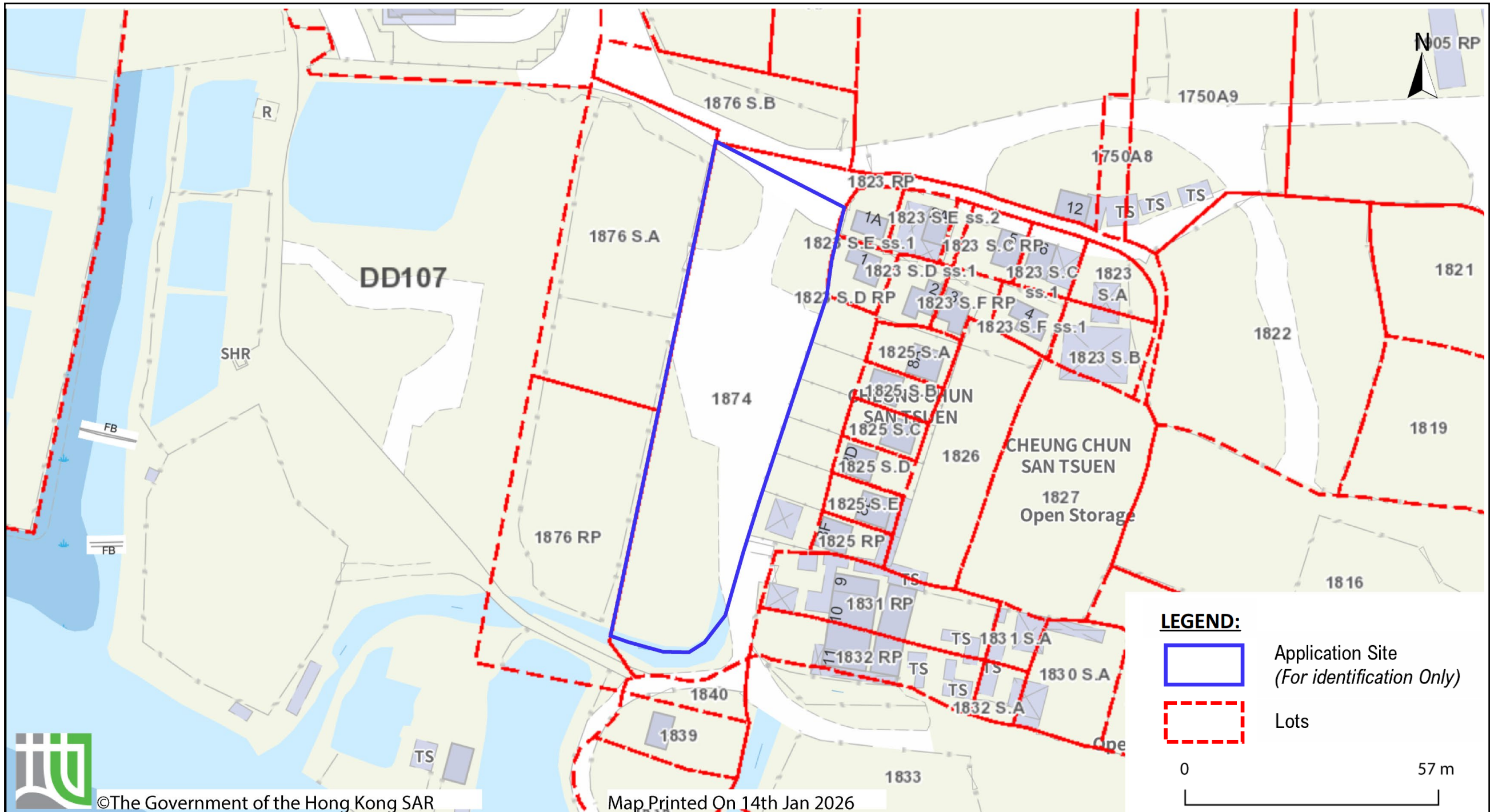


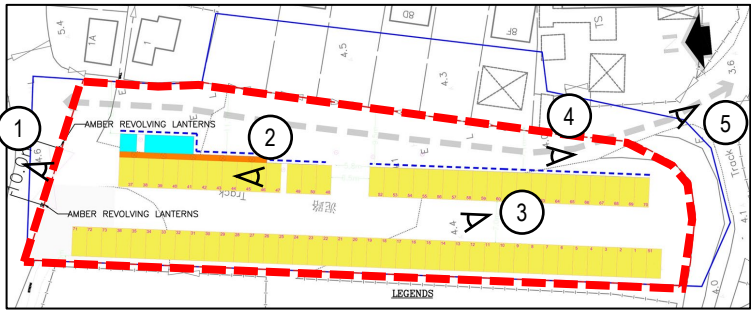
Annex 1

Location Plan



Annex 2

Site Photos

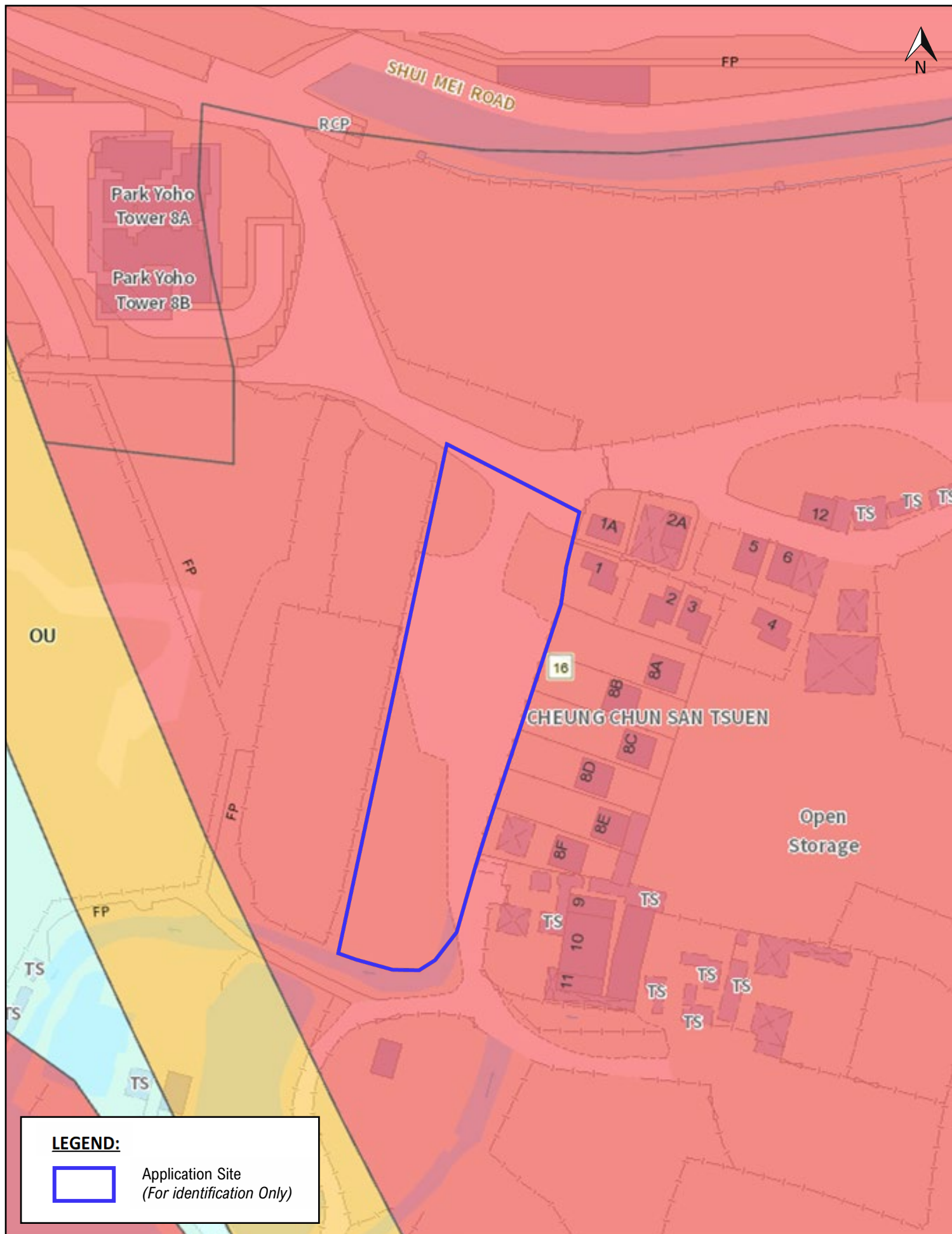


Application Site (For identification only)



Annex 3

Extract of OZP

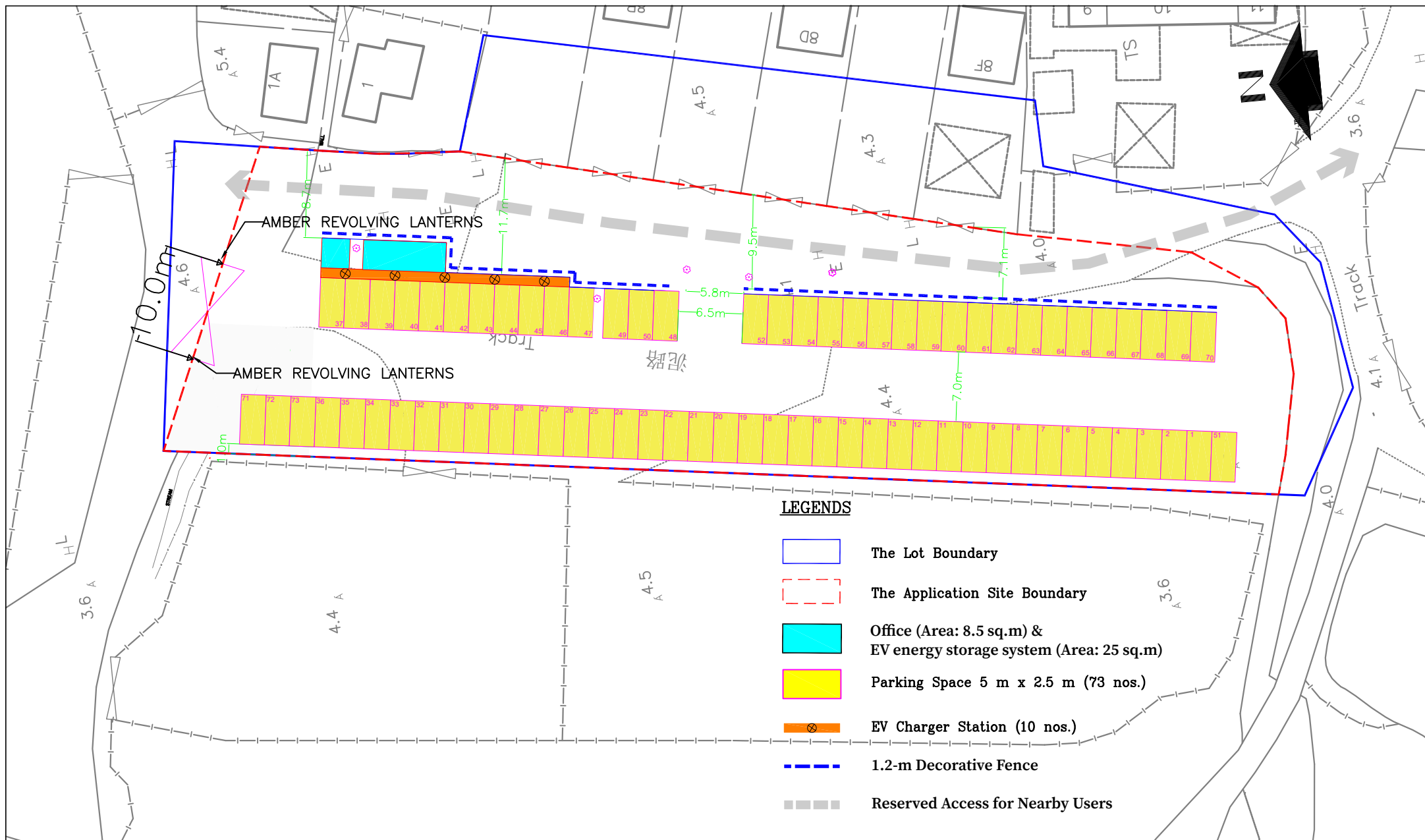


Project:

Section 16 Planning Application for Proposed Temporary Public Vehicle Park (Excluding Container Vehicle) with Ancillary Office and Electric Vehicle Charging Facilities for a Period of Three Years at Lot 1874 (Part) in D.D. 107, Cheung Chun San Tsuen, Kam Tin, New Territories

Annex 4

Layout Plan



PROJECT TITLE
Section 16 Planning Application for Proposed Temporary Public Vehicle Park (Excluding Container Vehicle) with Ancillary Office for a Period of 3 Years at Lot No. 1874 in D.D.107, Kam Tin North, Yuen Long, New Territories

FIGURE 1

DATE
 SEP 2026

SCALE
 N.T.S

DRAWING TITLE

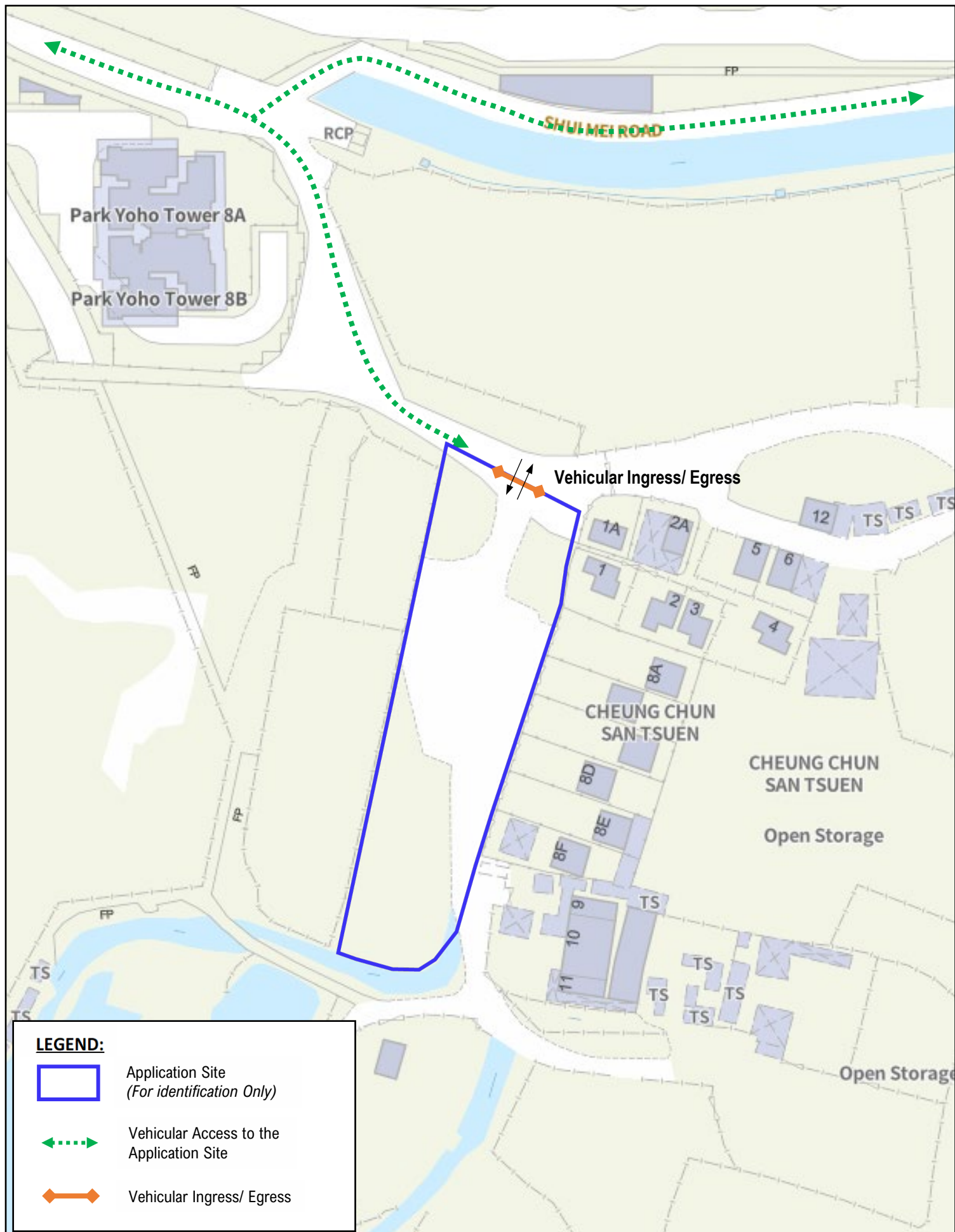
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PROJECT NO.
 J03018

PROPOSED PARKING LAYOUT

Annex 5

Vehicular Access to the Application Site



Project:

Section 16 Planning Application for Proposed Temporary Public Vehicle Park (Excluding Container Vehicle) with Ancillary Office and Electric Vehicle Charging Facilities for a Period of Three Years at Lot 1874 (Part) in D.D. 107, Cheung Chun San Tsuen, Kam Tin, New Territories

Annex 6

Swept Path Analysis



PROJECT TITLE Section 16 Planning Application for Proposed Temporary Public Vehicle Park (Excluding Container Vehicle) with Ancillary Office for a Period of 3 Years at Lot No. 1874 in D.D.107, Kam Tin North, Yuen Long, New Territories			FIGURE 1 - SP1
DATE Sep 2026	SCALE N.T.S	DRAWING TITLE SWEPT PATH ANALYSIS FOR PRIVATE CAR	 AMG CONSULTANCY LIMITED
DRAWN SF	PROJECT NO. J03018		



PROJECT TITLE Section 16 Planning Application for Proposed Temporary Public Vehicle Park (Excluding Container Vehicle) with Ancillary Office for a Period of 3 Years at Lot No. 1874 in D.D.107, Kam Tin North, Yuen Long, New Territories			FIGURE 1 - SP3
DATE Sep 2026	SCALE N.T.S	DRAWING TITLE SWEPT PATH ANALYSIS FOR PRIVATE CAR	 AMG CONSULTANCY LIMITED
DRAWN SF	PROJECT NO. J03018		

Annex 7

Drainage Proposal

Proposed Temporary Public Vehicle Park Lot 1874 (Part) in D.D. 107 Kam Tin North, Yuen Long, New Territories

Drainage Proposal

Revision 1

14 September 2026

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1. Introduction

1.1 Project Title

- 1.1.1 Proposed Temporary Public Vehicle Park Lot 1874 (part) in D.D. 107 Kam Tin North, Yeun Long, New Territories.

1.2 Project Background

- 1.2.1 A Planning Application has been prepared for a proposed temporary Public Vehicle Park at Lot 1874 (part) in D.D. 107 Kam Tin North, New Territories.

Statutory Land Use Zoning of the Project Site

- 1.2.2 The Project Site falls within the Comprehensive Development Area ("CDA"), according to the Approved Kam Tin North Outline Zoning Plan No. S/YL-KTN/11 ("the OZP"). According to the Notes of the OZP, item (a) (ix) under CDA, "a drainage and sewerage impact assessment report to examine any possible drainage and sewerage problems that may be caused by the proposed development and the proposed mitigation measures to tackle them".

Location of the Project Site

- 1.2.3 The location of the Project Site is given in **Figure 1.1**.
- 1.2.4 The Project Site has an area of 2,978m². The proposed development of the site will be a public car park, providing 70 parking spaces.
- 1.2.5 A section of the land lot was occupied by residents at the east. Hence the proposed layout of the carpark does not fully occupy the land lot. **Figure 1.2** shows the proposed layout of the carpark.
- 1.2.6 No filling works is planned for this proposed development. The existing ground levels of the Project site and its surroundings are shown in **Figure 1.3**.

Purpose of this Proposal

- 1.2.7 This Drainage Proposal is prepared to demonstrate that the proposed development will not cause any adverse drainage impact to the adjacent areas.
- 1.2.8 All necessary information necessary for the submission have been included. A checklist detailed the responses on Drainage Services Department's ("DSD") requirements/reminders is given in **Appendix 1.1**.

2. Existing Environment of the Project Site

2.1 Overview of Local Terrain and Surrounding Environment

Local Terrain within Proximity of the Project Site

- 2.1.1 The Project Site is located within Kam Tin North, New Territories. To the south of the Project Site is a natural stream that leads to the channel of feature no. SCP1013748 and discharge into Kam Tin River. The Kam Tin River serves as the main discharge channel for the surrounding area.
- 2.1.2 The surrounding land use includes a parking area to the northeast and a residential development, Park Yoho Tower 8, to the northwest. The site features residential houses, Cheung Chun San Tsuen, to the east and unused private land to the west.

Terrain of the Project Site

- 2.1.3 The local terrain is flat with some vegetation. Stormwater falling north of the Project Site will flow northwards towards a channel of feature No. SCP1009605, while some stormwater flows southwards towards the site, ultimately discharging into the Kam Tin River to the south. The existing stormwater flow direction is shown in **Figure 2.1**.
- 2.1.4 The Project Site currently comprises of paved land with vegetation. The site is paved with no permanent structures. At the southwest area of the site, some space is used for storage of pot planters. Additionally, the site is currently used as a parking space for nearby residents. Panorama photos of the Project Site are given in **Figure 2.2**.
- 2.1.5 A cross-section for the Project Site is given in **Appendix 2.1**.

2.2 Existing Drainage Channel

Recorded Public Drainage Channel

- 2.2.1 Existing public drainage infrastructure in the proximity of the Project Site includes the natural stream at the south of the Project Site that discharge the local stormwater into the public drainage feature no. SCP1013748 and enters Kam Tin River. There is as well at the north of the site a river channel feature no. SCP1009605. The existing public drainage network is shown in **Figure 2.1**.
- 2.2.2 The Kam Tin North area is not in the blackspot flooding areas as according to DSD. This demonstrates that the existing primary discharge channel has adequate capacity to handle the current stormwater flow for the area.

Site Visit and Observation

- 2.2.3 A site visit was conducted on 17th March and 1st April 2026 to obtain the current condition of the surrounding area and existing drainage system within the Project Site.
- 2.2.4 A photo map showing the existing situation of the Project Site is given in **Figure 2.3**. An elevation profile that indicates the lower and higher points of the area has been estimated by photogrammetry and is shown in **Figure 2.4**.
- 2.2.5 Photos taken during the site visit showing the features identified in the following sections are given in **Figure 2.5**.

Current Condition of the Project Site

- 2.2.6 The current condition of the site includes a sheet metal hoarding that separates the open space at the west of Project Site, and fences erected by the residential units of Cheung Chun San Tsuen at the east of the Project Site. Stormwater will flow in/out of the Project Site during rainstorms at unsealed sections. Drainage channels are found within the northern part of the site and are shown in **Figure 2.1**.
- 2.2.7 No formal U-channel drainage system currently exists within the Project Site. Stormwater runoff follows natural surface flow paths towards the southern boundary of the site, where it enters the natural stream and ultimately enters Kam Tin River.

3. Drainage Flow Evaluation

3.1 Relevant Guidelines and Classification of the Project Site

3.1.1 This Drainage Proposal has been carried out in accordance with the guidelines given as follows:

- a) Technical Note to Prepare a Drainage Submission (the TN);
- b) Stormwater Drainage Manual Planning, Design and Management (Fifth Edition, January 2018) (the Manual); and
- c) Relevant standard drawings provided by Civil Engineering and Development Department.

Classification of the Project Site

3.1.2 The Project Site has a total area of 2,978m² (0.298 ha), which is smaller than 1 ha. In accordance with the TN, the Project Site is classified as a Simple Site. This Drainage Proposal therefore presents the drainage arrangement within the Project Site only and its connection to the existing public drainage network.

3.2 Existing Stormwater Flow Path

Existing Scenario

3.2.1 Under the existing scenario, stormwater falling on the site either infiltrates into the ground or flows, as overland surface runoff towards the south following the natural terrain gradient. The runoff eventually enters the public drainage network and discharges into the Kam Tin River. The existing catchment area is shown in **Figure 3.1**.

Catchment A

3.2.2 Catchment A refers to the parking lot area located at the northwest side of the Project Site. The carpark is elevated and equipped with proper perimeter drainage system. All stormwater falls within the catchment area will be intercepted by the perimeter drainage channel and directed north to discharge at the drainage channels without entering the Project Site.

Catchment B

3.2.3 Catchment B refers to the residential area, Cheung Chun San Tsuen, at the eastern side of the Project Site. The area is a private residential area, and no access was granted during the site inspection. One surface channel located at the southern side of the catchment was identified. This suggests that the village has its own local drainage system and may not cause overland flow into the project area.

Catchment C

3.2.4 Catchment C refers to the paved area at the west of the Project Site including the access road leading from Shui Mei Road. Stormwater falling within this catchment would flow towards the south following the terrain. No overland flow would enter this catchment from the West as an uncharted channel running from north to the south was identified at the western side of this catchment (as shown in **Figure 2.1**) directing all stormwater into the natural stream and entering channel Feature no. SCP1013748 located at the south of the Project Site. Majority of the stormwater falling within the catchment would flow south and will be discharged into the natural stream without entering the Project Site. Some of

the stormwater would enter the Project Site as the fence between the catchment areas are permeable.

Project Site

- 3.2.5 This catchment includes the Project Site, the access road at the north and part of the residential area at the east. Stormwater falls at the access road will enters the Project Site following the terrain. The stormwater falls within the residential area would enter the Project Site if they were not intercepted properly by the local drainage facilities, hence included in this catchment as worst case scenario. All stormwater falling within the Project Site will be flowing towards the south following the terrain. The stormwater will first enter the natural stream located at the south of the site, following to the channel SCP1013748 and finally connecting to the Kam Tim River.
- 3.2.6 One catch pitch was located within the catchment area at northeast of the Project Site, which is anticipated to direct the collected stormwater westwards towards a small trench at the northwest of the Project Site. The trench would direct collected stormwater towards west to the uncharted channel at the west of the Catchment C.

4. Proposed Drainage Infrastructure

4.1 General Specification and Dimension of the Channel

- 4.1.1 In accordance with the TN, for a site of approximately 2,978m² (0.298 ha), a perimeter U-channel with a minimum diameter of 450mm and a self-cleansing gradient will be required. Grating should be provided for all the surface channels.
- 4.1.2 To allow existing overland flow from the adjoining lots to pass through, the hoarding design will be reviewed and opening at the footing will be created where necessary.
- 4.1.3 Catchpits with robust covers will be provided at all locations where the U-channel changes direction and/or gradient. A final catchpit with a sand trap will be provided to intercept the debris carried by the stormwater before discharge into public drainage system.
- 4.1.4 The dimensions of the U-channels, covers of the catchpits will make reference to Civil Engineering and Development Department (CEDD) Drawing Nos. C2406/1, C2406/2A and Drainage Services Department (DSD) Drawing No. DS 1025B. Connection of the proposed and existing drainage facilities will be designed and constructed to avoid any water leakage at the proposed connection. The Standard drawings for the catchpits are given in **Appendix 4.1**.

4.2 Channel Alignment and Components

Drainage Arrangement for Stormwater Flow within the Project: U-channel, floodwall and catchpit

- 4.2.1 A perimeter U-channel will be constructed along the Project Site boundary to intercept all surface runoff. The proposed drainage system will be constructed with pre-cast concrete channels and concrete pipes.
- 4.2.2 For stormwater falling within the Project Site, it will flow southwards following the finished terrain and be collected by the perimeter U-channel along the southern boundary. As presented in **Figure 1.2**, the carpark will not fully occupy the land lot. The proposed drainage channel will be allocated to the boundary of the proposed carpark
- 4.2.3 Catchpits will be provided at each change of direction and at the junctions of drainage channels. Catchpits with sand trap shall be provided at the outlets of the drainage system before discharging into ultimate discharge point (e.g. a well-established stream course/public drainage system).
- 4.2.4 A final catchpit, FCP, will be constructed at the southwestern side of the Project Site. Stormwater within the Project Site will be discharged through FCP into the river channel.
- 4.2.5 The FCP will be equipped with a petrol arrest and sand trap to ensure grease and silts will not enter the natural stream prior discharge in public drainage system. Stormwater will be ultimately discharge into the natural stream through a proposed 500mm diameter underground concrete pipe DC-5.
- 4.2.6 The drainage proposal has been designed according to the public car park application site boundary.

4.2.7 **Figure 4.1** shows the proposed layout of the drainage channel for the Project Site. Technical details, including the type, dimensions, invert levels are given in **Table 4.1**. Detailed calculations are shown in **Appendix 4.2** and **Appendix 4.3**.

Table 4.1: Technical Details of the Proposed Drainage Channels

Segment	Type	Downstream Catchpit	Upstream Invert Level (mPD)	Downstream Invert Level (mPD)	Length (m)	Diameter (mm)	Slope
DC-1	Surface U-Channel	CP1	4.15	3.99	32.0	500	1 in 200
DC-2	Surface U-Channel	CP2	3.99	3.50	94.1	500	1 in 193
DC-3	Surface U-Channel	FCP	3.50	3.35	29.5	500	1 in 193
DC-4	Surface U-Channel	FCP	4.15	3.35	112.0	500	1 in 140
DC-5	Underground Concrete Pipe	Natural stream	3.35	3.32	3.5	500	1 in 118

4.3 Construction and Maintenance

- 4.3.1 The Applicant shall furnish DSD with this connection proposal for agreement. After obtaining DSD's agreement, the Applicant shall submit a duly completed Form HBP1 with a cross cheque covering the technical audit fee and a plan showing the details of the proposed drainage connection works to DSD (Mainland North Division) for formal application. The Applicant shall also carry out the proposed connection works in accordance with DSD Standard Drawings at the resources of the Applicant.
- 4.3.2 During construction stage, the Applicant shall ensure that no works, including any site formation works, shall be carried out adversely interfere with the free flow condition of the existing drains, channels and watercourses on or in the vicinity of the subject site any time during or after the works. No work should be allowed within 3m from the top of the bank of the existing watercourses.
- 4.3.3 The perimeter U- channels should be constructed at a level lower than the adjoining lots to collect and convey runoff flowing toward the application site. The proposed U-channel will intercept and deliver stormwater into the U-channels at the south of the Project Site and into the natural stream, ultimately discharged into the Kam Tim River. The maintenance of the proposed U-channels and catchpits shall be undertaken by the Applicant.
- 4.3.4 The Applicant shall rectify the system if it is found to be inadequate or ineffective during operation at his / her own expense, in addition to those within the Project Site.
- 4.3.5 In addition, the Applicant, and the successive lot owners, shall also:
- make good all adjacent affected areas upon the completion of the drainage works;

- b) allow all time free access for the Government and its agent to conduct site inspection on his completed drainage works; and
- c) allow connections from the adjacent lots to be completed drainage works on Government Land when so required.

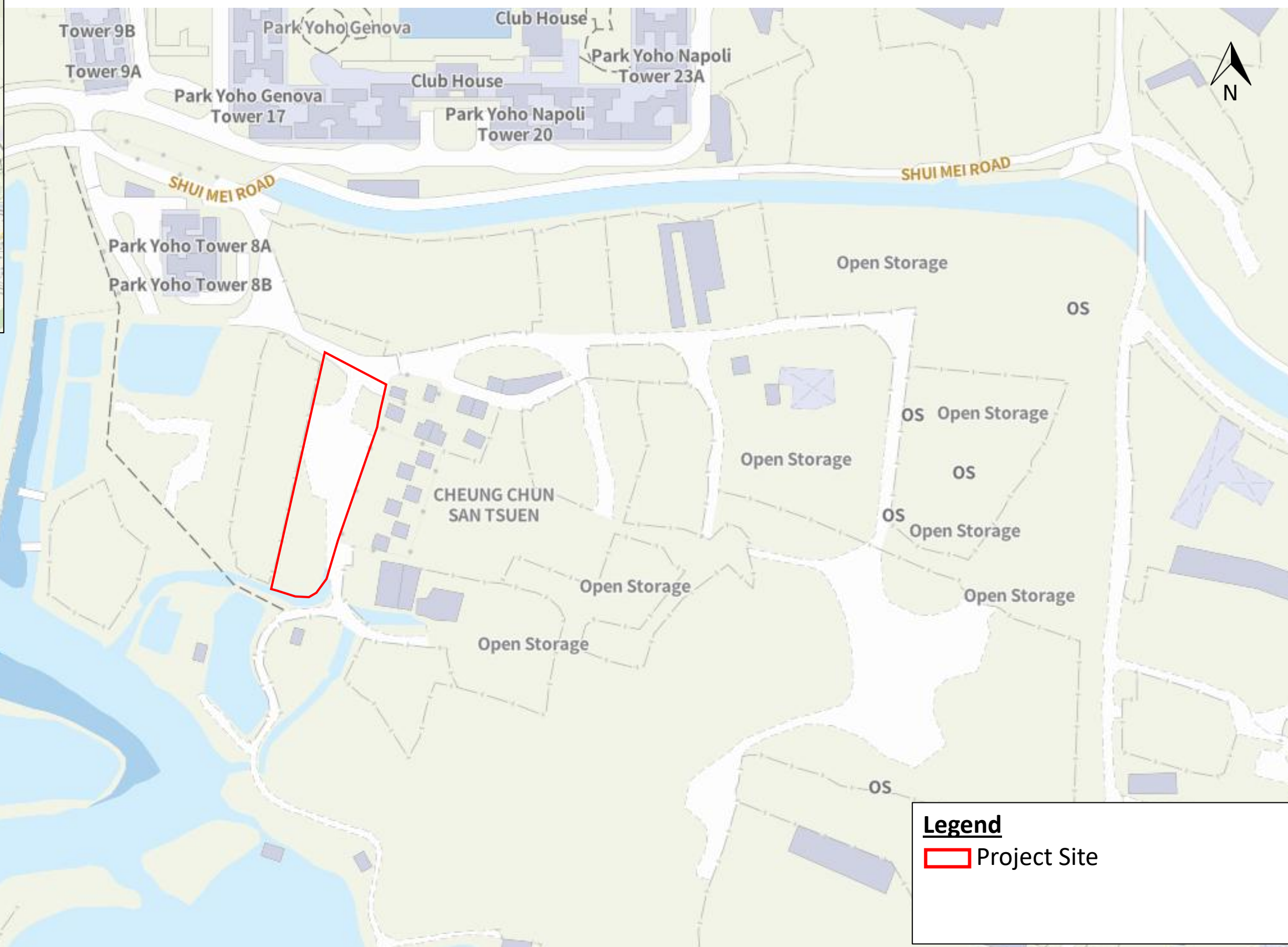
5. Conclusion

- 5.1.1 Consider the location is not a flooding black spot, the existing drainage channel is adequate to handle the stormwater discharge for the area. As the project will not increase the stormwater load to the drainage system within proximity of the Project Site, the drainage system after the implementation of the project will not be adversely affected.
- 5.1.2 Additional connecting U-channels and catchpits are required to collect the stormwater falls within the Project Site and divert to the public drainage network for discharge. Associated drainage proposal has been presented.
- 5.1.3 The Applicant will ensure the construction works be conducted in a manner that the works will not adversely interfere with the free flow condition of the existing drains, channels and watercourses on or in the vicinity of the subject site any time during or after the works.

Figures



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Legend

Project Site

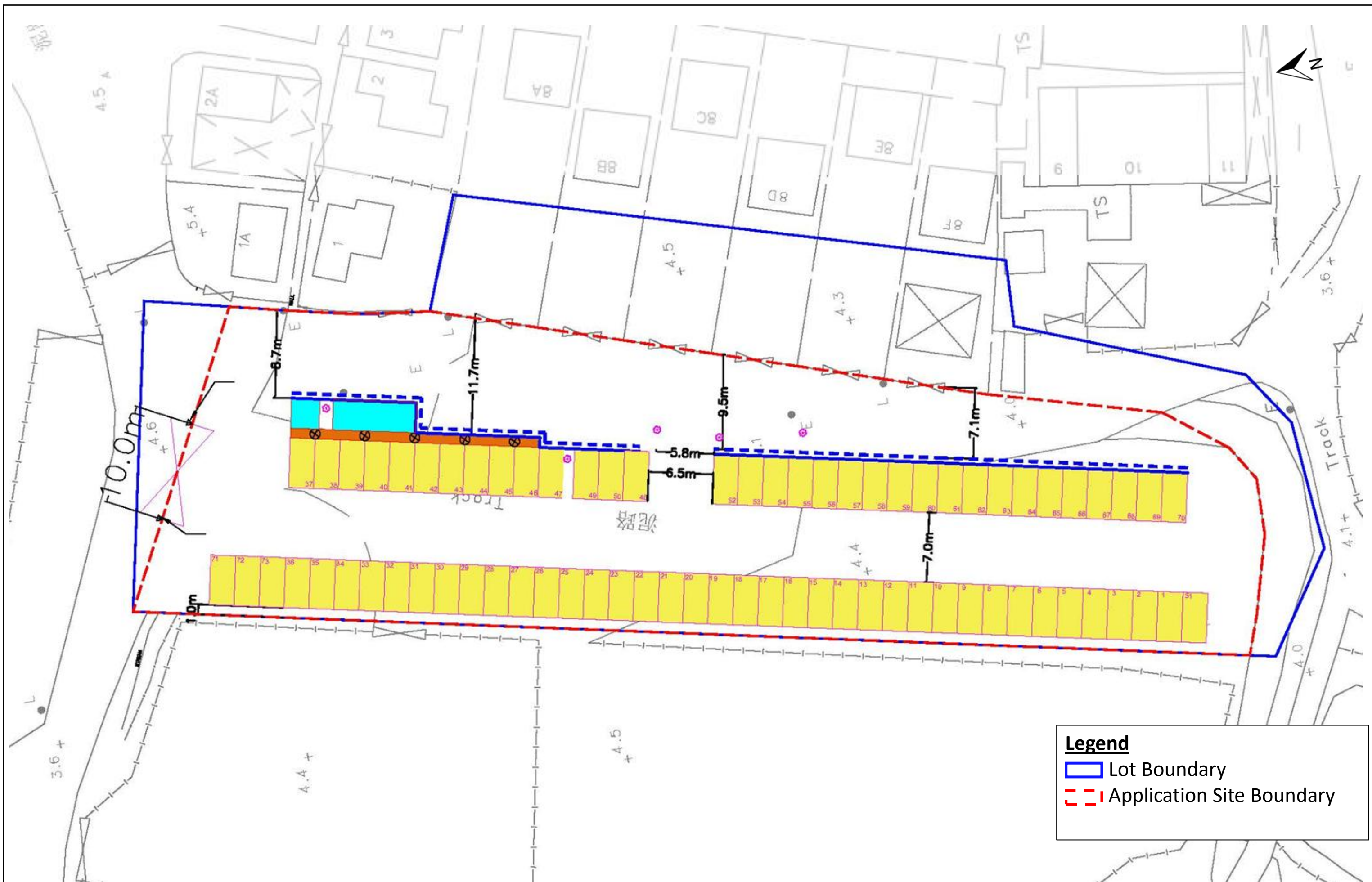
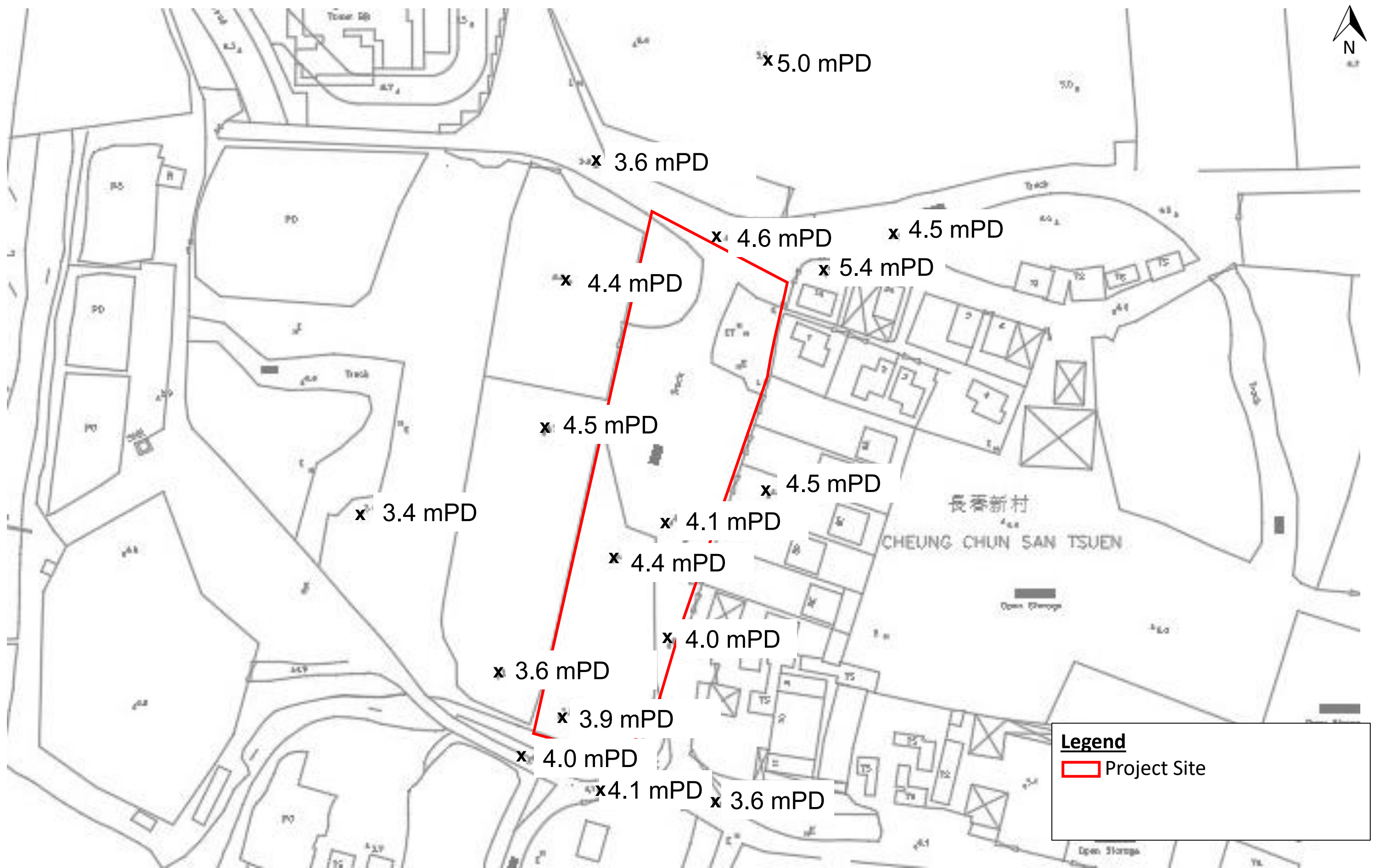
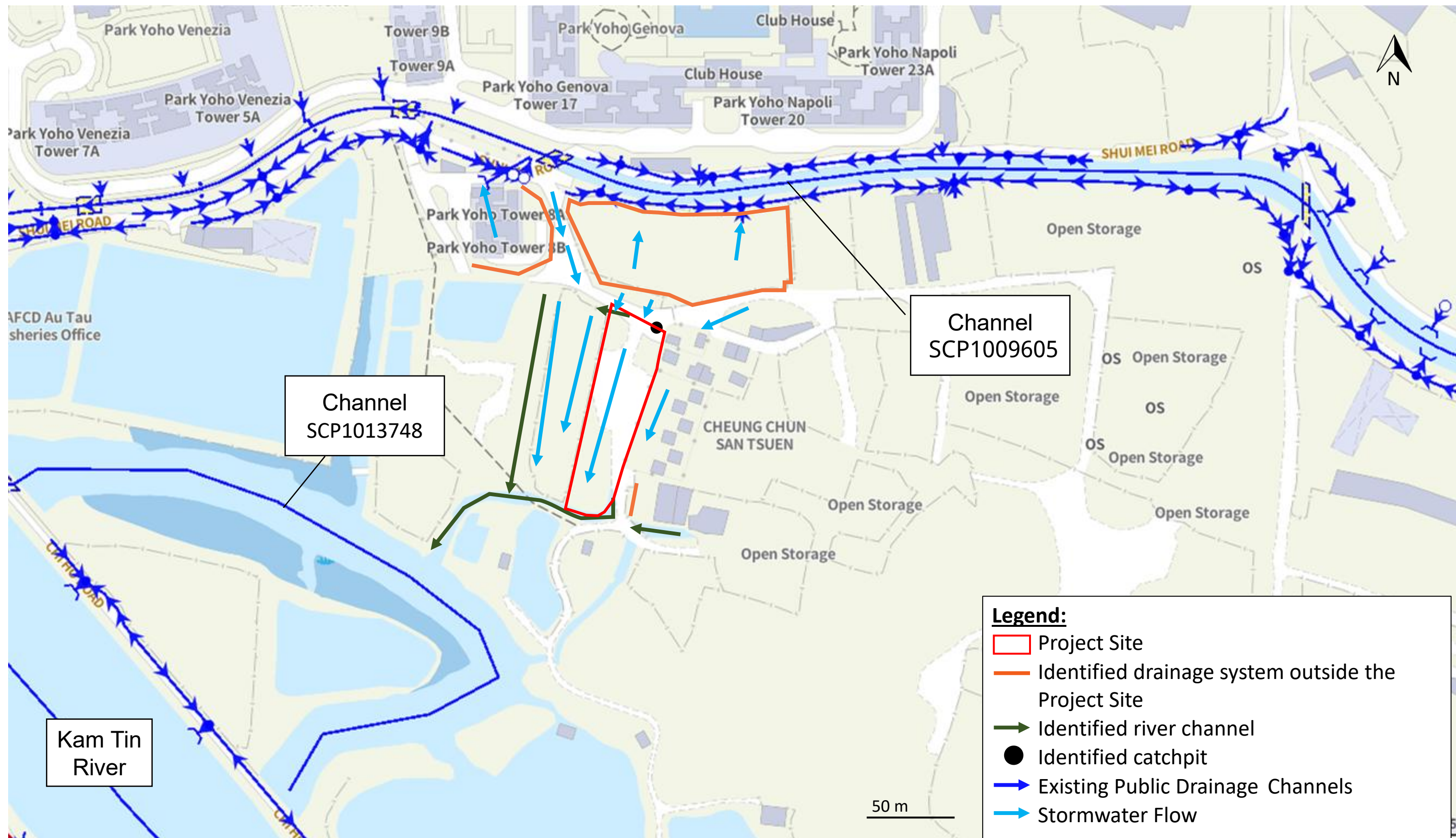
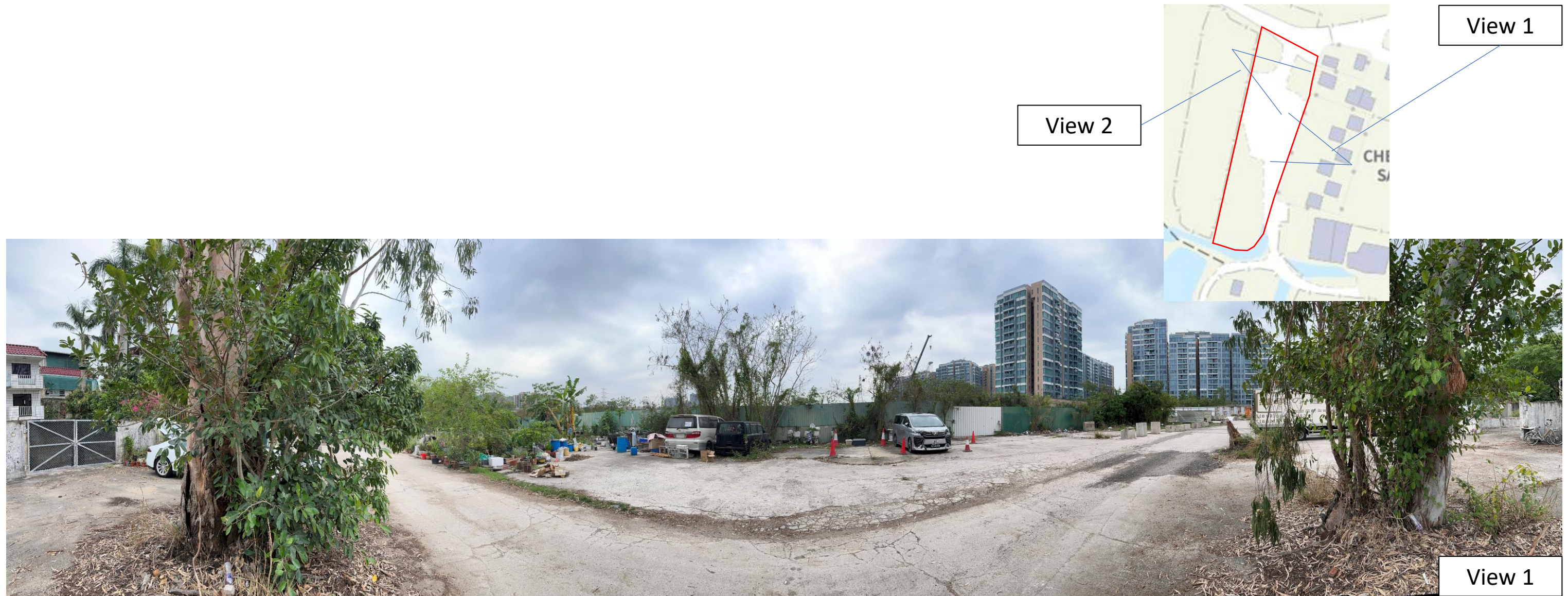


Figure 1.2 – Proposed Layout of the Carpark









Legend

Project Site

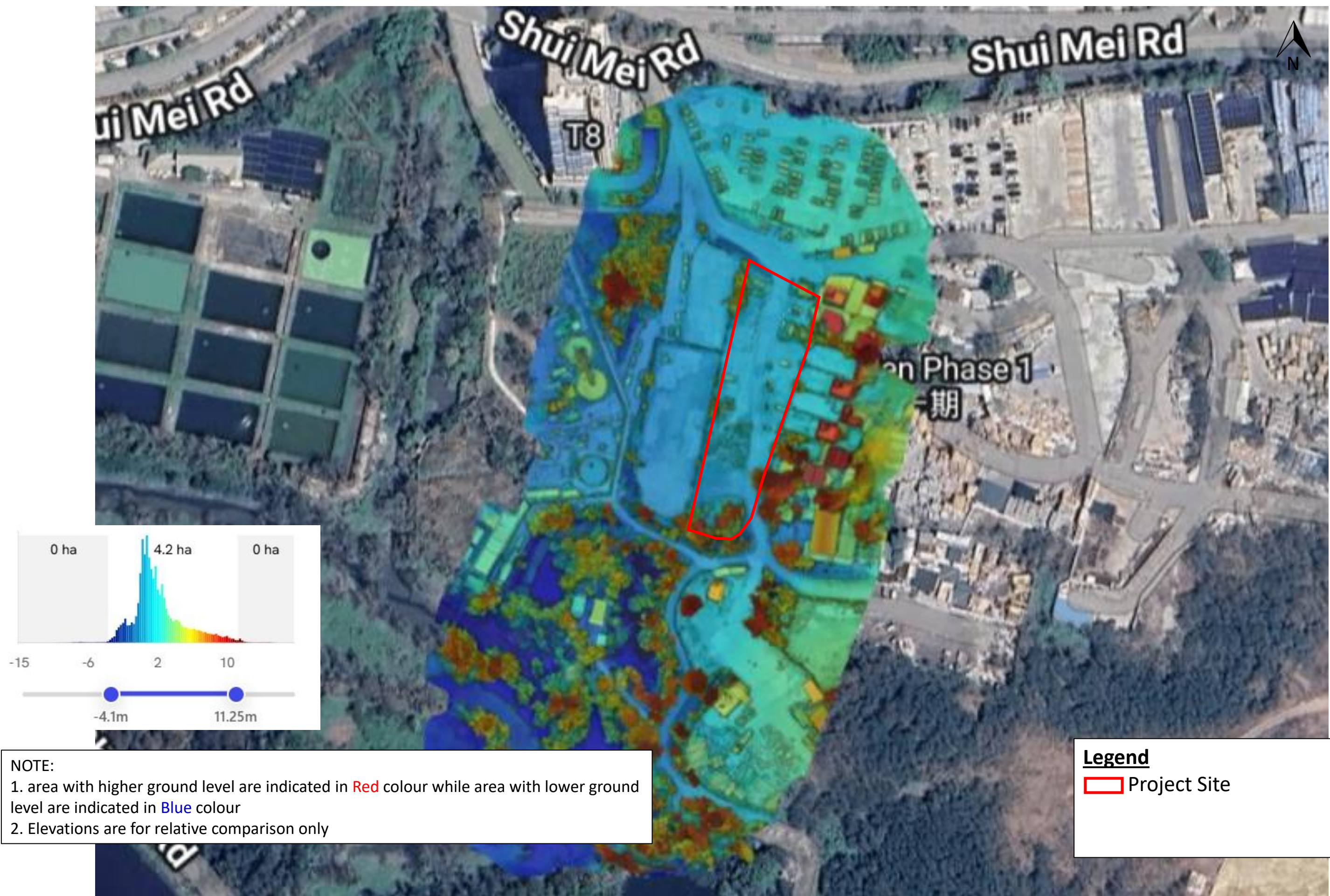
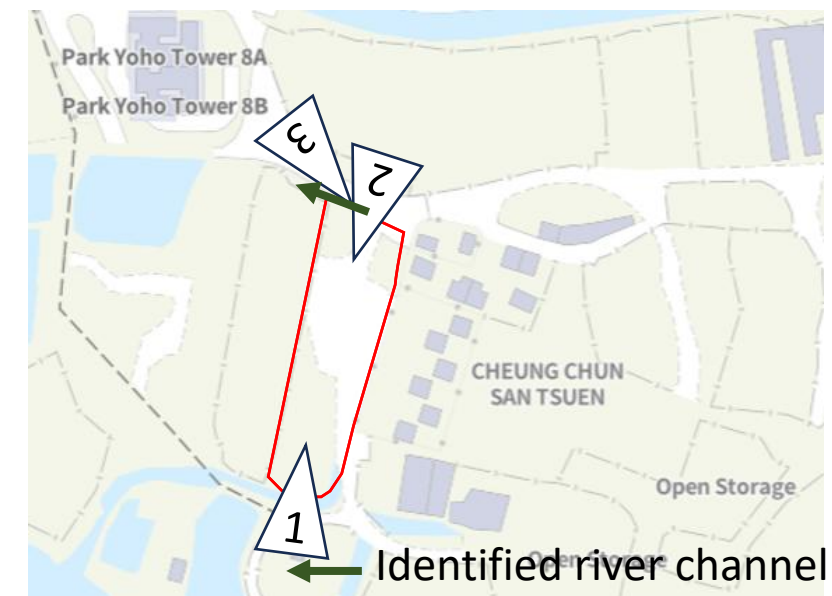




Photo 1: Southern view of the site



View Angle of the Photos



Photo 2: Northern view of the site



Photo 3: Western view of the site

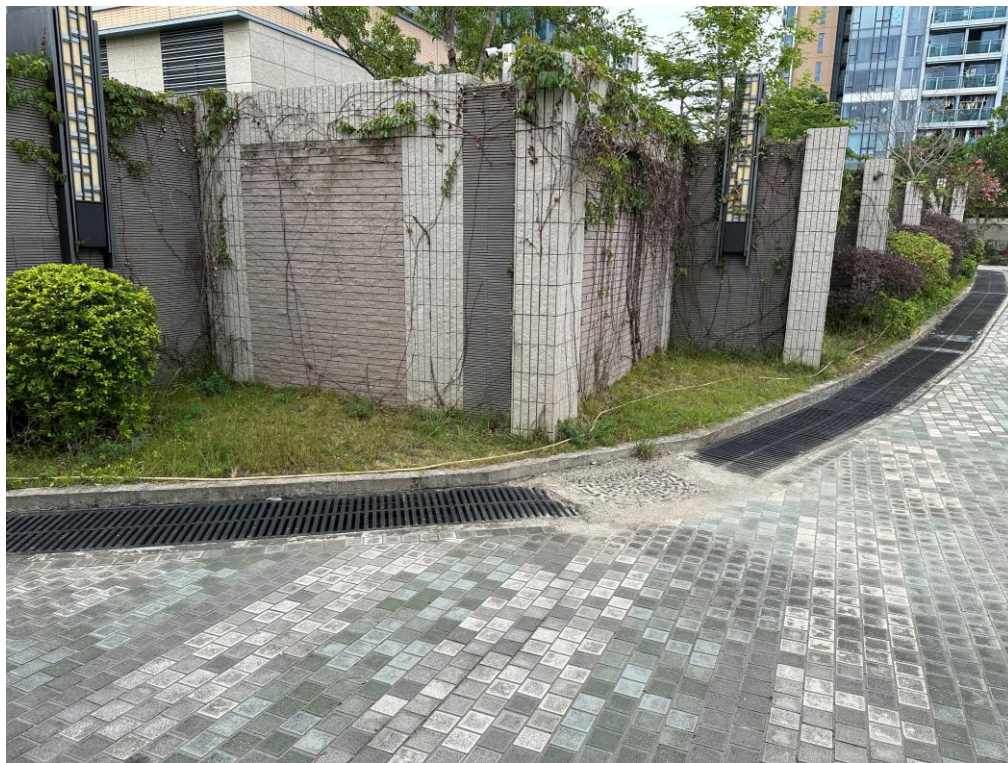
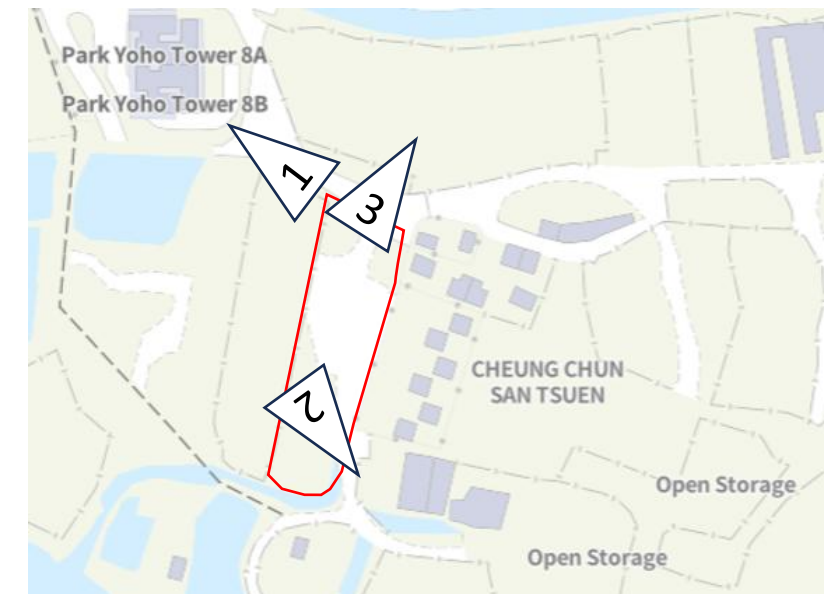


Photo 1: Perimeter U-channel at Park Yoho Tower 8



View Angle of the Photos



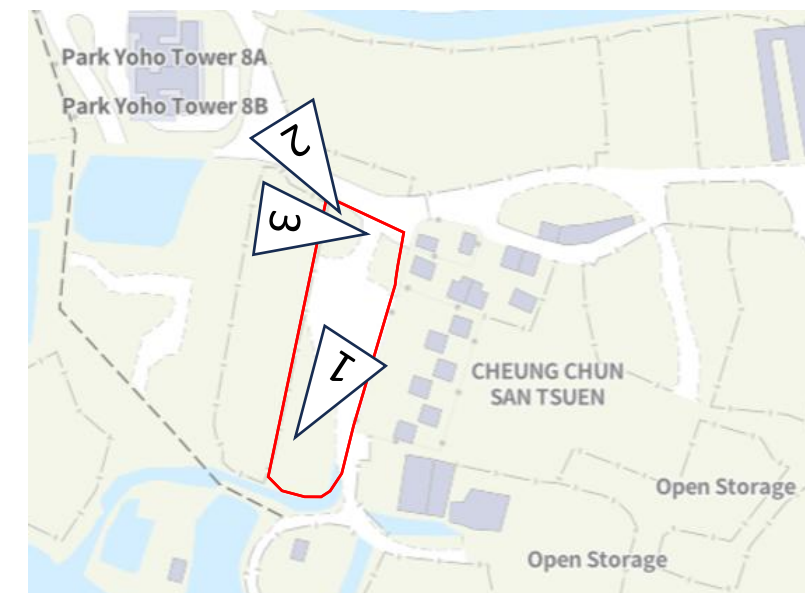
Photo 2: Trench drain at the south of the Project Site



Photo 3: Perimeter U-channel at the carpark North of the site



Photo 1: Area used for parking and storage of planters



View Angle of the Photos



Photo 2: Channel at northern side of Project Site



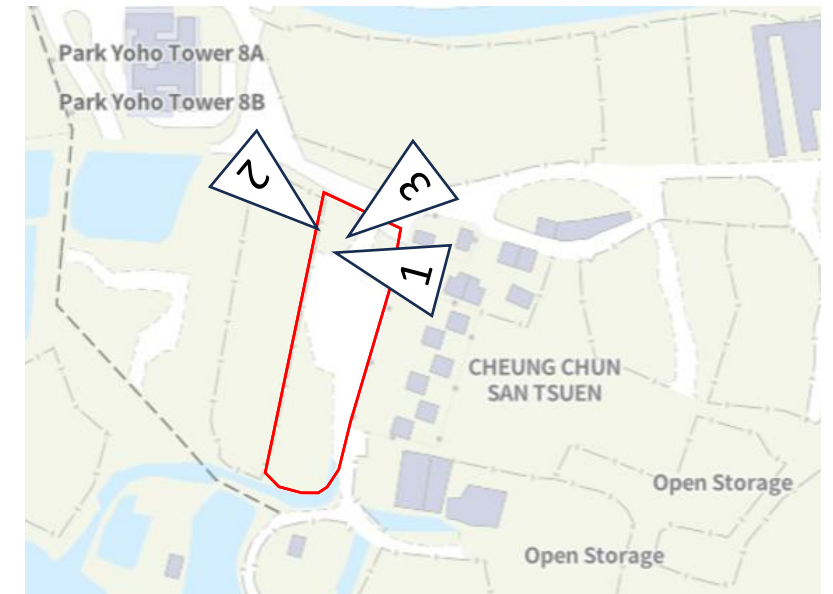
Photo 3: Drainage culvert leading to the channel



Photo 1: Fence at west of Project Site has no concrete footing



Photo 2: Fence at west of Project Site has no concrete footing



View Angle of the Photos

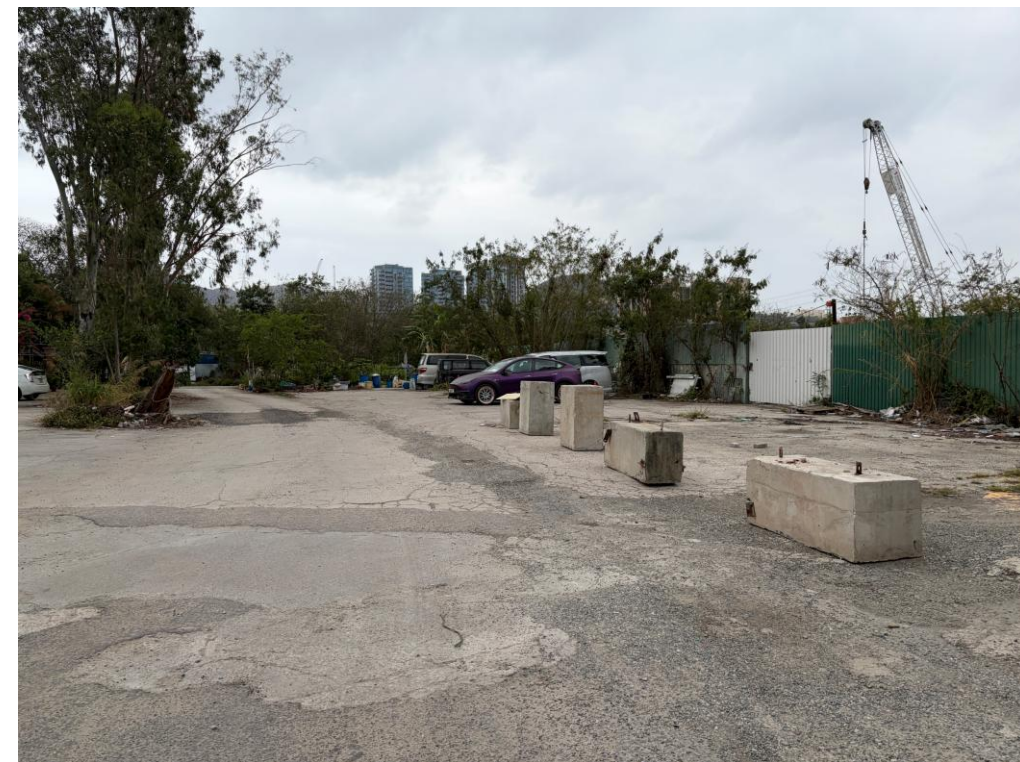


Photo 3: Site is generally paved

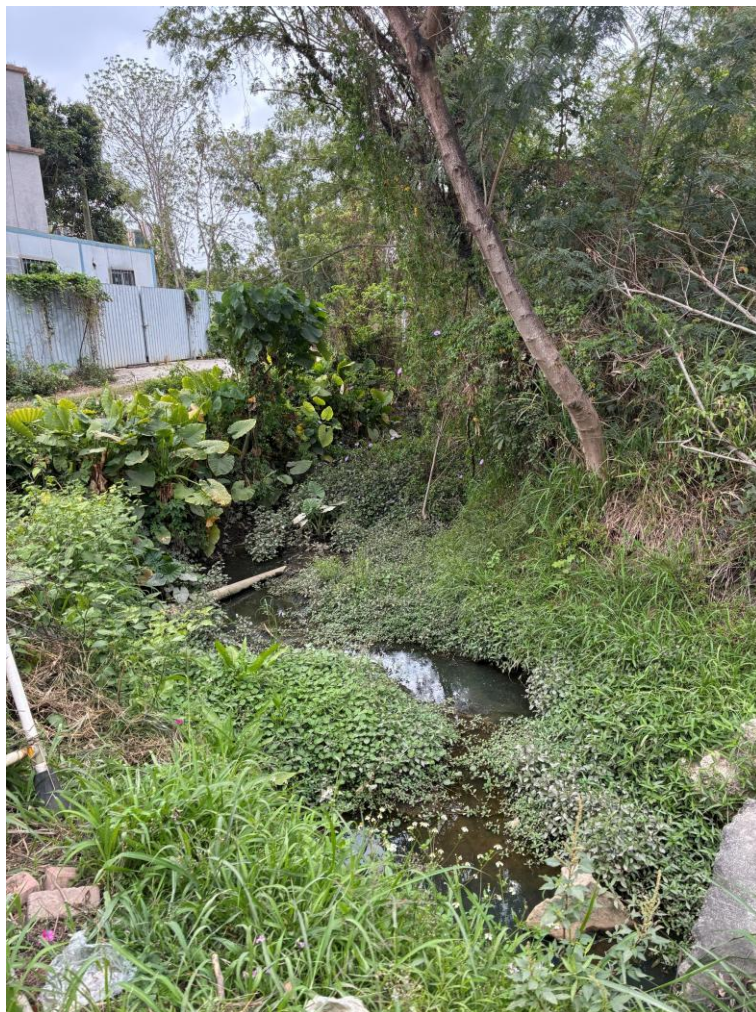
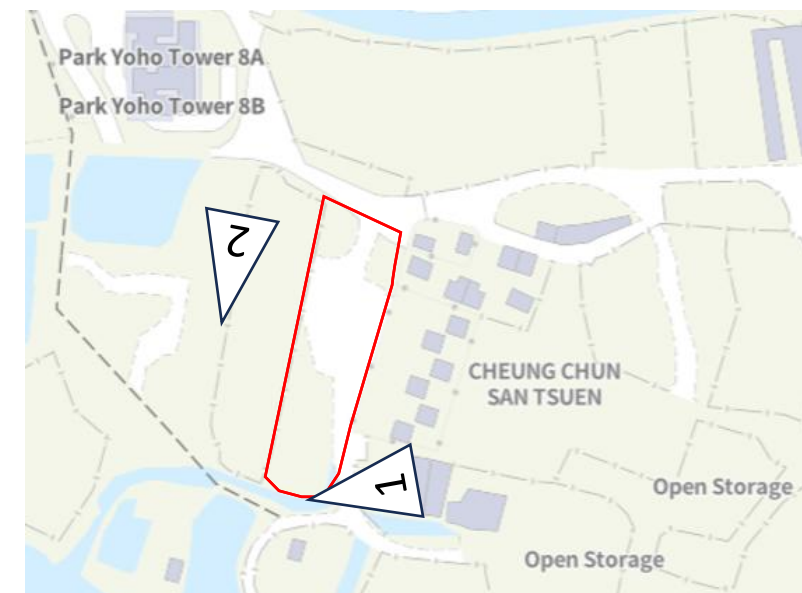


Photo 1: Natural stream at Southern Side of the Project Site



View Angle of the Photos

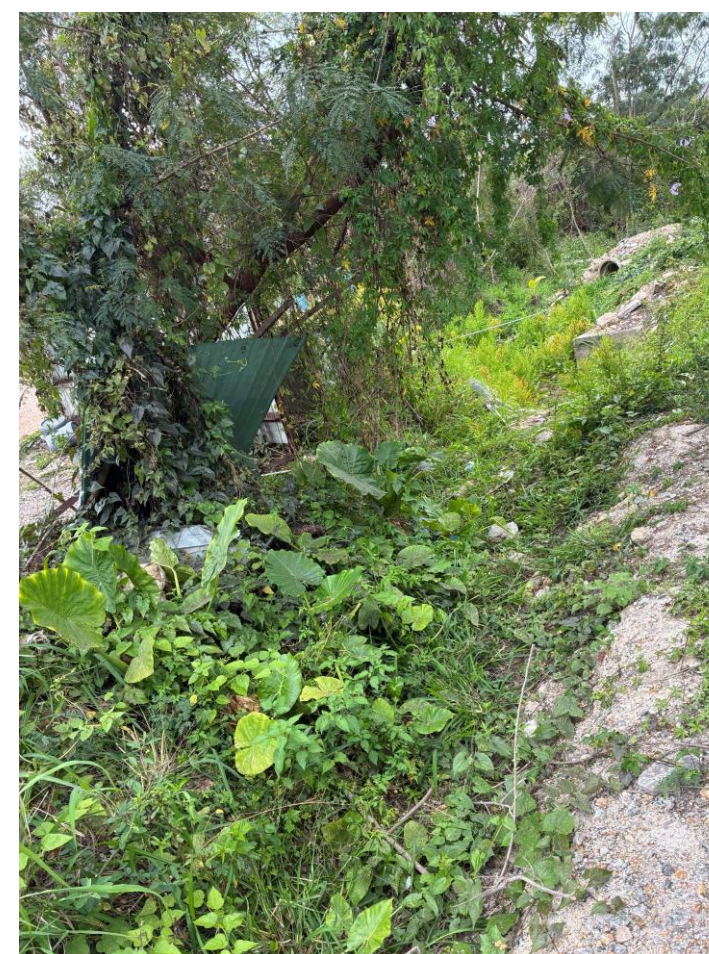
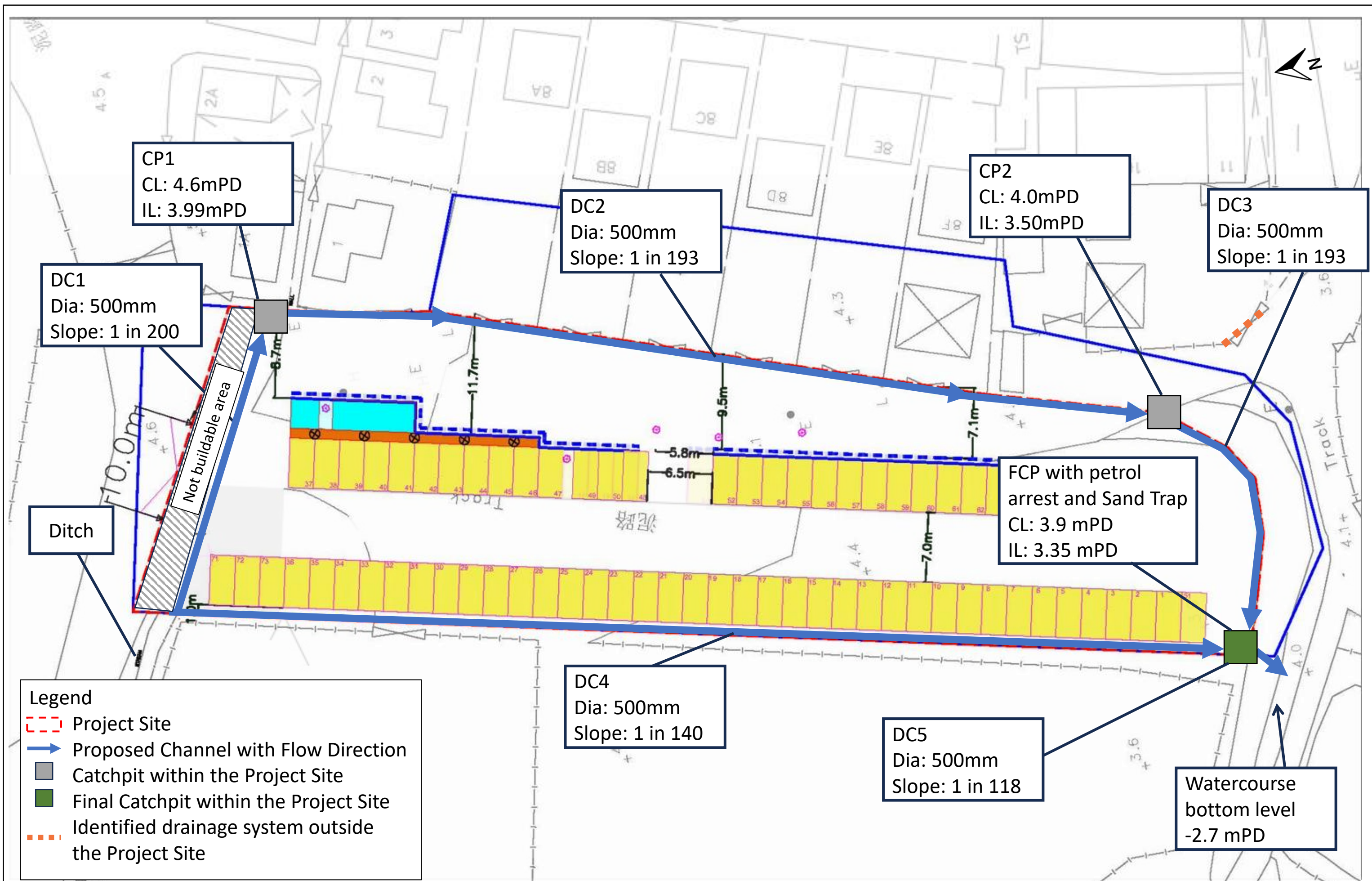


Photo 2: Uncharted Channel Nearby Project Site





Appendix 1.1:

List of information as required under Drainage Services Department Advice Note No. 1

List of Information as Required under Drainage Services Department Advice Note No. 1

Planning Application No.: S/YL-KTN/11

Location: Lot No.1874

in D.D. 107

Site Area:	<u>2,978</u>	<u>m²</u>
Land filling works involved?	<u>No</u>	
Maximum increase in formation level:	<u>Nil</u>	<u>m</u>
Maximum level difference with adjoining lot:	<u>0</u>	<u>m</u>
Filling of pond(s) involved?	<u>No</u>	
Estimated size of pond to be filled:	<u>N/A</u>	<u>m³</u>

(A) DSD's Requirements	Fulfilled in the submission? (Yes / No)
For sites considered complex (those 1 hectare or larger, in flood-prone areas, or involving pond filling or major earthworks), you should hire a qualified engineer (Registered Professional Engineer in the Civil Engineering discipline) to follow DSD Advice Note No. 1 and submit a proposal signed and certified by the engineer. For other sites, it is also advisable to hire a qualified engineer to prepare your drainage proposal.	Yes. The project site is less than 1ha in size.
The proposed development should neither obstruct overland flow nor adversely affect any existing natural streams, village drains, ditches and the adjacent areas, etc., unless there is proper diversion.	Yes. Discussion has been included in Section 4.1.2 .
Adequate surface channels shall be provided to collect and convey the surface runoff accrued on the application site.	Yes. Discussion has been included in Section 4.2 .
If there is existing surface runoff flowing from the adjoining lots towards the application site, peripheral surface channels with sufficient drainage capacity, set at a level lower than the adjoining lots, should be constructed to collect and convey the runoff (See Sketch A).	Yes. Discussion has been included in Section 4.2 .
Where boundary walls or hoarding are erected, adequate openings should be provided to allow existing overland flow from the adjoining lots to pass through (see Sketch A).	Yes. Discussion has been included in Section 4.1.2 .

The applicant shall be required to place all the proposed works 3m away from the top of the bank of any existing watercourses or natural streams. All the proposed works in the vicinity of the watercourses should not create any adverse drainage impacts, both during and after construction. Adequate measures should be provided by the applicant to DSD's satisfaction in order to prevent the subject site from being eroded and flooded and to ensure that the capacity of watercourses and the flooding susceptibility of the adjoining areas would not be adversely affected by the proposed development.	Yes. Discussion has been included in Section 4.3.2 .
The applicant should indicate the proposed and existing ground levels of the application site and ground levels of adjacent areas on the drainage plan.	Yes. Discussion has been included in Section 1.2.6 and shown in Figure 1.3 .
Cross sections showing the proposed drainage facilities and existing and proposed ground levels of the application site with respect to the adjacent areas should be given.	Yes. Cross Section has been included in Appendix 2.1 .
The proposal should indicate how the runoff (the flow direction) within the site and from the adjacent areas would be discharged to the proposed drainage system.	Yes. Discussion has been included in Figure 2.1 and in Section 3.2 .
Sand trap or provision alike should be clearly indicated on the proposed drainage plan and provided before the collected runoff is discharged to the existing drainage facilities.	Yes. Discussion has been included in Sections 4.1.3 and indication of the sand trap has been given in Figure 4.1 .
The applicant should clearly indicate the full alignment of the discharge path from the application site all the way down to the ultimate discharge point (e.g. a well-established stream course/public drainage system).	Yes. Discussion has been included in Section 4.2 and Figure 4.1 .
The applicant should clearly indicate the existing drainage facilities on the proposed drainage plan. Site photos of existing drainage facilities including the discharge point (e.g. existing local village drain and its downstream drainage facilities) should be provided in order to demonstrate the presence and reflect condition of the existing drainage system. Also, the applicant should provide site photo(s) to demonstrate size of the existing drainage facilities.	Yes. The existing drainage facilities have been shown in Figure 4.1 . Photos of the Project Site showing existing drainage facilities have been shown in Figure 2.5 .
Cover levels and invert levels of the proposed and existing drainage facilities should be shown on the drainage plan. Invert levels of drainage facilities at the upstream should be higher than that at the downstream. Also, gradients and sizes of the proposed and existing drainage facilities should be shown on the drainage plan.	Yes. Information has been shown in Figure 4.1 .
The applicant should demonstrate with hydraulic calculation that the proposed drainage facilities are adequate to collect, convey and discharge the surface runoff accrued on the application site and the overland flow intercepted from the adjacent lands. External catchment shall be properly considered	Yes. Detailed calculations have been given in Appendices 4.2 and 4.3 .

Connection to existing drainage facilities should be designed and constructed to prevent back flows at the drainage outlet when water level at the existing drainage facilities is high.	Yes. Final discharge channel DC-5 will have sufficient clearance from the riverbank to prevent back flows.
Stormwater Drainage Manual (SDM) and the newly promulgated SDM - Corrigendum published by DSD shall be considered in the hydraulic calculation. Also, storm constants of HKO Headquarters shall be adopted. In general, a 10-year design return period is sufficient for village drainage systems.	Yes. Calculation storm constants of HKO Headquarters have been adopted. Calculation has been given in Appendix 4.2 .
Deposition of sediment in stormwater drainage system should be considered in the hydraulic calculation as per the requirement in Stormwater Drainage Manual (Section 9.3).	Yes. Deposition has been included in the calculation by adding 16% to the intensity calculation as shown in Appendix 4.2 .
The applicant should check flow velocity of the proposed drainage facilities. The flow velocity is suggested to be within a range, i.e. 0.75 m/s to 3.0 m/s.	Yes. Flow velocity is at maximum 1.940m/s as shown in Appendix 4.3 .
Catchpit should be provided at where a proposed surface channel changes direction / gradient.	Yes. Discussion has been included in Section 4.1.3 and 4.1.4 .
The applicant should provide construction details of the proposed drainage facilities.	Yes. Construction details have been given in Section 4.3 .
The applicant should provide details for connection of the proposed and existing drainage facilities.	Yes. Discharge into exiting drainage facilities is made through DC-5. Details have been given in Table 4.1 and Appendix 4.3 .
Grating should be provided for the surface channels.	Yes. Discussion has been included in Section 4.1.1 .
Precast concrete pipe should generally be used for stormwater connection.	Yes. Drainage channels are proposed to be made by concrete. Discussion has been shown in Section 4.2.5 .
Connection of the proposed and existing drainage facilities shall be designed and constructed such that there is no water leakage at the proposed connection.	Yes. Construction works should be conducted to comply with the standard of DSD as shown in Section 4.3 .
For the construction details of the proposed drainage facilities, reference should be made to current CEDD's standard drawings.	Yes. Discussion has been included in Section 4.1.4 .

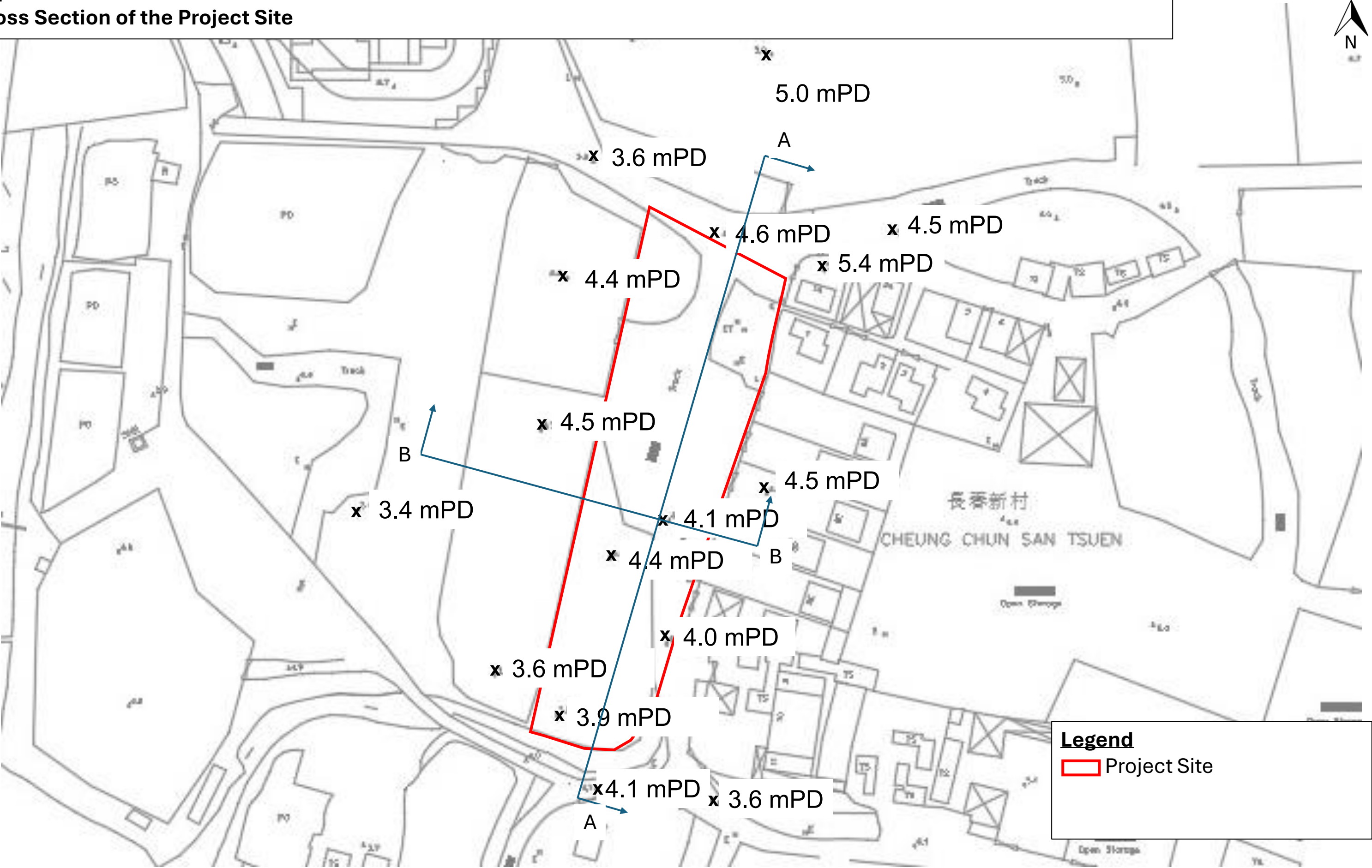
(B) DSD's Reminders	
Any existing drainage facilities within/outside the application site should not be disturbed or interfered with until any necessary diversion works, which have been accepted by the owner of the existing drainage facilities, have been satisfactorily completed. Such diversion works should be carried out by the applicant at his/her own cost. Moreover, sufficient allowance for future maintenance of the existing drainage facilities should be provided.	Yes. Discussion has been included in Section 4.3.2 .

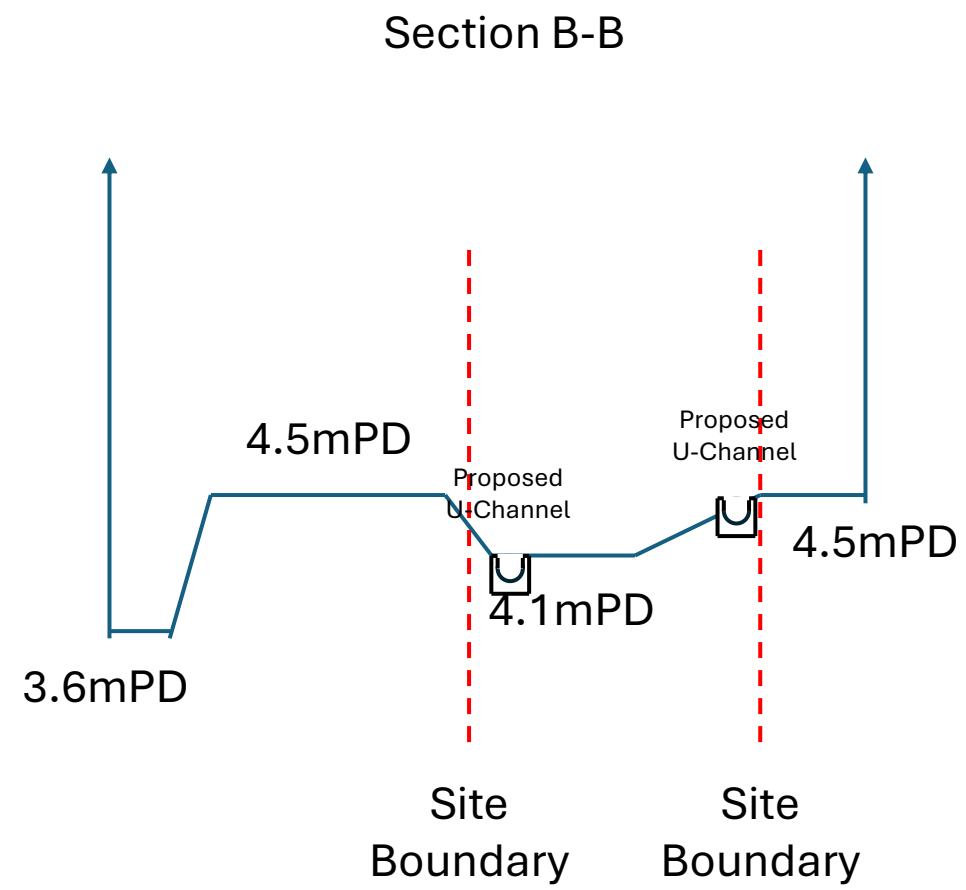
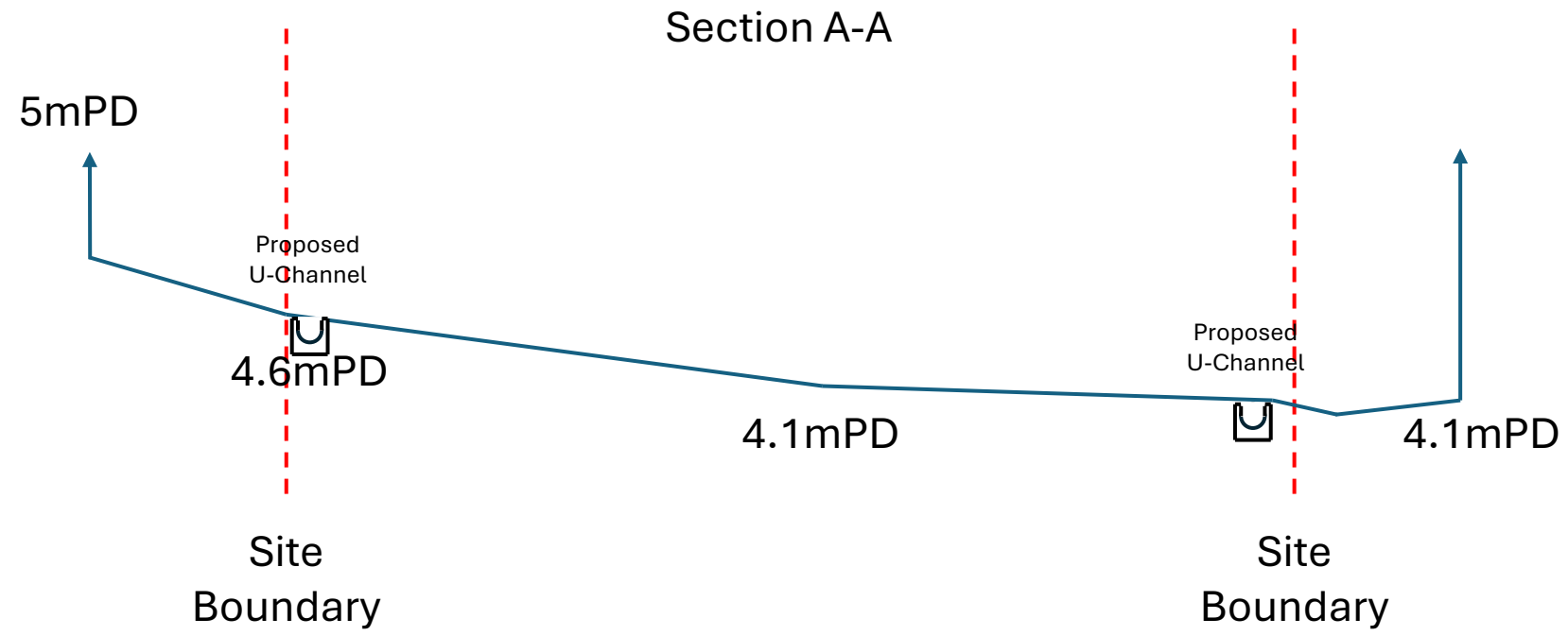
(B) DSD's Reminders	
No construction debris, silt and sediments, or cementitious materials should be discharged into or deposited inside any existing natural streams, watercourses, drains, ditches or sewers from the application site without prior approval. Any blockage or damage arising from the proposed development shall be made good at the cost of the applicant and to DSD's satisfaction. The applicant shall also be liable for and shall indemnify against all claims and demands arising out of or in connection with this regard.	Yes. Discussion has been included in Section 4.3.3 .
The applicant should be reminded to minimize the possible adverse environmental impacts on any existing watercourses in his design and during construction. EPD and AFCD should be consulted on possible environmental and/or ecological impacts of the proposed development which is in the vicinity of any existing watercourses.	Yes. No other environmental impact have been identified.
The applicant is required to rectify/modify the drainage system if they are found to be inadequate or ineffective during operation. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system.	Yes. Applicant will be responsible for indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system. Discussion has been given in Section 4.3.3 .
For any proposed connection to DSD's drainage facilities, the applicant should submit form HBP1 to this Division for application of technical audit. Upon our acceptance of the connection application, the applicant shall carry out the proposed connection works in accordance with DSD's Standard Drawings at the resources of the applicant.	Yes. Discussion has been included in Section 4.3.1 .
If the existing drainage facilities, to which the applicant proposed to discharge the stormwater from the application site was not maintained by this office, the applicant should identify the owner of the existing drainage facilities and seek agreement from the owner prior to commencement of the proposed works. In the case that it is a local village drains, DO/YL should be consulted.	Yes. DLO/YL will be consulted.
The applicant should consult DLO/YL and seek consent from the relevant owners for any drainage works to be carried out outside his lot boundary before commencement of the drainage works.	Yes. DLO/YL will be consulted.
Comments from HyD, TD and RMO shall be sought if drainage works are proposed to be carried out within highway polygon or on carriageway.	Yes. The construction works are not to be carried out within highway polygon or on carriageway.

Appendix 2.1:

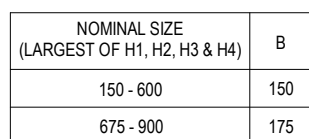
Cross-Section of the Project Site

Appendix 2.1
Cross Section of the Project Site





Appendix 4.1: Standard Drawings



- SECTION A - A

A	BIM OBJECT REVISION.	Original Signed	12.2025
—	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

CATCHPIT WITH TRAP (SHEET 1 OF 2)

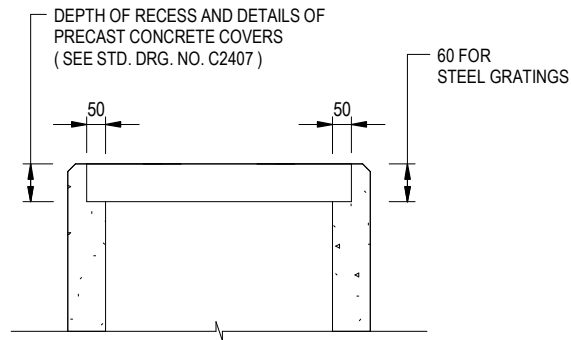

**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE	JAN 1991
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DRAWING NO.

C2406 /1A



ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

B	BIM OBJECT REVISION.	Original Signed	12.2025
A	MINOR AMENDMENT.	Original Signed	04.2016
—	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**



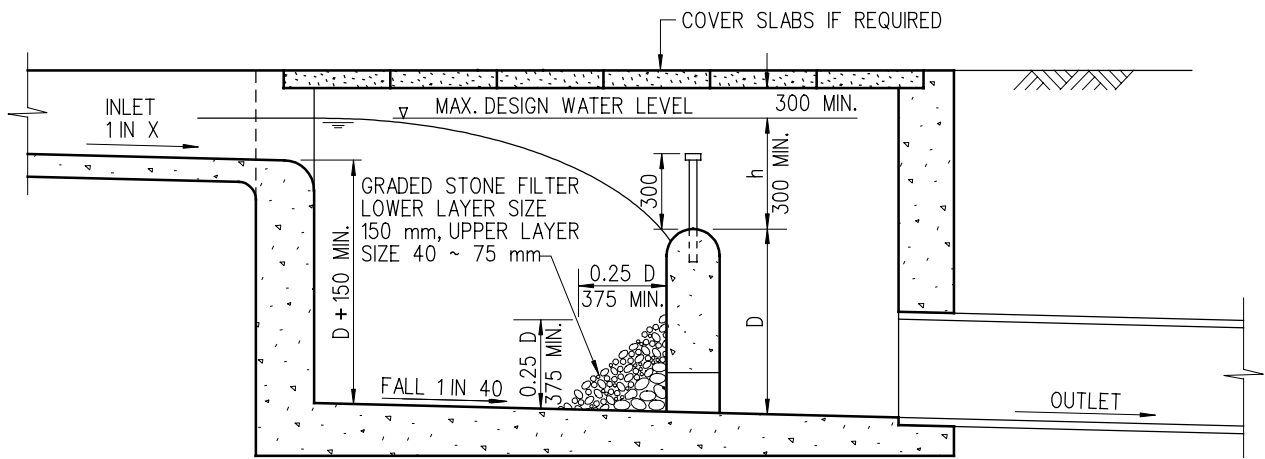
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

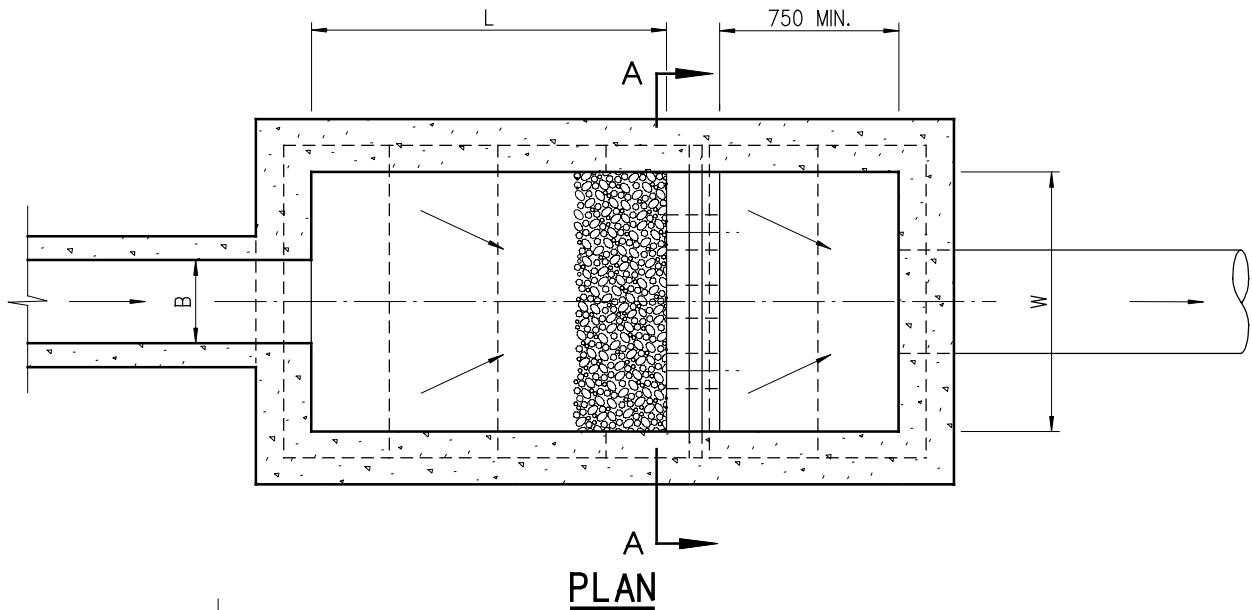
DATE JAN 1991

DRAWING NO.

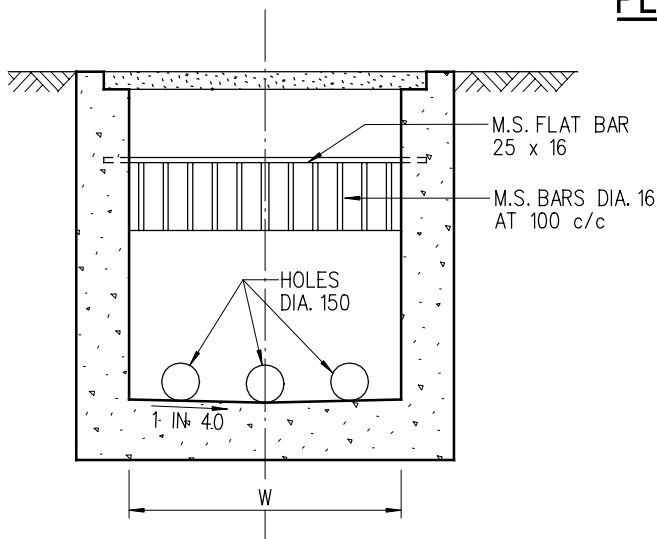
C2406 /2B



LONGITUDINAL SECTION



PLAN



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NORMALLY FOR DRAINS OF 900 mm DIA. AND BELOW. FOR BIGGER DRAINS AND STEEP TERRAIN, SAND TRAP SHOULD BE SPECIALLY DESIGNED.
3. SIZE
DEPTH : $D \leq 750$
WIDTH : $W \geq 3B$
LENGTH : $4.8D^{0.67} h^{0.5} X^{0.5} \geq 4B$
4. GRADED STONE FILTER SHALL BE CRUSHER RUN GRANITE AGGREGATE.
5. CAPACITY D W L TO BE ACCORDING TO SIZE AND NATURE OF CATCHMENT, PROVIDING DETENTION TIME NOT LESS THAN 5 MINUTES FOR MAX. DESIGN FLOW OF INLET.

B	REDRAWN BY CAD	ORIGINAL SIGNED	8.8.2001
A	GENERAL REVIEW	ORIGINAL SIGNED	2.2.2001
REV.	DESCRIPTION	SIGNATURE	DATE

SAND TRAP

DRAINAGE SERVICES DEPARTMENT

REFERENCE

DRAWING No.

SCALE

DIAGRAMMATIC

DS 1025B

Appendix 4.2:

Catchment Runoff Estimation for the Project Site

Appendix 4.2:

Catchment Runoff Estimation for Identified Catchments

Time of Concentration

Brandsby William's Equation

$$t_c = \frac{0.14465 \times L}{(H^{0.2} \times A^{0.1})}$$

where:

t_c : time of concentration (min)

A: area of catchment (m^2)

H: average fall (m per 100m) from the summit of catchment to the point of design

L : distance in metre measured on the line of natural flow between the design section and that point of catchment from which water would take the longest time to reach the design section (m)

Catchment Time of Concentration Calculation

	A				H	L	t_c
	Area	High Point	Low Point	Length	Average Fall	Distance of line of natural flow	Time of Concentration
	m^2	m	m	m	m per 100m	m	min
Catchment C	1,041.23	4.5	3.6	55	1.636	55.0	3.599
Project Site with nearby area	4,035.80	4.6	3.9	112	0.625	112.0	7.758

Appendix 4.2: Catchment Runoff Estimation for Identified Catchments

Intensity Calculation:

Intensity-Duration-Frequency Relation:

$$i = \frac{a}{(t_d + b)^c} \times 116\%$$

where:

Constants used in the formula refers to Table 2a-d of the Stormwater Drainage Manual, Fifth Edition, January 2018

Location: HKO Headquarters
Return Period T: 50 Years
a: 451.3
b: 2.46
c: 0.337

NOTE:

1. Storm Constants for Return Periods of 50 Years for HKO Headquarters is used in the calculation
2. 16% has been added to allow a worse case scenario

Intensity of Catchments:

	a	b	c	t_d , min	i
Catchment C	451.3	2.46	0.337	3.60	285.253
Project Site with n	451.3	2.46	0.337	7.76	239.187

Runoff Estimation:

Rational Method

$$Q_p = 0.278i \sum_{j=1}^m C_j A_j$$

Catchment	Site Area, m ²	Percentage of Paved area	Fixed runoff coefficients		Runoff, m ³ /s
			Paved	Unpaved	50 Year
Catchment C	1041.2	100%	0.95	0.05	0.0784
Project Site with nearby area	4035.8	77%	0.95	0.05	0.1986
All Catchment		5077.0	Total:		0.2770

Appendix 4.3:

Calculation of Pipe Capacity for the Proposed Discharge Segment for the Project Site

Appendix 4.3:
Calculation of Pipe Capacity for the Proposed Discharge Segment for the Project Site

Colebrook-White Equation

$$\bar{V} = -\sqrt{32gRS_f} \log \left[\frac{k_s}{14.8R} + \frac{1.25 \times 5v}{R\sqrt{32gRS_f}} \right]$$

where: g = gravity constant, 9.8m/s²

Segment	Upstream Manhole	Downstream Manhole	Slope		Dimension				R	S _f	v	ks	90% Full Capacity Velocity [2]	90% Full Capacity	% of Full Capacity under the Peak Flow of the Proposed Project	Catchment Area
			Upstream Invert Level	Downstream Invert Level	Length	Diameter	Diameter	Area	Hydraulic Radius	Slope	Kinematic Viscosity	Hydraulic Pipeline Roughness [1]				
			mPD	mPD	m	mm	m	m ²	m	-	m ² /s	m	m/s	l/s	%	-
DC-1	-	CP1	4.15	3.99	32.0	500	0.500	0.196	0.12500	0.005	1.140E-06	0.0003	1.485	291.488	68.13%	Project Site with nearby area
DC-2	CP1	CP2	3.99	3.50	94.1	500	0.500	0.196	0.12500	0.005	1.140E-06	0.0003	1.511	296.677	66.94%	Project Site with nearby area
DC-3	CP2	FCP	3.50	3.35	29.5	500	0.500	0.196	0.12500	0.005	1.140E-06	0.0003	1.511	296.677	66.94%	Project Site with nearby area
DC-4	-	FCP	4.15	3.35	112.0	500	0.500	0.196	0.12500	0.007	1.140E-06	0.0003	1.779	349.317	79.30%	All Catchment
DC-5	FCP	Natural stream	3.35	3.32	3.5	500	0.500	0.196	0.12500	0.008	1.140E-06	0.0003	1.940	380.919	72.73%	All Catchment

NOTE:

- [1] For the proposed pipe, the roughness coefficient for concrete channels created through Monolithic construction against steel forms under good condition is adopted; the ks values are 0.3mm.
- [2] Consider the sedimentation, the pipes are considered to be at 90% of its full capacity for worse case scenario