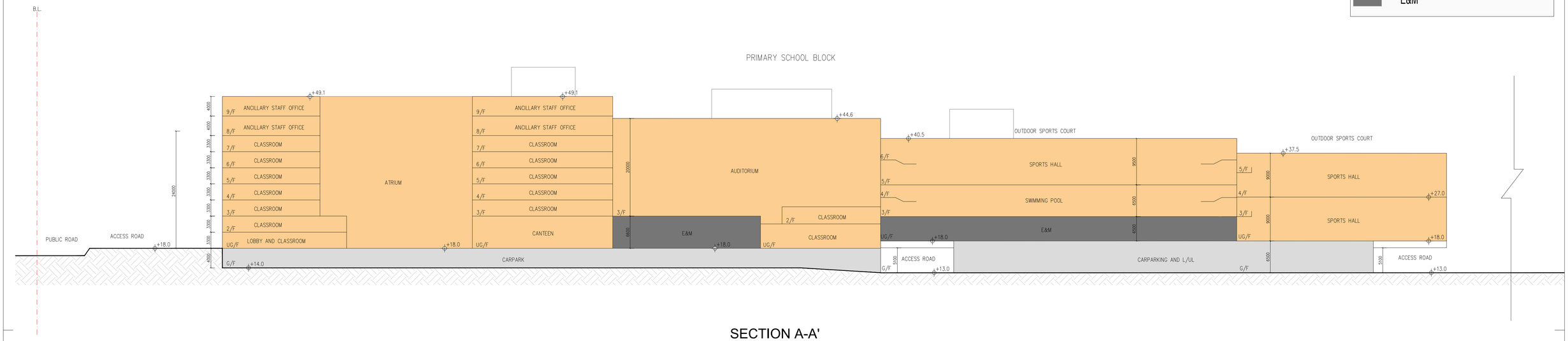
Drawing Purpose



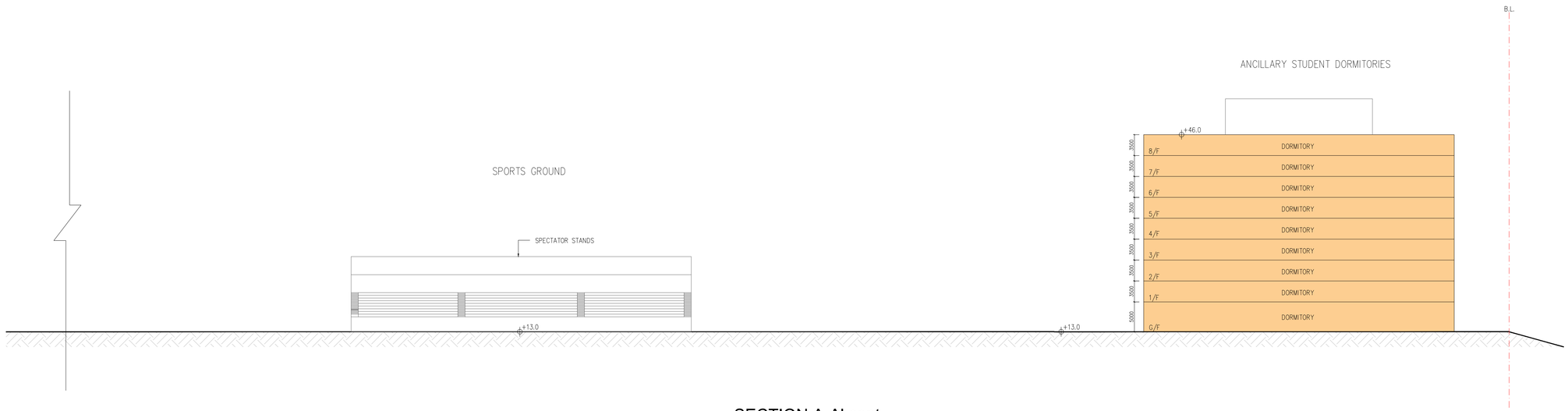
KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION A-A'



SECTION A-A' cont

Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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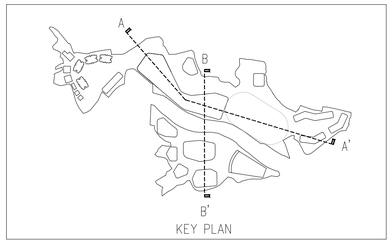
Project Title

Drawing Title
SECTION A-A

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_05

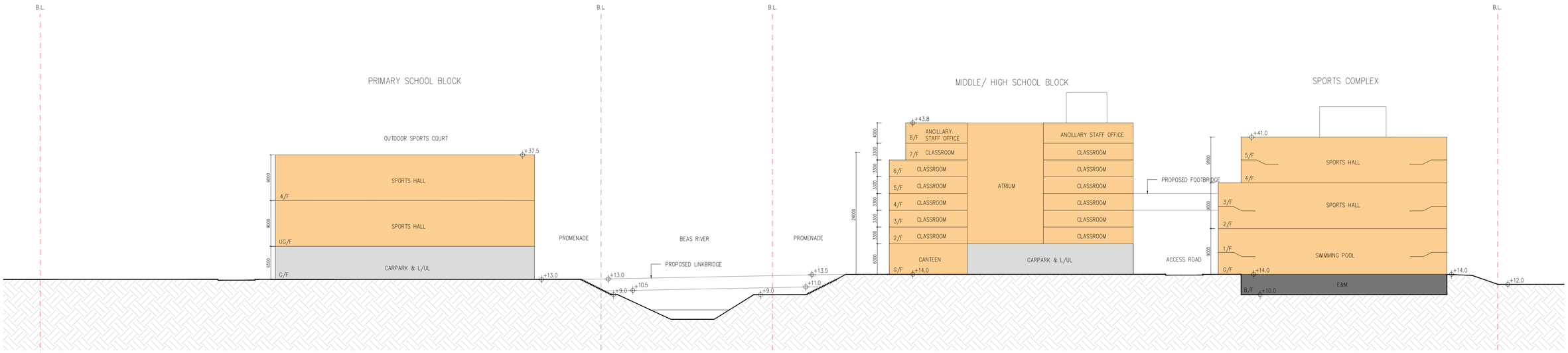
Drawing Purpose



KEY PLAN

LEGEND

- SITE BOUNDARY
- SCHOOL
- DORMITORY
- OUTDOOR SPORTS FACILITIES
- CARPARK & L/UL
- E&M



SECTION B-B'

Rev.	Description	Drawn	Checked	Approved	Date
_	PLANNING SUBMISSION	HKO	JHK	JHY	9-2025
A	PLANNING SUBMISSION	HKO	JHK	JHY	11-2025

Rev.	Description	Drawn	Checked	Approved	Date

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Drawn HKO Date 11-2025
Checked JHK Date 11-2025
Approved JHY Date 11-2025
Cad File No. P:\JHK\25018NT\planning submission\PLOT_BD\GBP_06

RONALD LU & PARTNERS
呂元祥建築師事務所

Project Title

Drawing Title
SECTION B-B

Project No. 25018NT
Scale 1:400 Issue Date NOV 2025
Drawing No. A/GBP_06

Drawing Purpose

Annex 2
Runoff Calculations

Capacity Check:	Catchment C7 and C8 (Before development) (50 years)			
Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	0.30	m/100m	
Length of flow	L	110	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	6.25	min	
Unpaved area	A_U	88900	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	38100	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	127,000	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C7 and C8 (Before development) (50 years)					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.38	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.63	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	238.01	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**4.454**	m^3/s		

Capacity Check:	Catchment C7 and C8 (After development) (50 years)			
Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	0.30	m/100m	
Length of flow	L	110	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	6.25	min	
Unpaved area	A_U	38100	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	88900	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	127,000	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C7 and C8 (After development) (50 years)					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.38	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.63	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	238.01	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**6.470**	m^3/s		

Capacity Check:	Catchment C7 and C8 (Before development) (200 years)			
Design Parameters				
Design storm		200	year return period	
Storm constants	a	501.4		
	b	2.45		
	c	0.348		
Average Slope	H	0.30	m/100m	
Length of flow	L	110	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	6.25	min	
Unpaved area	A_U	88900	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	38100	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	127,000	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

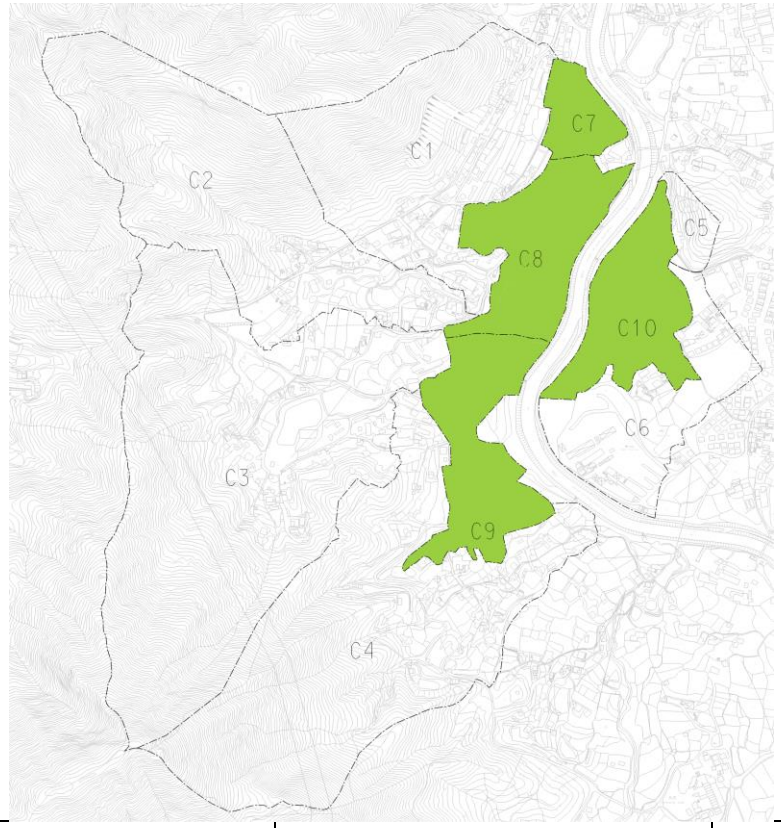
Capacity Check:	Catchment C7 and C8 (Before development) (200 years)					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.38	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.63	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	269.91	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**5.051**	m^3/s		

Capacity Check:	Catchment C7 and C8 (After development) (200 years)			
Design Parameters				
Design storm		200	year return period	
Storm constants	a	501.4		
	b	2.45		
	c	0.348		
Average Slope	H	0.30	m/100m	
Length of flow	L	110	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	6.25	min	
Unpaved area	A_U	38100	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	88900	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	127,000	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C7 and C8 (After development) (200 years)					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.38	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.63	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	269.91	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**7.338**	m^3/s		

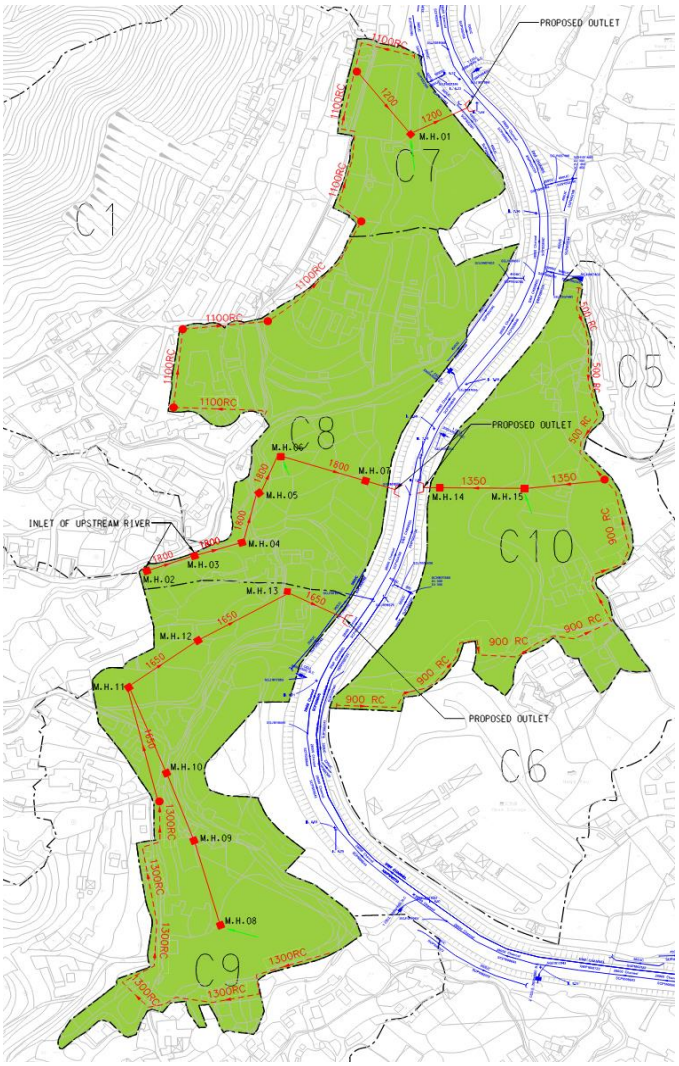
Annex 3
Design of Drainage System

Summary of Catchment Characteristic



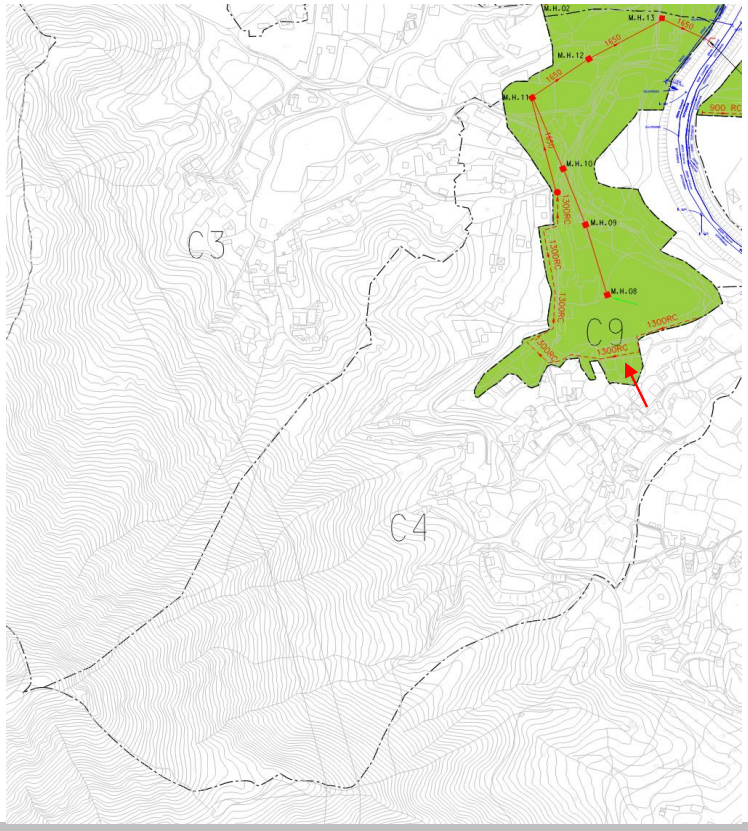
Catchment	Area (m^2)	Before Development		After Development		Runoff Coefficient		Peak Runoff (50-year return period) (m3/s)
		Paved Area (m^2)	Unpaved Area (m^2)	Paved Area (m^2)	Unpaved Area (m^2)	Paved	Unpaved	
C1	99045	29,714	69,332	29,714	69,332	0.95	0.35	2.646
C2	122,826	36,848	85,978	36,848	85,978	0.95	0.35	3.393
C3	211,950	63,585	148,365	63,585	148,365	0.95	0.35	5.944
C4	164,692	49,408	115,284	49,408	115,284	0.95	0.35	4.583
C5	7,603	2,281	5,322	2,281	5,322	0.95	0.35	0.36
C6	46,806	14,042	32,764	14,042	32,764	0.95	0.35	1.634
C7	13,432	4,030	9,402	9402.4	4029.6	0.95	0.35	0.697
C8	39,500	11,850	27,650	27650	11850	0.95	0.35	1.902
C9	40,000	12,000	28,000	28000	12000	0.95	0.35	1.685
C10	35,300	10,590	24,710	24710	10590	0.95	0.35	1.862

Summary of Proposed Pipes



Catchment	Proposed Pipes/ Channels
C1	1100 RC
C2	1800mm Pipe
C3	1800mm Pipe
C4	1300 RC
C5	500 RC
C6	900 RC
C7	1200mm Pipe
C8	1800mm Pipe
C9	1650mm Pipe
C10	1350mm Pipe

Capacity Check: Catchment C4



Design Parameters

Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	28.00	m/100m	
Length of flow	L	770	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	17.21	min	
Unpaved area	A_U	115284	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	49408	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	164,692	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check: Catchment C4

Peak Runoff

Flow time	t_f	=	Lj / Vj			
		=	3.20	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	20.41	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	189.03	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**4.587**	m^3/s		

Using Manning's Equation for Rectangular-Channel Geometry

Width	**1300**	**mm**	Input Parameter
Height	**1300**	**mm**	Input Parameter
Area	1.690	m^2	
Wetted Perimeter	3.900	m	
Hydraulic Radius	0.433	m	
Slope [Decimal]	**0.01**		Slope = tan θ
Manning's Roughness	**0.015**		for Fair concrete Pipe

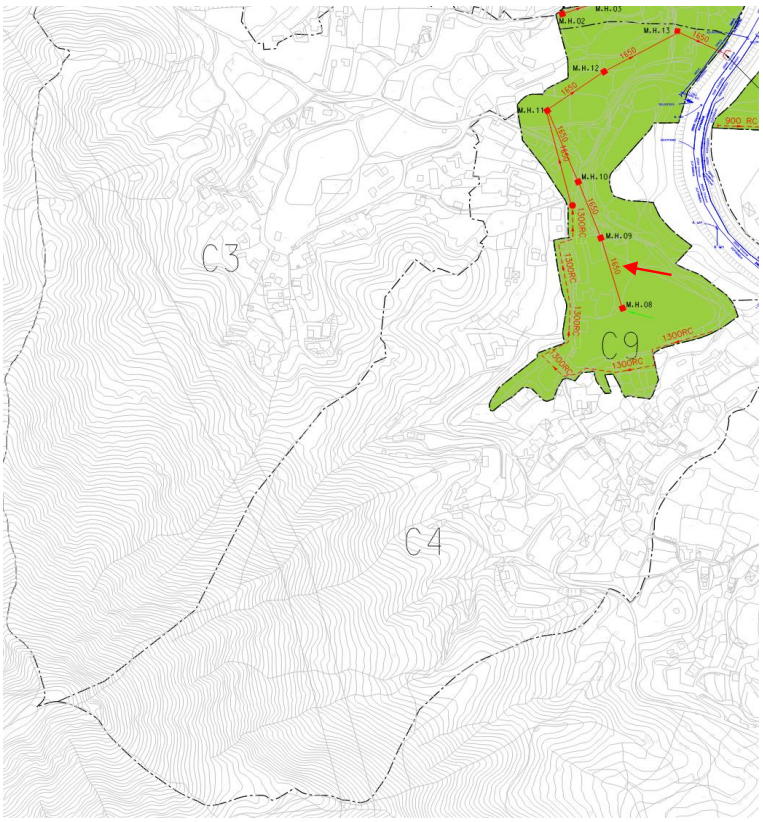
Full Flow Velocity Vu	3.82	m/s
Full Flow Discharge	6.45	m^3/s
	387104	l/min

Assume the maximum water depth in the Rectangular-channel be 90% of the size

Water Depth	Area	Wetted Perimeter	Hydraulic Radius	Velocity	Discharge
[mm]	m^2	m	m	m/s	m^3/s
1170	1.521	3.640	0.418	3.726	**5.667**

> Peak runoff Q_p

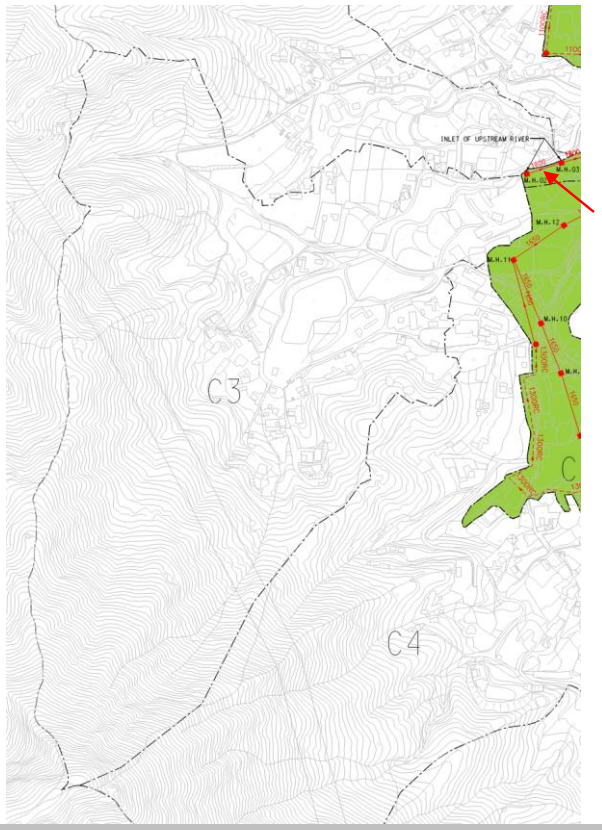
Capacity Check: Catchment C9



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	2.00	m/100m	
Length of flow	L	381	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	16.63	min	
Unpaved area	A_U	12000	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	28000	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	40,000	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C9					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	1.40	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	18.02	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	196.75	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**1.685**	m^3/s		
Peak Runoff From C4		=	**4.587**	m^3/s		
Total Peak Runoff		=	**6.272**	m^3/s		
Capacity of Drain						
Trial pipe size	D	=	**1650**	mm		
Hydraulic radius	R = D/4	=	0.4125	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R}+\frac{1.255v}{R\sqrt{(32gRS_f)}}\right]$			
		=				
		=	4.55	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**9.72**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**8.75**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	72%			

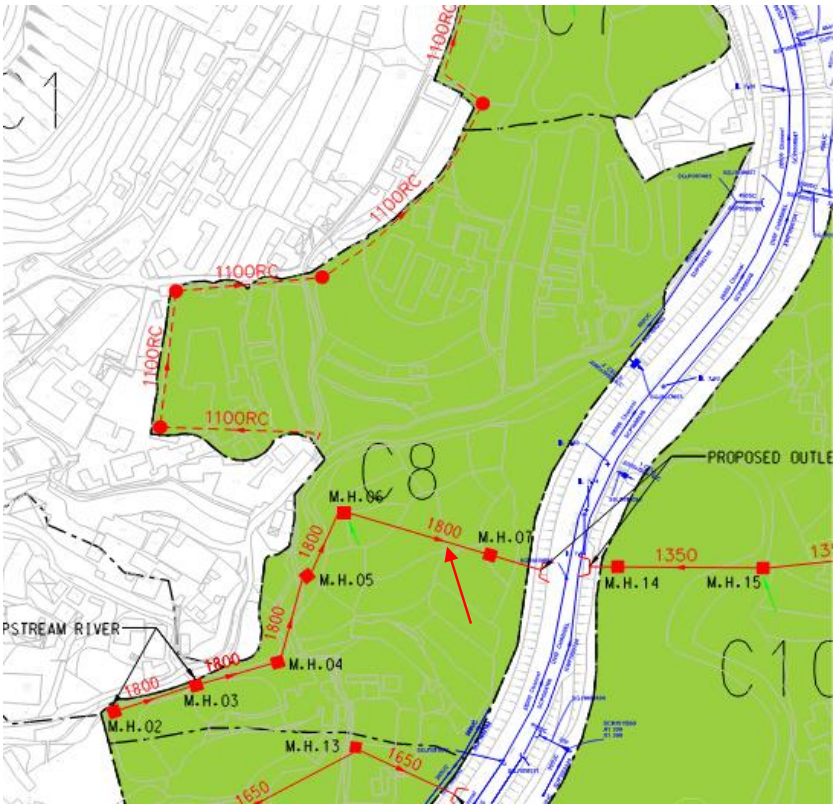
Capacity Check: Catchment C3



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	26.00	m/100m	
Length of flow	L	770	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	17.03	min	
Unpaved area	A_U	148365	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	63585	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	211,950	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	85		

Capacity Check:	Catchment C3					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	2.95	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	19.98	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	190.34	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**5.944**	m^3/s		
Capacity of Drain						
Trial pipe size	D	=	**1800**	mm		
Hydraulic radius	R = D/4	=	0.45	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R}+\frac{1.255v}{R\sqrt{(32gRS_f)}}\right]$			
		=				
		=	5.20	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**13.23**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**11.91**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	50%			

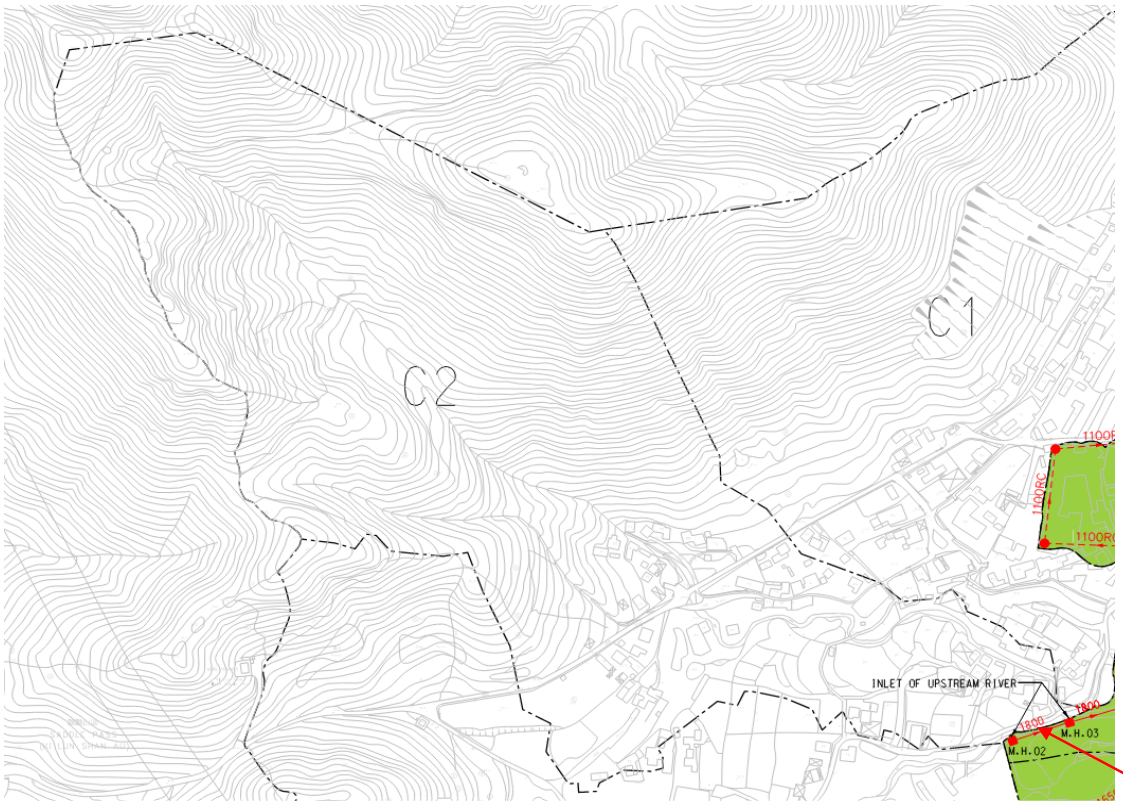
Capacity Check: Catchment C8



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	2.00	m/100m	
Length of flow	L	200	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	8.74	min	
Unpaved area	A_U	11850	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	27650	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	39,500	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	ν	1.14	mm^2/s	
Frictional gradient	S_f 1 in	85		

Capacity Check:	Catchment C8					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	2.95	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	11.69	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	224.91	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**1.902**	m^3/s		
Peak runoff From C3		=	**5.944**	m^3/s		
Total runoff		=	**7.846**	m^3/s		
Capacity of Drain						
Trial pipe size	D	=	**1800**	mm		
Hydraulic radius	R = D/4	=	0.45	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log[\frac{k_s}{14.8R}+\frac{1.255v}{R\sqrt{(32gRS_f)}}]$			
		=				
		=	5.20	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**13.23**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**11.91**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	66%			

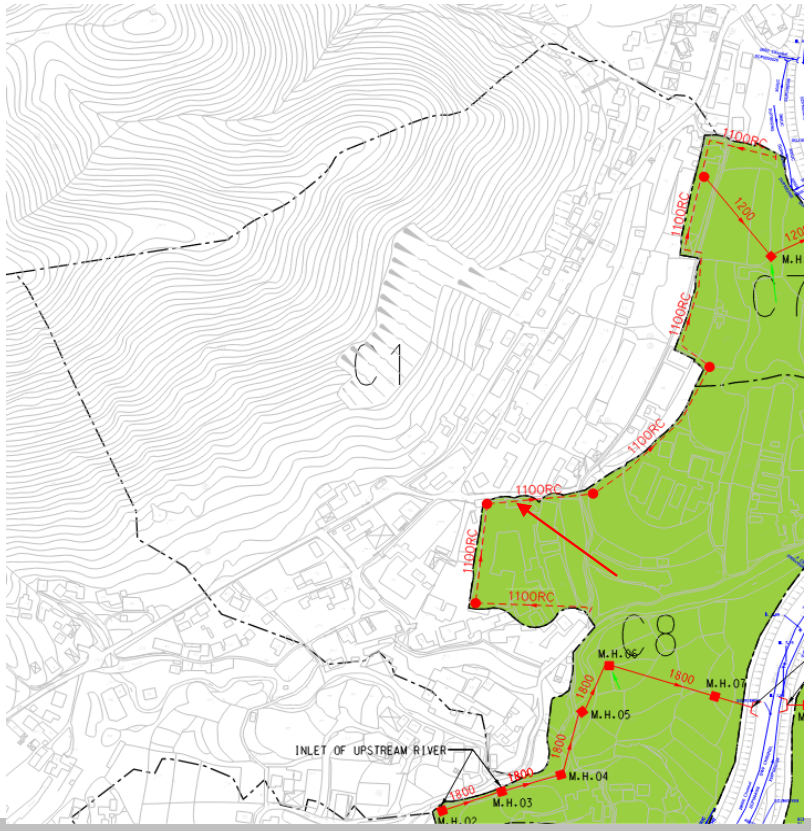
Capacity Check: Catchment C2



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	26.00	m/100m	
Length of flow	L	770	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	17.98	min	
Unpaved area	A_U	85978	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	36848	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	122,826	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	85		

Capacity Check:	Catchment C2					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	2.95	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	20.93	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	187.47	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**3.393**	m^3/s		
Peak runoff from C3		=	**5.944**	m^3/s		
Peak runoff from C8		=	**1.902**			
Total runoff		=	**11.238**			
Capacity of Drain						
Trial pipe size	D	=	**1800**	mm		
Hydraulic radius	R = D/4	=	0.45	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log\left[\frac{k_s}{14.8R}+\frac{1.255\nu}{R\sqrt{(32gRS_f)}}\right]$			
		=				
		=	5.20	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**13.23**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**11.91**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	94%			

Capacity Check: Catchment C1



Design Parameters

Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	20.00	m/100m	
Length of flow	L	770	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	19.37	min	
Unpaved area	A_U	69332	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	29714	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	99,045	m^2	
Runoff coef.	$C_{average}$	0.53		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check: Catchment C1

Peak Runoff

Flow time	t_f	=	Lj / Vj			
		=	3.58	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	22.94	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	181.93	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**2.655**	m^3/s		

Using Manning's Equation for Rectangular-Channel Geometry

Width	**1100**	**mm**	Input Parameter
Height	**1100**	**mm**	Input Parameter
Area	1.210	m^2	
Wetted Perimeter	3.300	m	
Hydraulic Radius	0.367	m	
Slope [Decimal]	**0.01**		Slope = tan θ
Manning's Roughness	**0.015**		for Fair concrete Pipe

Full Flow Velocity Vu	3.42	m/s
Full Flow Discharge	4.13	m^3/s
	247947	l/min

Assume the maximum water depth in the Rectangular-channel be 90% of the size

Water Depth	Area	Wetted Perimeter	Hydraulic Radius	Velocity	Discharge
[mm]	m^2	m	m	m/s	m^3/s
900	0.990	3.300	0.300	2.988	**2.958**

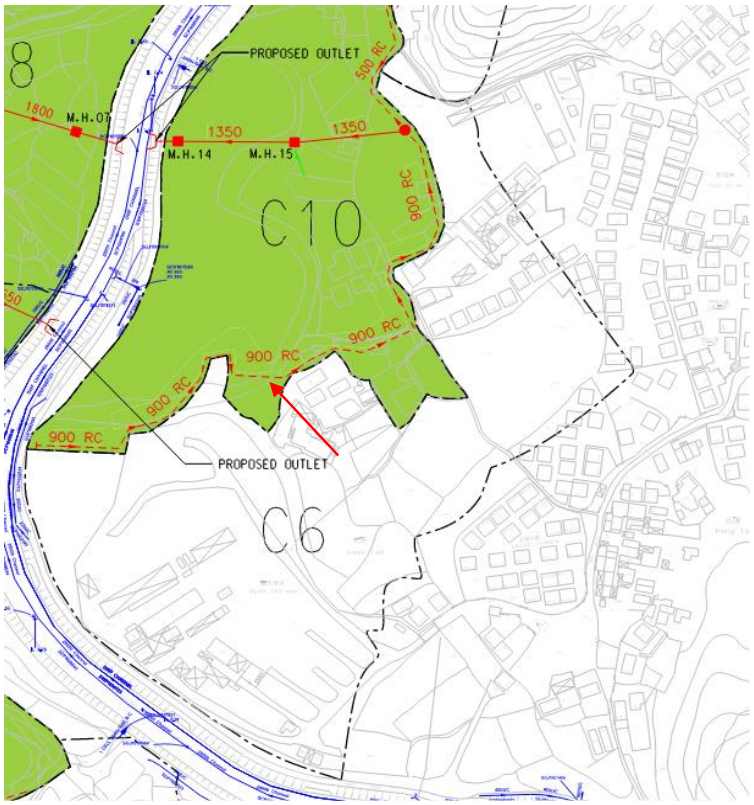
> Peak runoff Q_p

Capacity Check: Catchment C7

Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	2.00	m/100m	
Length of flow	L	120	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	5.84	min	
Unpaved area	A_U	4030	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	9402	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	13,432	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C7					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.20	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.04	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	242.27	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**0.697**	m^3/s		
Peak runoff from C1		=	**2.655**	m^3/s		
Total runoff		=	**3.352**			
Capacity of Drain						
Trial pipe size	D	=	**1200**	mm		
Hydraulic radius	R = D/4	=	0.3	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log[\frac{k_s}{14.8R}+\frac{1.255v}{R\sqrt{(32gRS_f)}}]$			
		=				
		=	3.74	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**4.23**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**3.81**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	88%			

Capacity Check: Catchment C6



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	0.30	m/100m	
Length of flow	L	240	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	15.07	min	
Unpaved area	A_U	23403	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	23403	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	46,806	m^2	
Runoff coef.	$C_{average}$	0.65		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check: Catchment C6

Peak Runoff

Flow time	t_f	=	Lj / Vj			
		=	4.09	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	19.16	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	192.94	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**1.632**	m^3/s		

Using Manning's Equation for Rectangular-Channel Geometry

Width	**900**	**mm**	Input Parameter
Height	**900**	**mm**	Input Parameter
Area	0.810	m^2	
Wetted Perimeter	2.700	m	
Hydraulic Radius	0.300	m	
Slope [Decimal]	**0.01**		Slope = tan θ
Manning's Roughness	**0.015**		for Fair concrete Pipe

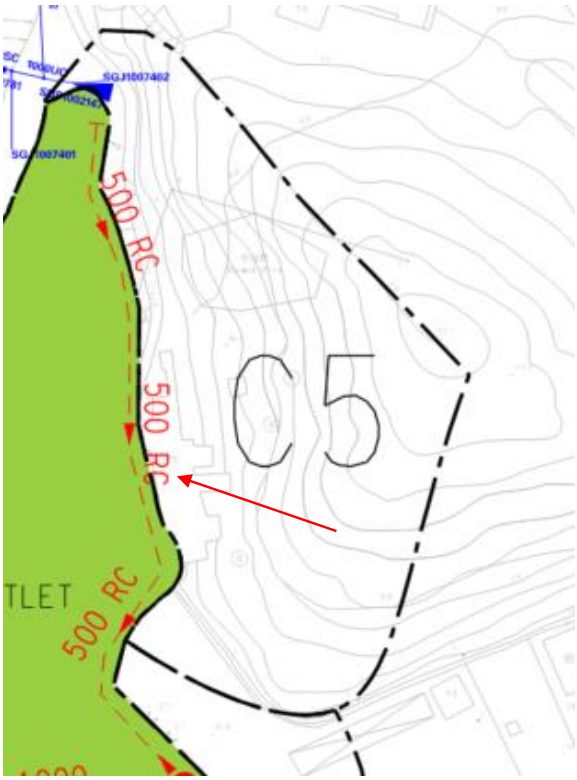
Full Flow Velocity Vu	2.99	m/s
Full Flow Discharge	2.42	m^3/s
	145198	l/min

Assume the maximum water depth in the Rectangular-channel be 90% of the size

Water Depth	Area	Wetted Perimeter	Hydraulic Radius	Velocity	Discharge
[mm]	m^2	m	m	m/s	m^3/s
810	0.729	2.520	0.289	2.916	**2.126**

> Peak runoff Q_p

Capacity Check: Catchment C5



Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	3.00	m/100m	
Length of flow	L	70	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	3.33	min	
Unpaved area	A_U	3041	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	4562	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	7,603	m^2	
Runoff coef.	$C_{average}$	0.71		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check: Catchment C5

Peak Runoff

Flow time	t_f	=	Lj / Vj			
		=	6.05	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	9.38	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	239.79	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**0.360**	m^3/s		

Using Manning's Equation for Rectangular-Channel Geometry

Width	**500**	**mm**	Input Parameter
Height	**500**	**mm**	Input Parameter
Area	0.250	m^2	
Wetted Perimeter	1.500	m	
Hydraulic Radius	0.167	m	
Slope [Decimal]	**0.01**		Slope = tan θ
Manning's Roughness	**0.015**		for Fair concrete Pipe

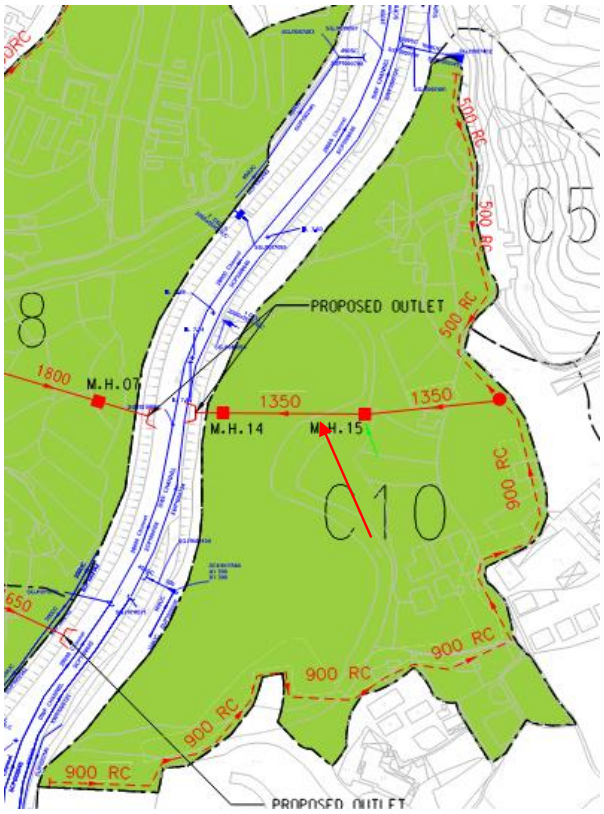
Full Flow Velocity Vu	2.02	m/s
Full Flow Discharge	0.50	m^3/s
	30285	l/min

Assume the maximum water depth in the Rectangular-channel be 90% of the size

Water Depth	Area	Wetted Perimeter	Hydraulic Radius	Velocity	Discharge
[mm]	m^2	m	m	m/s	m^3/s
450	0.225	1.400	0.161	1.971	**0.443**

> Peak runoff Q_p

Capacity Check: Catchment C10



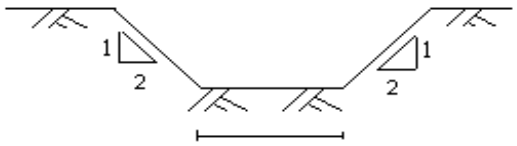
Design Parameters				
Design storm		50	year return period	
Storm constants	a	474.6		
	b	2.9		
	c	0.371		
Average Slope	H	2.00	m/100m	
Length of flow	L	120	m	
Inlet time $t_0=0.14465L/H^{0.2}A^{0.1}$	t_0	5.30	min	
Unpaved area	A_U	10590	m^2	
Runoff coef.	C_U	0.35		
Paved area	A_P	24710	m^2	
Runoff coef.	C_P	0.95		
Catchment area	A_{Total}	35,300	m^2	
Runoff coef.	$C_{average}$	0.77		
Surface roughness	k_s	0.6	mm	For Poor Precast Concrete Pipes
kinematic viscosity	v	1.14	mm^2/s	
Frictional gradient	S_f 1 in	100		

Capacity Check:	Catchment C10					
Peak Runoff						
Flow time	t_f	=	Lj / Vj			
		=	3.20	min		
Time of concentration	t_c	=	$t_0 + t_f$			
		=	8.50	min		
Intensity	i	=	$a / (t_c + b)^c$	x	1.281	*(Climate Change Factor)*
		=	246.45	mm/hr		(SDM Table 28)
Peak runoff	Q_p	=	0.278 C i A			
		=	**1.862**	m^3/s		
Peak runoff from C5		=	**0.360**	m^3/s		
Peak runoff from C6		=	**1.632**	m^3/s		
Total runoff		=	**3.854**	m^3/s		
Capacity of Drain						
Trial pipe size	D	=	**1350**	mm		
Hydraulic radius	R = D/4	=	0.3375	m		
Mean velocity (Colebrook-White)	$\bar{V}$	=	$-\sqrt{32gRS_f}\log[\frac{k_s}{14.8R}+\frac{1.255v}{R\sqrt{(32gRS_f)}}]$			
		=				
		=	4.02	m/s		
Capacity provided	Q	=	V x Cross Section Area of Drain			
		=	**5.75**	m^3/s		
Allow 10% Area for Siltation	$Q_{90\%}$	=	**5.18**	m^3/s		
		>	Peak runoff Q_p			
Utilization		=	$Qp/Q_{90\%}$			
		=	74%			

Annex 4
Sensitivity Checking of River Beas

Annex 4 Hydraulic calculation at River Beas

$$Q = \frac{A}{n} S^{1/2} R^{2/3}$$



16m

Area of flow	A =	47.380	m^2	(Based on as-built drawing)
Wetted Perimeter	P =	26.286	m	
Hydraulic radius	R =	1.802		
Hydraulic gradient	S =	0.002		From as-built
Mannings Coefficient	n =	0.035		Table 13 of SDM

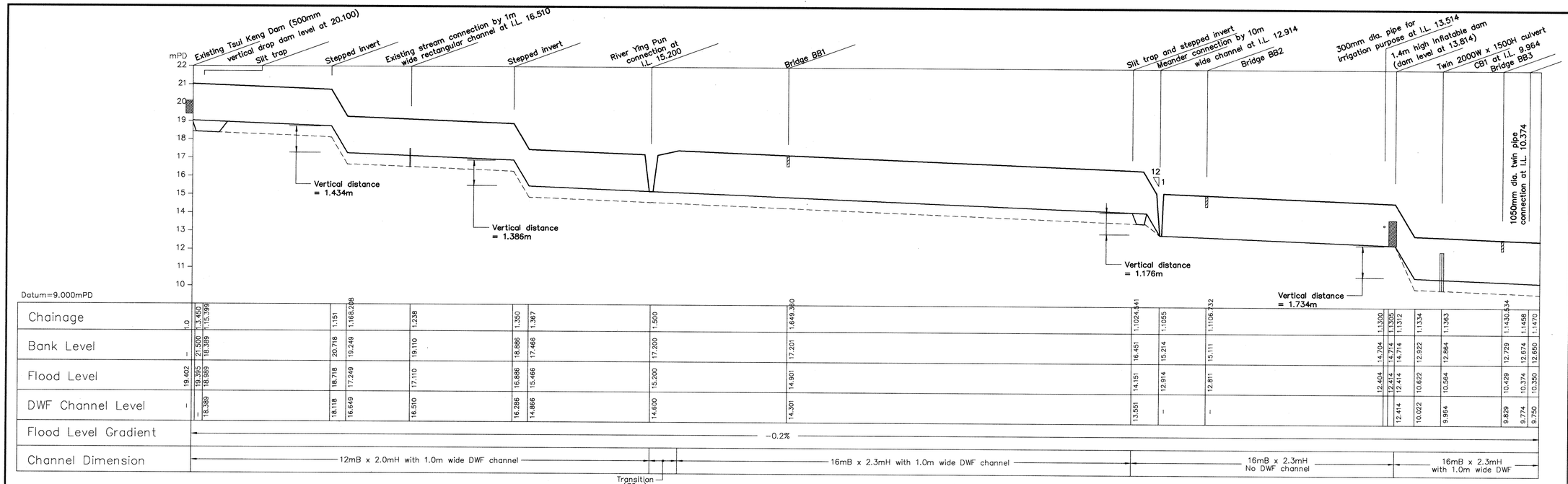
Capacity of Channel $Q = \frac{A}{n} \times s^{(1/2)} \times R^{(2/3)}$

$= 93.910 \ m^3/s$

Increase rate of discharge Q' = 2.28 m^3/s (Refer to Annex 1)

Percentage with respect to
Full flow of River Beas = 2.43%

Annex 5
As-built Record of River Beas



Chainage	1.0	1.3.450	1.15.399	1.151	1.168.298	1.238	1.350	1.367	1.500	1.649.380	1.1024.241	1.1055	1.1106.732	1.1300	1.1305	1.1312	1.1334	1.1363	1.1430.534	1.1458	1.1470
Bank Level	I	21.500	18.389	20.718	19.249	19.110	18.886	17.466	17.200	17.201	16.451	15.214	15.111	14.704	14.714	14.714	12.922	12.864	12.729	12.674	12.650
Flood Level	19.402	19.395	18.889	18.718	17.249	17.110	16.886	15.466	15.200	14.901	14.151	12.914	12.811	12.404	12.414	12.414	10.622	10.564	10.429	10.374	10.350
DWF Channel Level	I	18.389	–	18.118	16.649	16.510	16.286	14.866	14.600	14.301	13.551	–	–	–	–	12.414	10.022	9.964	9.829	9.774	9.750
Flood Level Gradient	–0.2%																				
Channel Dimension	12mB x 2.0mH with 1.0m wide DWF channel																				

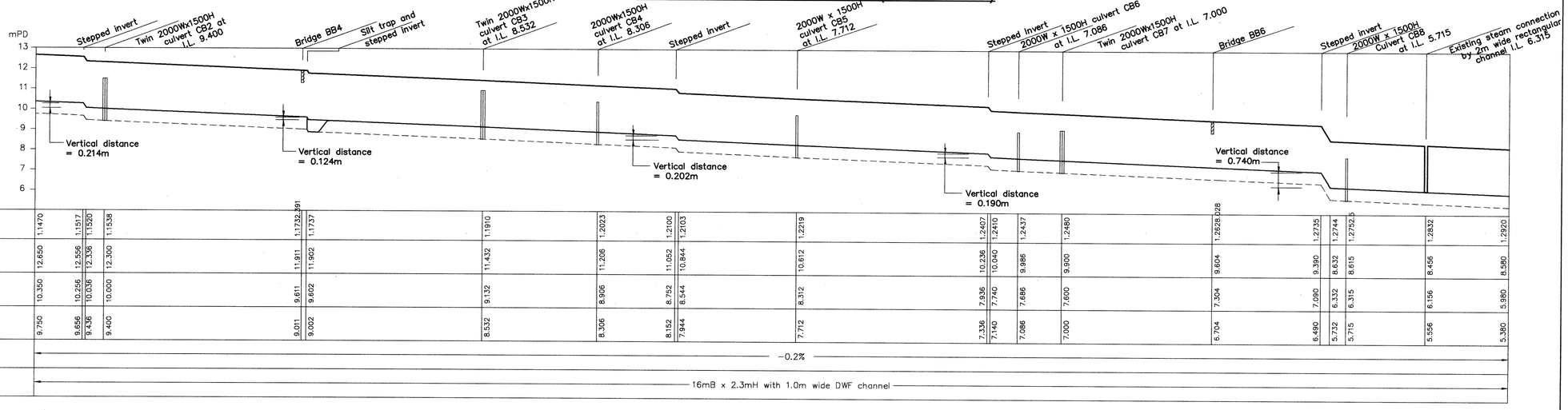
Transition (30m)

16mB x 2.3mH with 1.0m wide DWF channel

16mB x 2.3mH No DWF channel

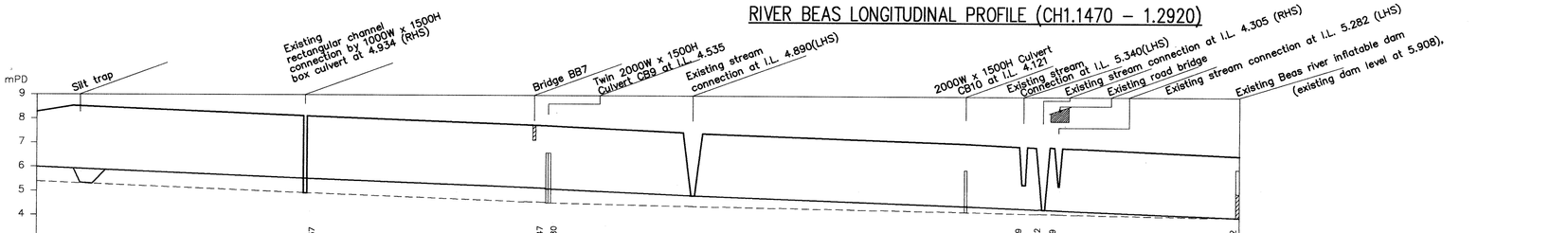
16mB x 2.3mH with 1.0m wide DWF

RIVER BEAS LONGITUDINAL PROFILE (CH1.0 – 1.1470)



Chainage	1.1470	1.1517	1.1526	1.1538	1.1732.891	1.1737	1.1910	1.2023	1.2100	1.2103	1.2219	1.2407	1.2410	1.2437	1.2480	1.2628.028	1.2735	1.2744	1.2752.5	1.2832	1.2920
Bank Level	12.650	12.596	12.336	12.300	11.911	11.902	11.432	11.206	11.052	10.844	10.612	10.235	10.040	9.986	9.900	9.604	9.390	8.632	8.615	8.456	8.580
Flood Level	10.350	10.256	10.036	10.000	9.611	9.602	9.132	8.906	8.752	8.544	8.312	7.936	7.740	7.686	7.600	7.304	7.080	6.332	6.315	6.156	5.980
DWF Channel Level	9.750	9.656	9.436	9.400	9.011	9.002	8.532	8.306	8.152	7.944	7.712	7.336	7.140	7.086	7.000	6.704	6.490	5.732	5.715	5.556	5.380
Flood Level Gradient	–0.2%																				
Channel Dimension	16mB x 2.3mH with 1.0m wide DWF channel																				

RIVER BEAS LONGITUDINAL PROFILE (CH1.1470 – 1.2920)



Chainage	1.2920	1.2956	1.3143.37	1.3333.947	1.3345.060	1.3465	1.3692	1.3739.869	1.3756.392	1.3769.189	1.3770	1.3885	1.3919.852
Bank Level	8.580	8.508	8.134	7.753	7.730	7.490	7.036	6.940	6.905	6.882	6.880	6.650	6.570
Flood Level	5.980	5.908	5.534	5.153	5.130	4.890	4.436	4.340	4.305	4.282	4.280	4.050	4.970
DWF Channel Level	5.380	5.308	4.934	4.553	4.535	4.418	4.121	4.150	4.133	4.120	4.120	4.009	–
Flood Level Gradient	–0.2%												
Channel Dimension	16mB x 2.6mH with 1.0m wide DWF channel					16mB x 2.6mH with 1.0m wide DWF channel (depth of DWF channel varies)						2.6mH with 1.0m DWF channel (width of reiver channel varies to match with existing inflatable dam, depth of DWF channel varies)	

Transition (30m)

RIVER BEAS LONGITUDINAL PROFILE (CH1.2920 – 1.3919)

Notes :

1. This drawing is to be read in conjunction with the general notes on drawing No. 90464/DC9713/102 unless otherwise stated.

Rev.	Issue Stat	Amendment	By	App.	Date
B	ABR	As Built Record Drawing			22.4.03
A	IFT	Tender Drawing	SANG	DWM	18.12.98

Client

DRAINAGE SERVICES DEPARTMENT

Contract No. DC/97/13

Project

Rural Drainage Rehabilitation Scheme

Title

River Beas
Longitudinal Profile

(SHEET 1 OF 2)

Mouchel
Mouchel Asia Limited
Consulting Engineers

Drawn	YIC	Date 22.4.03
Checked	EL	Date 22.4.03
Approved	KHS	Date 22.4.03
CAD File No.	713-1188	
Scale	HOR 1 : 2500 VERT 1 : 125	

First Issued	Drg. No.	Rev.
18.12.98	90464/DC9713/118	B

FOR CONTINUATION SEE DRAWING NO. 90464/DC9713/131

827 900 E

828 000 E

839 400 N

839 300 N

839 200 N

839 100 N

839 000 N

838 900 N

B24

B23

B22

B21

B20

R=130m

R=190m

1.2700

1.2600

1.2500

1.2400

1.2300

1.2200

River Beas

N

FOR CONTINUATION SEE DRAWING NO. 90464/DC9713/129

0 10 20 30 40 50m

Notes :

1. This drawing is to be read in conjunction with the general notes on drawing No. 90464/DC9713/102 unless otherwise stated.

Legend:

Setting Out Point

Setting Out Details – River Beas			
Setting Out Point	Easting	Northing	Chainage
B20	828201.550	838988.841	2263.834
B21	828245.403	839097.343	2382.796
B22	828274.218	839170.140	2462.323
B23	828315.109	839220.419	2527.130
B24	828303.592	839396.880	2721.597

Rev	Issue Stat	Amendment	By	App.	Date
B	ABR	As Built Record Drawing			22.4.03
A	IFT	Tender Drawing	SANG	DWM	18.12.98

Client

DRAINAGE SERVICES DEPARTMENT

Contract No. DC/97/13

Project

Rural Drainage Rehabilitation Scheme

Title

River Beas
Channel Setting Out Details

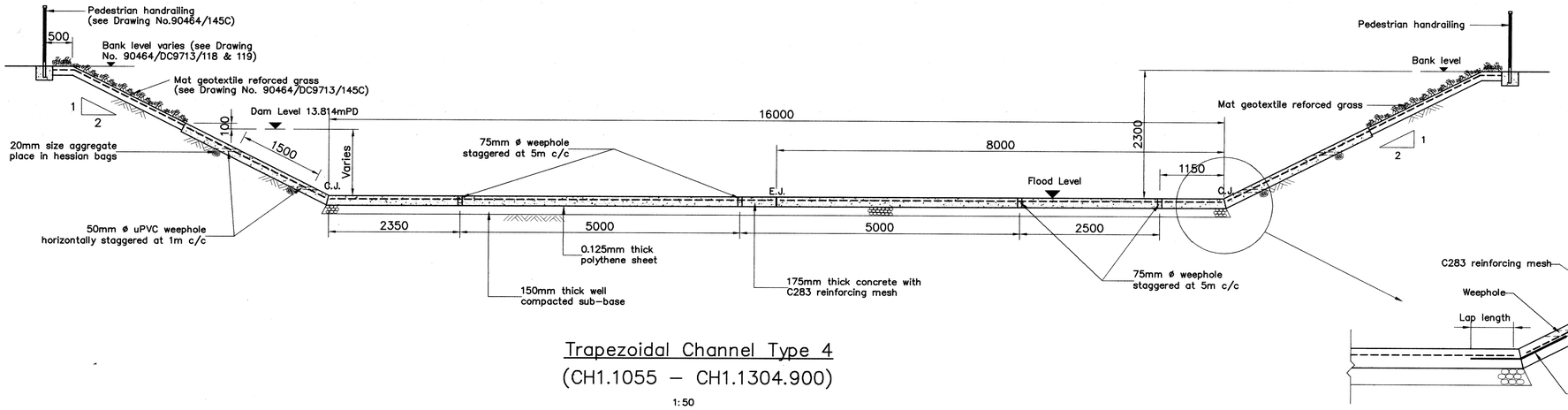
(SHEET 4 OF 7)

Mouchel

Mouchel Asia Limited
Consulting Engineers

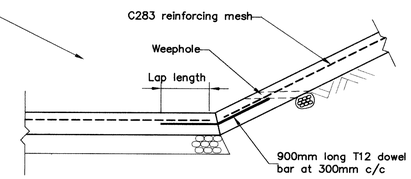
Drawn YIC	Date 22.4.03
Checked EL	Date 22.4.03
Approved KHS	Date 22.4.03
CAD File No. 713–130B	
Scale 1 : 1000	

First Issued	Drg. No.	Rev.
18.12.98	90464/DC9713/130	B



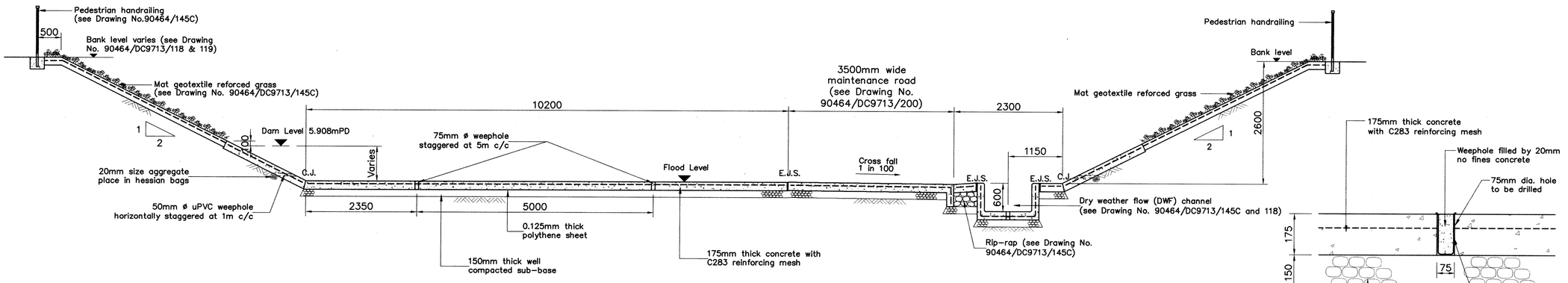
Trapezoidal Channel Type 4
(CH1.1055 – CH1.1304.900)

1:50



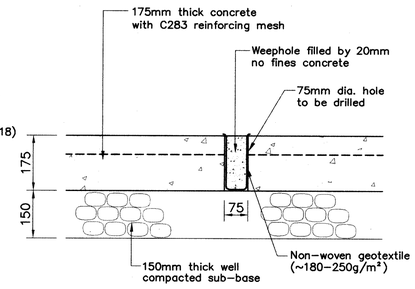
Construction joint at slope toe

1:25



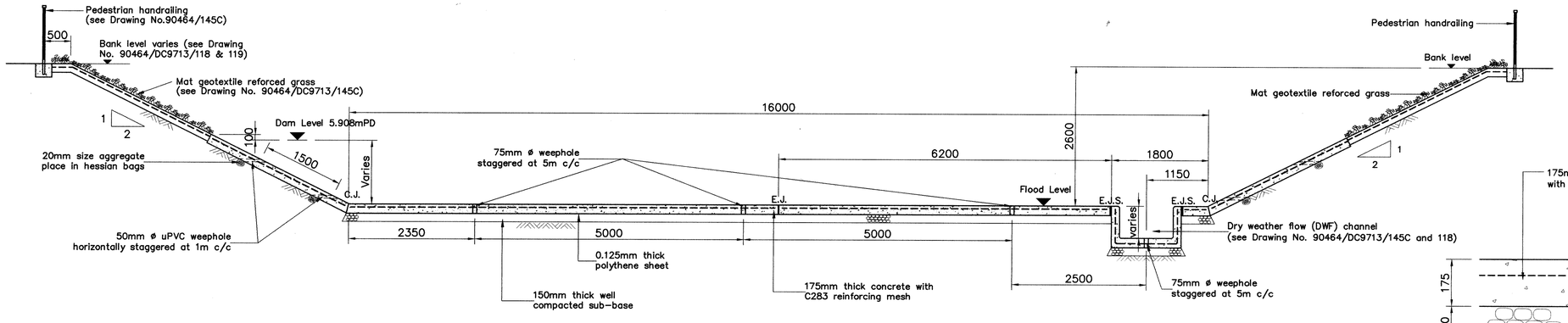
Trapezoidal Channel Type 5
(CH1.2956 – CH1.3315)

1:50



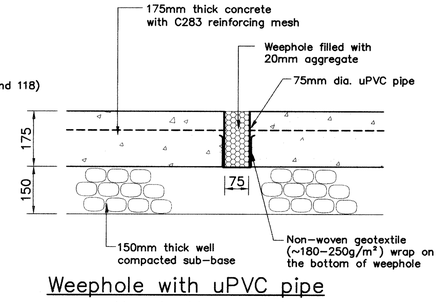
Weephole formed by coring on the bottom slab

1 : 10



Trapezoidal Channel Type 6
(CH1.3315 – CH1.3919.384)

1:50



Weephole with uPVC pipe on the bottom slab

1 : 10

Notes :

1. This drawing is to be read in conjunction with the general notes on drawing No. 90464/DC9713/102 unless otherwise stated.
2. For pedestrian handrailing see drawing No. 90464/DC9713/500.
3. Anchorage and lap length of reinforcment shall conform with section 3.12.8 BS8110 : Part : 1997.
4. Contraction joints and expansion joints detail for trapezoidal concrete channel type 4, 5 and 6 shall be the same as those shown on drawing No. 90464/DC9713/200.
5. Concrete grade 40/20D.

Rev	Issue Stat	Amendment	By	App.	Date
B	ABR	As Built Record Drawing			22.4.03
A	IFT	Tender Drawing	SANG	DWM	18.12.98

Client

DRAINAGE SERVICES DEPARTMENT

Contract No. DC/97/13

Project

Rural Drainage Rehabilitation Scheme

Title

River Beas
Trapezoidal Concrete
Channel Details

Mouchel

Mouchel Asia Limited
Consulting Engineers

Drawn YIC	Date 22.4.03
Checked EL	Date 22.4.03
Approved KHS	Date 22.4.03
CAD File No. 713-148B	
Scale As Shown	

First Issued	Drg. No.	Rev.
18.12.98	90464/DC9713/148	B

Attachment 11

Replacement Page to the Ecological Review

Table 1. Habitats of the subject site extract from the Appendix 2

Habitat type	Area (ha)
Secondary woodland	3.6
Grassland	2.2
Agricultural land	1.5
Rivers and streams	0.2
Ponds and marshes	1.2
Disturbed areas	1.4
Village	2.2
Open storage	0.5
Total	12.8

Table 2. A checklist of bird species recorded at River Beas between Dec 2024 and February 2025 (Based on three checklists available on ebird). A total of 45 bird species. The Greater Painted Snipe is an uncommon species and is often used as an indicator of the ecological value of freshwater habitats. (Remark: * = Wetland dependent species).

	Bird species	10/12/24	11/1/25	3/2/25
1	Spotted Dove (*Spilopelia chinensis*)	+	+	+
2	Greater Coucal (*Centropus sinensis*)			+
3	Asian Koel (*Eudynamys scolopaceus*)	+		
4	White-breasted Waterhen (*Amaurornis phoenicurus*)	+	+	+
5	Black-winged Stilt (*Himantopus himantopus*)			+
6	Greater Painted Snipe (*Rostratula benghalensis*)	+	+	+
7	Common Snipe (*Gallinago gallinago*)	+	+	
8	Common Sandpiper (*Actitis hypoleucos*)			+
9	Green Sandpiper (*Tringa ochropus*)		+	+
10	Wood Sandpiper (*Tringa glareola*)		+	+
11	Common Greenshank (*Tringa nebularia*)	+	+	+
12	Little Egret (*Egretta garzetta*)	+	+	+
13	Chinese Pond Heron (*Ardeola bacchus*)	+	+	
14	Eastern Cattle Egret (*Bubulcus coromandus*)			+
15	Great Egret (*Ardea alba*)		+	+
16	Grey Heron (*Ardea cinerea*)	+	+	+
17	Black Kite (*Milvus migrans*)			+
18	Common Kingfisher (*Alcedo atthis*)			+

Attachment 12

Landownership Figure

Legend

- Rezoning Site
- Lot # — Private Lots under Full / Partial Ownership of the Applicant
- Lot # — Private Lots not owned by the Applicant
- Government Land

Legend

- Lot # — Private Lots
- Rezoning Site

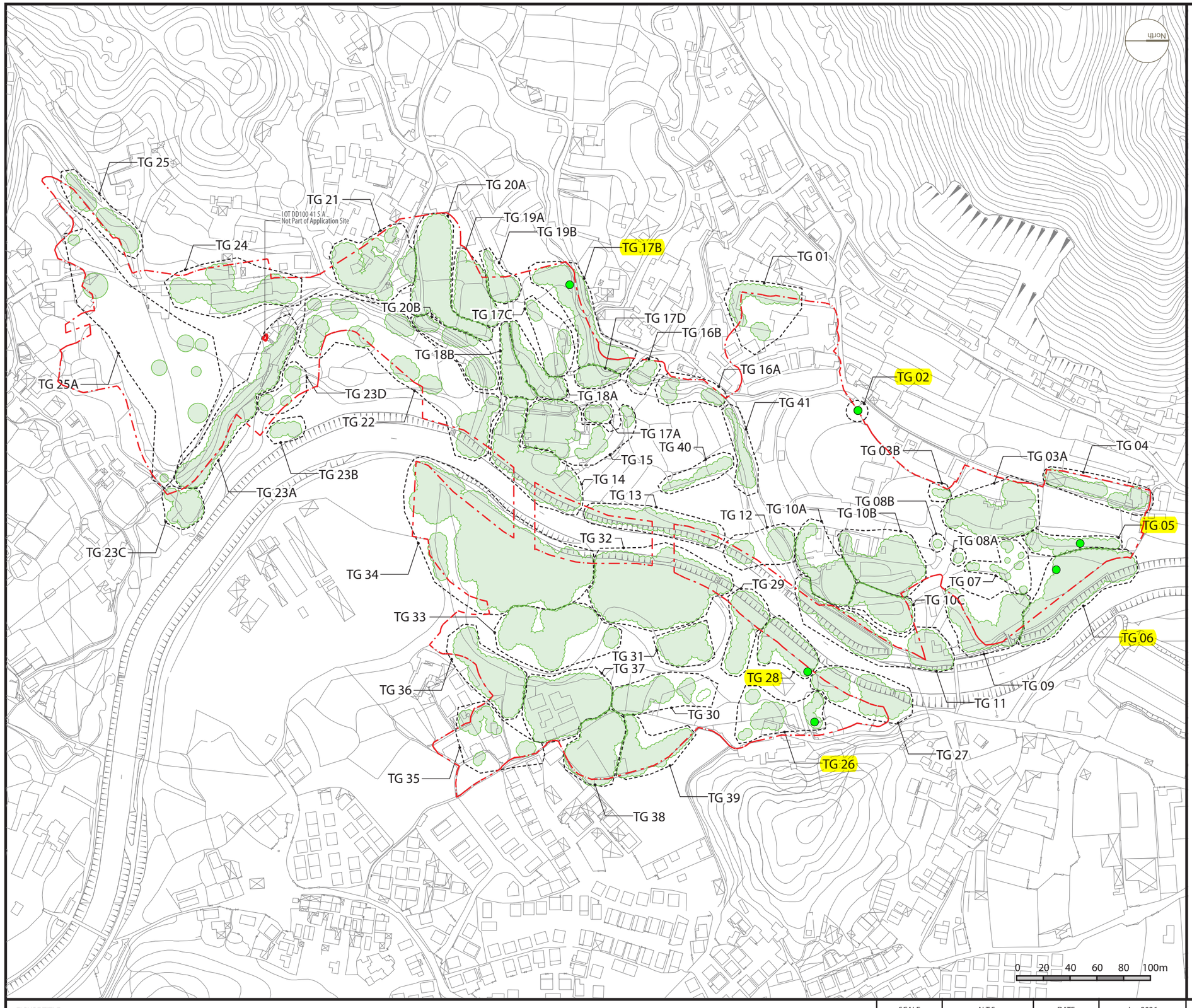
SYRKTS

LAND OWNERSHIP PLAN

SCALE 1 : 2,500

Attachment 13

Photographs and Indicative Locations
of Protective Tree Species
Magnolia x alba



LEGEND

- Application Site Boundary
- Existing Tree Group
- Existing Tree Group Boundary

● Approximate location of Magnolia × alba based on photos (for reference only)

FIGURE TITLE

Proposed School at Various Lots in D.D. 94, 98 & 100 and adjoining Government Land, Kwu Tung South, New Territories

Tree Group Location Plan

SCALE	N.T.S.	DATE	Jan 2026
CHECKED	JBC	DRAWN	JH
FIGURE NO.	HLDP071 - T - TG	REV	A

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12/F So Hong Commercial Building, 41-47 Jervois Street, Sheung Wan, Hong Kong
Telephone: 2468 2422
Facsimile: 3016 2422
Website: scenic@studioscenic.com

TG 02

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
TG02 (1 no. of trees)					
Magnoliax alba	白蘭	1	350	7	5

TG 05

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
Magnoliax alba	白蘭	1	120	4	3

TG 06

TG 17B

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
Magnolia x alba	白蘭	1	150	6	2

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
Magnolia x alba	白蘭	1	120	5	2

TG 26

TG 28

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
TG26 (6 nos. of trees)					
Magnolia x alba	白蘭	1	250	8	4

Species		Estimated Numbers of Trees in Group	Tree Size		
Scientific Name	Chinese Name		DBH (m)	Height (m)	Spread (m)
Magnolia x alba	白蘭	1	120	5	3