



Section 16 Planning Application

Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years

Lot Nos. 146 S.B ss.1, 149, 150 (Part), 151, 152 (Part) and 153 in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Planning Statement

Prepared by
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EXECUTIVE SUMMARY

(In case of discrepancy between English and Chinese versions, English shall prevail)

This Planning Statement is submitted to the Town Planning Board (hereinafter referred to as “the Board”) in support of a planning application (hereinafter referred to as “the Current Application”) for **Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years** (hereinafter referred to as “the applied use”) at Lot Nos. 146 S.B ss.1, 149, 150 (Part), 151, 152 (Part) and 153 in D.D. 128, Ha Tsuen, Yuen Long, New Territories (hereinafter referred to “the Application Site”). The Application Site has a total area of approximately 3,755m². The current application seeks to provide a temporary pre-delivery inspection center for new vehicles, with ancillary open storage of vehicles and supporting facilities. This Planning Statement serves to provide background information and planning justifications in support of the applied use in order to facilitate the consideration by the Board.

The Application Site currently falls completely within an area zoned “Residential (Group D)” (“R(D)”) on the Approved Ha Tsuen Fringe Outline Zoning Plan (OZP) No. S/YL-HTF/12 which was exhibited on 26.10.2018 (hereinafter referred to as “the Current OZP”). According to the Notes of the OZP for the “R(D)” zone, all uses or development except those specified in the Notes require permission from the Town Planning Board. In this connection, the Applicant intends to seek planning permission for the applied use on a temporary basis of 3 years. As detailed throughout the Planning Statement, the applied use is well justified on the grounds that:-

- (a) The Current Application intends to provide a secure location for a pre-delivery inspection centre for new vehicles which is in need in the territory, the applied use shall promote the use of the electric vehicles by enhancing the supply chain;*
- (b) The Current Application involves no substantial change in physical setting when compared to the previously approved application since the existing structures would be retained in the Current Application;*
- (c) The applied use will be compatible with the existing land uses in the immediate vicinity which have long been utilized by open storage, warehouses and other informal industrial activities that are similar to the applied use;*
- (d) Temporary nature of the applied use will not jeopardize nor pre-empt the long-term planning intention of “R(D)” zone or any planned infrastructural development (if any) in future;*
- (e) No adverse traffic impact shall be anticipated since the number of trips generated by the applied will not be significant, there are minimal daily trips generation to /from the Application Site for the applied use;*
- (f) No adverse drainage impact nor flooding problems are anticipated since on site drainage facilities have been implemented; and*
- (g) No adverse environmental impact shall be anticipated since applicant will adhere to the latest “CoP” and comply with relevant environmental protection/ pollution control ordinances.*

In view of the above and the list of detailed planning justifications in the Planning Statement, it is sincerely hoped that members of the Board will give favourable consideration to approve the Current Application for the applied use for a temporary period of 3 years.

行政摘要

(如內文與其英文版本有差異，則以英文版本為準)

此規劃報告書在支持一宗遞交予城市規劃委員會（以下簡稱「城規會」）的規劃申請（以下簡稱「該申請」），作擬議臨時新車交付前檢驗中心及附屬露天存放待售車輛連附屬設施作零件儲存及地盤辦公室（為期三年）（以下簡稱「申請用途」）。該申請所涉及地點位於新界元朗廈村丈量約份第 128 約地段第 146 號 B 分段 1 小分段、第 149 號、第 150 號(部分)、第 151 號、第 152 號(部分)及第 153 號（以下簡稱「申請地點」）。申請地點的面積約為 3,755 平方米。該申請旨在設立臨時新車交車前檢驗中心，並附設車輛露天存放區連附屬設施。此規劃報告書提供該申請的背景資料及規劃理據以支持申請用途供城規會考慮。

申請地點於 2018 年 10 月 26 日供公眾查閱的廈村邊緣分區計劃大綱核准圖編號（編號：S/YL-HTF/12）內被劃為「住宅（丁類）」用途（以下簡稱「大綱核准圖」）。根據大綱核准圖的注釋，除註釋所列用途外，所有其他用途或發展均須獲得城市規劃委員會批准。因此，申請人希望申請規劃許可作擬議用途為期三年。此規劃報告書內詳細闡述擬建用途的規劃理據，當中包括：

- (一) 該申請旨在為本港亟需的新車交付前檢驗中心提供安全場地，申請用途將透過強化供應鏈促進電動車使用；
- (二) 相較於先前核准的申請，該申請對實體環境並無重大改變，因現有結構物將保留於該申請中；
- (三) 申請用途與鄰近長期用作露天貯存、倉庫及其他類似非正式工業活動的現有土地用途相容；
- (四) 申請用途之申請屬臨時性質，將不會佔有或阻礙政府於申請地點覆行「住宅（丁類）」的長遠規劃意向或其他基礎建設發展（如有）；
- (五) 預期不會產生負面交通影響，因申請用途產生的交通流量微乎其微，且申請地點每日進出流量極低；
- (六) 預期不會造成排水問題或水浸風險，因場內排水設施已完善實施；及
- (七) 預期不會產生負面環境影響，因申請人將遵循最新作業守則並遵守所有環保 / 污染管制條例。

鑑於以上及此規劃報告書所提供的詳細規劃理據，懇請城規會各委員批准該擬議用途作為期三年之規劃申請。

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1 INTRODUCTION

1.1 Purpose

- 1.1.1 Pursuant to section 16 of the Town Planning Ordinance (TPO) (Cap. 131), this Planning Statement is submitted to the Town Planning Board (hereinafter referred to as “the Board”) in support of a planning application (hereinafter referred to as “the Current Application”) for **Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years** (hereinafter referred to as “the applied use”) at Lot Nos. 146 S.B ss.1, 149, 150 (Part), 151, 152 (Part) and 153 in D.D. 128, Ha Tsuen, Yuen Long, New Territories. This Planning Statement serves to provide background information and planning justifications in support of the applied use in order to facilitate the consideration by the Board.
- 1.1.2 Prepared on behalf of the *Pak Shing Properties Management Limited*, who is also the sole registered owner of Lot Nos. 146 S.B ss.1, 149, 150, 151, 152 and 153 in D.D. 128 (hereafter collectively referred to as “the Applicant”), Man Chi Consultants and Construction Limited (MCCCL) has been commissioned to prepare and submit the Current Application.
- 1.1.3 The Application Site currently falls completely within an area zoned “Residential (Group D)” (“R(D)”) on the Approved Ha Tsuen Fringe Outline Zoning Plan (OZP) No. S/YL-HTF/12 exhibited for public inspection under section 9(5) of the Ordinance on 26.10.2018 (hereinafter referred to as “the Current OZP”).

1.2 Background

- 1.2.1 The Application Site with a site area of approximately 3,755m² that entirely falls within an area zoned “Residential (Group D)” (“R(D)”) on the Current OZP. According to the Notes of the OZP for the “R(D)” zone, all uses or development except those specified in the Notes require permission from the Town Planning Board. In this connection, the Applicant wishes to seek planning permission for the applied use on a temporary basis of 3 years.
- 1.2.2 The Applicant has become the sole landowner of Lot Nos. Lot Nos. 146 S.B ss.1, 149, 150, 151, 152 and 153 in D.D. 128 since 1992, which are held under the Block Lease.
- 1.2.3 According to the Applicant, the Application Site has been a piece of hard-paved land for warehouse use since mid-1980s. Most of structures were in existence before the gazettal of the Ha Tsuen Interim Development Permission Area (No. IDPA/YL-HT/1) notified on 17.8.1990 (hereinafter referred to as “the First IDPA Plan”). According to the Applicant, the warehouse structures at the Application Site have been utilised the storage of goods and materials since mid-1980s. Notwithstanding that Application Site has been utilised for various use (warehouse, recyclable collection centre) due to

change in operators, its nature as industrial use remains unchanged.

1.2.4 The Applicant previously applied for a planning permission to regularise and resume the warehouse use for non-dangerous goods which was ever erected on the Application Site from around mid-1980s to early 1990s. The application was approved with conditions by the Board on 26.8.2022 and relevant approval conditions have been complied with (**Appendix 1** refers).

1.2.5 Given the change in economic environment, there is a growing demand of pre-delivery inspection services and open storage of new vehicles, however, it is difficult to provide a venue to accommodate such services with adequate scale in urban area. The application site which is adequate in size and equipped with structures with sufficient scale, is considered suitable for the applied use given its physical setting. In this regard, the applicant proposed a change of use at the application site to serve the applied use without significantly alter the physical setting.

1.3 Purpose

1.3.1 The Current Application strives to achieve the following objectives:-

- (a) To be given an opportunity to the Applicant to utilise the application site for the applied without significant alteration to the physical setting;*
- (b) To induce no adverse environmental nor infrastructural impacts on its surroundings;*
- (c) To give an opportunity to put forth the applied use under proper planning control by the Board and/or other relevant Government department(s).*

1.4 Structure of the Planning Statement

1.4.1 This Planning Statement is divided into 6 chapters. **Chapter 1** is the above introduction outlining the purpose and background of the Current Application. **Chapter 2** gives background details of the Application Site in terms of the current land-use characteristics and neighbouring developments. Planning context of the Application Site is reviewed in **Chapter 3** whilst **Chapter 4** provides details of the applied use as well as its design. A full list of planning justifications is given in **Chapter 5** whilst **Chapter 6** summarizes the concluding remarks for the applied use.

2 SITE PROFILE

2.1 Location and Current Condition of the Application Site

2.1.1 As shown in **Figure 1**, the Application Site locates at Ha Tsuen in Yuen Long. Situates at the northern fringe of Hung Shui Kiu New Development Area (hereinafter referred to as “HSKNDA”), the Application Site locates to the immediate north of Fung Kong Tsuen. The Application Site is directly accessible via a van track branching off from Kai Pak Lane Road, which connects to Fung Kong Tsuen Road to its east and to Deep Bay Area to its west.

2.1.2 The Application Site has an approximate site area of about 3,755m², which served as warehouse and other ancillary use. The periphery of the Application Site is mostly bounded by galvanized sheeting and chain-link fencing. The Application Site has been piece of hard-paved land which was in existence before the First DPA Plan with warehouse structures erected before/in 1990.

2.1.3 Currently, there are two existing warehouses with a maximum building height of about 7.3m (excluding about 1.3m existing elevated platform). These existing warehouse structures are accommodating a total Gross Floor area of about 1,219m². About 77% of the Application Site is erected on an elevated platform of about 1.3m. There are two existing ramps at the northern and southern part of the Application Site for vehicular access to the elevated platform. A group of ancillary structures for staff quarter, storeroom, toilet, electricity substation, general storage and water tank are erected on the Application Site.

2.2 Surrounding Land-use Characteristics

2.2.1 The locality of the Application Site and surrounding areas are predominately rural in character and the immediate environment surroundings are characterised by various brownfield operations such as open storage, warehouses, recyclable collection centre and other informal industrial activities. The Application Site is surrounded by numerous temporary warehouse structures similar to its kind. A factory is found to the immediate west of the Application Site whilst recycling collection centre and open storage are found at the immediate northwest and southwest of the Application Site. These sizable temporary structures of factories and warehouses form an industrial cluster that are bounded by open storage sites to further its north.

2.2.2 Land at the immediate southeast of the Application Site is Government Land and is currently vacant. A farmhouse which locates to the immediate south of the Application Site, is owned, and occupied by the Applicant as retreat purpose. The farmhouse that erects on a higher terrain, has about 6m level difference from the Application Site and is physical and visually blocked by a galvanised sheet along the Application Site boundary.

- 2.2.3 To the east of the Application Site are some graveyards locating at the junction of Kai Pak Ling Road and an existing van track. The existing van track has long been formed prior to the gazettal of the First IDPA plan and is being utilised as vehicular access to serve the Former Use as welling as the neighbouring industrial uses and graveyards. To the further south are some low-rise residential clusters namely Mountain Royal and temporary structures abut along Kai Pak Ling Road. To the further southeast of the Application Site locates Fung Kong Tsuen, which is a Recognized Villages in Yuen Long District and has long been settled before the gazettal of the first IDPA plan.
- 2.2.4 The area is distant from major transport facilities and accessing the Application Site mostly relied on driving.

2.3 Land Status

- 2.3.1 As shown in **Figure 2**, the Application Site comprises 6 private lots, i.e, lot nos. 146 S.B ss.1, 149, 150, 151, 152 and 153 in D.D. 128. The total area of the Application Site is about 3,755m².
- 2.3.2 Lot Nos. 146 S.B ss.1, 149, 150, 151, 152 and 153 in D.D. 128, are owned by the Applicant and held under Block Lease. A majority part of the application site is covered by a short-term wavier (No. STW5496).

3 PLANNING CONTEXT

3.1 The Current OZP

- 3.1.1 The Application Site currently falls completely within an area zoned “**R(D)**” on the Current OZP (please refer to **Figure 4**). According to the notes of the current OZP, this zone is intended primarily for improvement and upgrading of existing temporary structures within the rural areas through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the Town Planning Board.
- 3.1.2 Notwithstanding the applied use is neither one of the Column 1 or Column 2 uses under the Schedule of Uses for “R(D)” zone attached to Notes of the OZP, as stipulated in (11)(b) of the covering notes of the Current OZP, “*...Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years,...*”.
- 3.1.3 According to the R(D) zone notes attached to the OZP, “*No addition, alteration and/or modification to or in-situ redevelopment of an existing temporary structure or an existing building (except to ‘New Territories Exempted House’ or to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building area of 37.2m² and a maximum building height of 2 storeys (6m), or the building area and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the Ha Tsuen Interim Development Permission Area Plan, whichever is the greater.*”.

3.2 Previous Planning Applications

- 3.2.1 The application site was subject to a previous application (No. A/YL-HTF/1137) for the same use. All approval conditions of the last approved application (No. A/YL-HTF/1137) were duly complied with by the Applicant. **Table 1** concludes the compliance with planning conditions under the last approved application. When comparing the current application with the last approved application, there would be no changes in the nature and operation of the applied use as well as the overall physical setting surrounding the application site. **Appendix 1** attaches the relevant discharge letters for the approval conditions.

Table 1: Compliance with Planning Approval Conditions under the Last Approved Application

Planning Approval Conditions		Discharged Date
(d)	the submission of a drainage proposal	24.01.2024
(e)	the implementation of the drainage proposal	29.02.2024
(g)	the submission of a fire service installations proposal	06.01.2023
(h)	the implementation of the fire service installations proposal	20.02.2024

- 3.2.2 While the nature of the current application is different to the last approved application, it should be noted there is no significant change to the development parameters, as comparing with the last approved application. As such, no adverse planning implications by allowing the current application is likely to be anticipated.

4 THE DEVELOPMENT PROPOSAL

4.1 Site Configuration and Layout

- 4.1.1 The Application Site has a site area of approximately 3,755m², comprising of 6 private lot (i.e., Lot Nos. 146 S.B ss.1, 149, 150 (Part), 151, 152 (Part) and 153).
- 4.1.2 It is proposed to utilise the application site for the applied use (i.e., Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years). While its storage and non-dangerous nature within the Application Site was ever in existence in the mid-1980s to early 1990s, and the warehouse structures have long been existed and utilised for related industrial use, the Applicant aims to make use of existing site configurations without excessive changes.
- 4.1.3 It is proposed in the Current Application to retain the building envelopes of the existing warehouse and ancillary structures within the Application Site for the applied use. The warehouse structures serve as pre-delivery inspection centre providing an indoor environment for inspection of vehicles, provision of ancillary charging stations and storage of vehicles parts. The majority of the open area within the Application Site serves as open storage of new vehicles which are pending for inspection or delivery. The remaining area would be reserves for manoeuvring, staff parking and loading and unloading activities.
- 4.1.4 Apart from the two existing warehouse structures, 4 temporary structures (i.e. B4, B5, B6 and B7) are retained as ancillary use, including the store room and toilet, electricity substation and ancillary general storage. The existing site office with staircases and canopy (i.e. B3 and C1) at the north-eastern corner of the Application Site have been modified with minor adjustment in Gross Floor Area. A water tank (i.e. B8) implemented at the western boundary of the application site would be retained.
- 4.1.5 The pre-delivery inspection centres are of a building height of about 7.3m (excluding about 1.3m existing elevated platform) and built over area for the subject centres of a total of about 1,219m². The ancillary uses that comprises of about 317m² are for general administrative work and supporting use. The applied use shall make use of existing open area for manoeuvring, parking and L/UL activities which have long been utilizing by goods vehicles of existing industrial use. The Applicant will ensure that the short-stay vehicles will not give rise to any internal traffic conflict within the open area.

Table 2: Key Development Parameters

Proposed Use	Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years
Operation Hours	From 9:00a.m. to 6:00 p.m. from Mondays to Saturdays (Excluding Sundays and Public Holidays)
Site Area	About 3,755m ²
Covered Area	About 1,491 m ² (40%)
Uncovered Area	About 2,264m ² (60%)
Total Gross Floor Area	About 1,536m ²
Temporary Structure No(s). No. of Storey Maximum Height Total Floor Area	9 (Including 1 canopy structure) Not More Than 2 Storeys About 7.6m About 1,536m ²
Open Storage Area	340 m ²
No. of Parking Spaces Private Car (5m(L) x 2.5m(W))	2
No. of Loading/Unloading (L/UL) Bays M/HGVs (11m(L) x 3.5m(W))	1

Table 3: Details of the Proposed Structures

Structure No.	Proposed Use	Floor Area (About) (m ²)	No. of Storeys	Max. Height (About) (m)
B1	Pre-delivery Inspection Centre/ Storage of Vehicle Parts	506	1	7.3*
B2	Pre-delivery Inspection Centre/ Storage of Vehicle Parts	713	1	7.3*
B3	Site Office	90#	2	7.6
B4	Store Room and Toilet	16#	1	4
B5	Electricity Substation	20	1	3.5
B6	Ancillary General Storage	31	1	4
B7	Ancillary General Storage	105	1	4
B8	Water Tank	40	1	5
C1	Canopy	76	N.A.	7.6
	Total	1,536		

Remarks: * excluding about 1.3m elevated platform

structures located underneath the existing canopy

Table 4: Comparison of Development Parameters with the Last Approved Application

Major Parameters/Items	Last Approved Application (No. A/YL-HTF/1137)	Current Application	Difference
Applied Use	Proposed Temporary Warehouse (excluding Dangerous Goods Godown) for a Period of 3 Years	Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years	N.A
Site Area	About 3,755 m ²	About 3,755 m ²	No Change
Total Floor Area	About 1,493 m ²	About 1,536 m ²	+ 43 m ²
No. of Structures	7	9	+2
No. of Parking Spaces	2	2	No Change
No. of Loading and Unloading	2	1	-1
Operation Hours	From 9:00a.m. to 6:00 p.m. from Mondays to Saturdays (Excluding Sundays and Public Holidays)	From 9:00a.m. to 6:00 p.m. from Mondays to Saturdays (Excluding Sundays and Public Holidays)	No Change

4.2 Operation

4.2.1 The applied use is intended for pre-sale inspection of new vehicles, ancillary open storage of new vehicles and its supporting functions.

4.2.2 The new vehicles arrived will be store within the Application Site for pre-delivery inspection services, including quality checks, compliance assessments, and technical evaluations. The pre-delivery inspection centres would provide an indoor venue for vehicle inspection, provision of charging stations and storage of vehicles parts. The ancillary open storage is for storage of unlicensed new vehicles pending inspection/delivery purposes. There are 5 temporary structures as ancillary site office and general storage and one water tank to support to the applied use. No workshop activities will be carried out on the Application Site. 2 parking spaces are designated for staff and visitors and one loading/unloading bay for M/HGVs are designated. The operation hours are from 9:00 a.m. to 8:00 p.m. from Monday to Saturday and there will be no operation on Sundays and public holidays.

4.2.3 The new vehicles are expected to be delivered to the Application Site monthly,

generating an anticipated 2-4 trips (M/HGVs) each time. Some infrequent trips rate are anticipated (1-2 trips per week) for transporting necessary materials and equipment for the applied use. Given that the applied use has no urgent need for loading of new vehicles and materials and equipment, the time of loading and unloading is flexible and under the control of the Applicant. Arrangements could be made to avoid busy traffic hours. It is anticipated that by allowing the Current Application, the volume of the traffic generated from the applied use would not adversely affect the existing or planned road networks (if any). Due to security reasons, other private vehicles not for operation purposes is not welcomed. The time for loading and unloading activities would be arranged in advance.

4.3 Vehicular Access and Parking Arrangement

- 4.3.1 The Application Site is directly accessible via a van track branching off from Kai Pak Lane Road, which connects to Fung Kong Tsuen Road to its east and all the way down to Deep Bay Area at its west. The existing van track has long been formed prior to the gazettal of the First IDPA Plan and all along serves the adjoining open storage, recycling centre and industrial workshop use in the locality.
- 4.3.2 The applied use would make use of the current ingress/egress location at the eastern boundary of the Application Site, connecting to the said van track to its east. The width of the ingress/egress point of the Application Site is about 8m wide and sufficient space for manoeuvring of vehicles is available within the Application Site to avoid vehicles waiting or queuing up at the frontage of the Application Site. Besides, the Application Site abuts on a local track of about 30m long that branches off from the said van track, it is envisaged that there will not be any queuing back issue. Manoeuvring circle with a diameter of 10m are proposed within the Application Site to ensure smooth manoeuvring of vehicles.
- 4.3.3 Two parking spaces for private cars for staff's use and one loading and unloading bay/parking space in M/HGVs standard is proposed within the Application Site to meet the operational requirement.

4.4 Landscape Treatment

- 4.4.1 There is no existing tree within the Application Site, hence no existing tree is expected to be affected. The existing fencing would be retained along the Application Site boundary. An at least 10m distance has been retained between the applied use and the adjacent farmhouse owned by the Applicant.

4.5 Provision of Drainage Facilities

- 4.5.1 The Application Site is flat and hard paved with gravel. The applicant has submitted a drainage proposal (**Appendix 2** refers) to the satisfaction of Drainage Services Department and implemented on-site drainage facilities during previous planning

approval period. The Current Application would make use of existing drainage network installed which has been implemented to the satisfaction of DSD. Given that the applied use involves no significant change in the physical setting and development parameters, it is anticipated that the applied use would not give rise to any drainage impact to the adjoining areas. The applicant is committed to maintain on-site drainage facilities at all times once the current application is approved.

4.6 Environmental Considerations

4.6.1 The pre-delivery inspection centre structures and ancillary facilities would be fully enclosed with doors. Vehicles arrived would be arranged for inspection at the indoor area, and vehicles would remain stagnant at the outdoor area before they are further delivered. No storage of dangerous goods will be carried out at the application site at any time during the planning approval period. The applicant is committed to implementing good site practices and adhering to the latest "CoP" and comply with all environmental protection/ pollution control ordinances, throughout the construction and operation stages of the proposed development, should the application be approved.

4.7 Fire Safety Considerations

4.7.1 No fire risks shall be envisaged since the items being stored within the application site will be non-dangerous in nature. In addition, The applicant has implemented fire services installations within the application site during the compliance of approval conditions of previous planning approval.

5 PLANNING JUSTIFICATIONS

5.1 Providing a Pre-delivery Inspection Centre in Need in the Territory in a Suitable Location and Promote the Use of Electric Vehicles by Enhancing the Supply Chain

5.1.1 With the growing demand for electric vehicles, there is an increasing need for pre-delivery inspection centres and associated services within the territory. These services require a suitably sized venue, which is often difficult to find in urban areas due to cost constraints. The application site, subject to planning approval for warehouse purposes, is ideally located and suitable for the applied use.

5.1.2 It is intended to establish a pre-delivery inspection centre specifically for new electric vehicles, which will play a crucial role in the local automotive supply chain. By providing comprehensive inspection services, including quality checks, compliance assessments, and technical evaluations, the pre-delivery inspection centre will ensure that all vehicles meet the required standards before they reach consumers.

5.1.3 The applied use will enable the provision of these essential services, facilitating smoother trades within the electric vehicle market and fostering consumer confidence in the quality and reliability of electric vehicles in the territory. By strengthening the supply chain, it would actively support the expanding electric vehicle market, effectively meeting market demands in alignment with the EV blueprint.

5.2 No Substantial Change to Existing Setting

5.2.1 The application site has been utilized as industrial activities since mid-1980s and it was further regularised for warehouse purposes under previous planning approval. In the current application, the Applicant seeks to make use of existing site configuration without excessive changes. The Current Application involves no substantial change since it only seeks for a change of use in similar nature. A majority of the existing settings including the warehouses and ancillary structures would be retained in the Current Application. As such, there is no significant alternation to the existing setting by allowing the applied use.

5.3 Applied Use Being Compatible with the Land-use Characters of the Locality

5.3.1 The immediate surrounding of the Application site is characterised by warehouse, open storage, recyclable collection centre and other informal industrial undertakings which are of similar nature to the applied use. These brownfield operations in the subject area and the Application Site were in existence immediately before the gazettal of the IDPA plan. In this regard, the applied use at the Application Site is deemed fully compatible with these surrounding land use characters and allowing the applied use on site should not in any sense pose any interface problems to the locality.

5.3.2 On the other hand, the adjoining farmhouse owned by the Applicant has long been existed with the pre-existed industrial undertakings before 1980s. The farmhouse that served as a retreat purpose, have been co-existed with the brownfield operation for a long period of time. It is considered that the applied use could continue to be compatible with the adjoining land uses.

5.4 Temporary Nature Would Not Jeopardize its Planning Intention of “R(D)” zone and Allow Optimization of Valuable Land Resources

5.4.1 Given that the applied use in the Current Application is being applied for 3 years, its temporary nature is by no means jeopardise the long-term planning intention of “R(D)” zone should the Board consider essential to implement in future.

5.4.2 While the subject zone is intended for transformation of into permanent building and allow residential buildings to a certain extent, the surroundings are still characterised by industrial operations which were approved and allowed by the Board on temporary basis in recent years. In this regard, until the entire surrounding characteristics are reverted to permanent structures and residential development which are fully in line with the R(D) zone, bringing forward the planning intention of “R(D) zone that is yet to be materialised in short term would hinder optimisation of valuable land resources. In contrast, land use optimisation and concentration of similar uses in replacement of other industrial undertakings in unsuitable locations or planned development area could be achieved by allowing the applied use.

5.5 No Adverse Traffic Impact

5.5.1 The Application Site is directly accessible via a van track branching off from Kai Pak Ling Road and this van track has long been formed prior to the gazettal of the First IDPA plan serving the adjoining open storage and/ or informal industrial undertakings in the locality. The existing van track leading to the Application site has long been utilised by goods vehicle serving the adjoining industrial activities in close vicinity of the Application Site whereby the traffic volume is low.

5.5.2 The new vehicles are expected to be delivered to the Application Site monthly, generating an anticipated 2-4 trips (M/HGVs) each time. Some infrequent trips rate are anticipated (1-2 trips per week) for transporting necessary materials and equipment for the applied use. Given that the applied use has no urgent need for loading the new vehicles and materials and equipment, the time of loading and unloading is flexible and under the control of the Applicant. Arrangements could be made to avoid busy traffic hours. As such, it is anticipated that by allowing the Current Application, the volume of the traffic generated from the applied use would not adversely affect the existing or planned road networks (if any).

5.5.3 Furthermore, sufficient area within the Application Site has been provided to ensure smooth manoeuvring within the Application Site. Since the Application site abuts a

local road of 30m long that branches off from the existing van track, it is anticipated that the applied use will not generate any queuing back issue and will not significantly affect the ingress/ egress to other industrial operation along the existing van track. Taking into account the above, there will only be a small amount of trips generation, it is anticipated that vehicles trip due to the operation of the applied use will be very insignificant to the generation of the overall traffic in the local network.

5.6 No Adverse Drainage Impacts

5.6.1 Given that the Application Site and its surrounding land have long been paved and established, the subject area was equipped with existing infrastructure support and there were no floodings problems arising from the Application Site. In addition, the applicant has complied relevant approval conditions, including the implementation of drainage facilities to the satisfaction of Drainage Services Department. The applied use would make use of existing drainage network without generating additional discharge, as such, no adverse drainage impact arising from the applied use is anticipated.

5.7 No Adverse Environmental Impact

5.7.1 The pre-delivery inspection centre and ancillary structures would be fully enclosed with doors. Vehicles arrived would be arranged for inspection at the indoor area, and vehicles would remain stagnant at the outdoor area before they are further delivered.

5.7.2 No storage of dangerous goods will be carried out at the application site at any time during the planning approval period. The applicant is committed to implementing good site practices and adhering to the latest "CoP" and comply with all environmental protection/ pollution control ordinances, throughout the construction and operation stages of the proposed development, should the application be approved. It is ensured that the proposed development will not generate any unacceptable environmental impacts (including air quality, noise, water quality and waste management), during both the construction and operation phases. Therefore, no adverse environmental impact or misuse of the applied use is anticipated.

5.8 No Fire Risk

5.8.1 The ingress/egress point locates at the east of the Application Site is of a width of 8m would ensures smooth passage of vehicles and emergency vehicles. No fire risks shall be envisaged since the items being stored within the application site will be non-dangerous in nature. In addition, The applicant has implemented fire services installations within the application site during the compliance of approval conditions of previous planning approval.

6 CONCLUSION

6.1.1 This Planning Statement is submitted to the Board in support of a planning application for Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Lot Nos. 146 S.B ss.1, 149, 150 (Part), 151, 152 (Part) and 153 in D.D. 128, Ha Tsuen, Yuen Long, New Territories. The current application seeks to provide a temporary pre-delivery inspection center and ancillary open storage for new vehicles with ancillary facilities.

6.1.2 The Application Site currently falls completely within an area zoned “Residential (Group D)” (“R(D)”) on the Current OZP. According to the Notes of the OZP for the “R(D)” zone, all uses or development except those specified in the Notes require permission from the Town Planning Board. In this connection, the Applicant intends to seek planning permission for the applied use on a temporary basis of 3 years. As detailed throughout the Planning Statement, the applied use is well justified on the grounds that:-

- (a) The Current Application intends to provide a secure location for a pre-delivery inspection centre for new vehicles which is in need in the territory, the applied use shall promote the use of the electric vehicles by enhancing the supply chain;*
- (b) The Current Application involves no substantial change in physical setting when compared to the previously approved application since the existing structures would be retained in the Current Application;*
- (c) The applied use will be compatible with the existing land uses in the immediate vicinity which have long been utilized by open storage, warehouses and other informal industrial activities that are similar to the applied use;*
- (d) Temporary nature of the applied use will not jeopardize nor pre-empt the long-term planning intention of “R(D)” zone or any planned infrastructural development (if any) in future;*
- (e) No adverse traffic impact shall be anticipated since the number of trips generated by the applied will not be significant, there are minimal daily trips generation to /from the Application Site for the applied use;*
- (f) No adverse drainage impact nor flooding problems are anticipated since on site drainage facilities have been implemented; and*
- (g) No adverse environmental impact shall be anticipated since applicant will adhere to the latest “CoP” and comply with relevant environmental protection/ pollution control ordinances.*

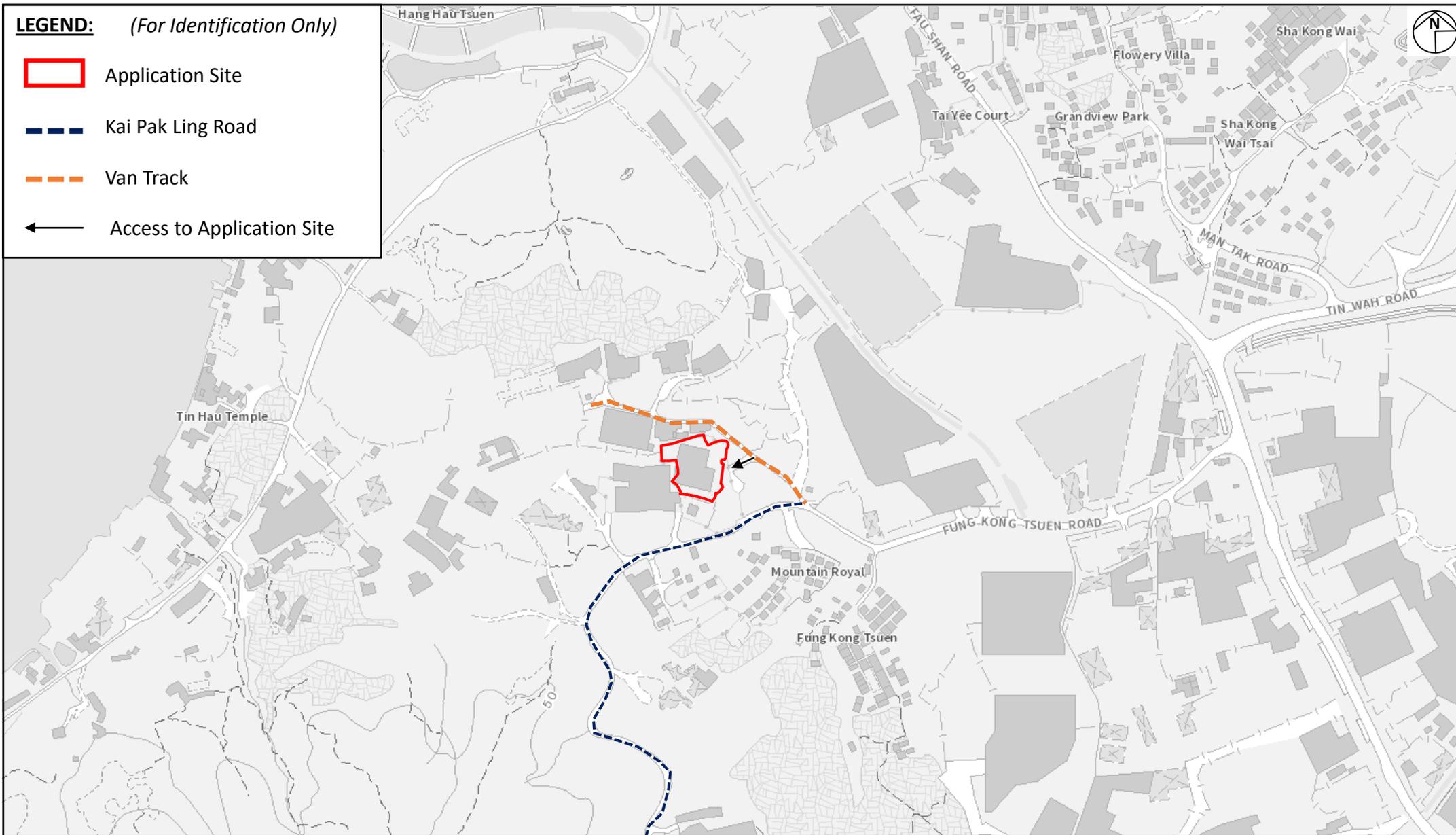
6.1.3 In view of the above and the list of detailed planning justifications in the Planning Statement, it is sincerely hoped that members of the Board will give favourable consideration to approve the Current Application for the applied use for a temporary period of 3 years.

List of Figures

Figure 1	The Location Plan
Figure 2	Extract of Lot Index Plan No. ags_ S00000150806_001
Figure 3	Extract of Approved Ha Tsuen Fringe Outline Zoning Plan No. S/YL-HTF/12
Figure 4	Indicative Layout Plan

LEGEND: (For Identification Only)

-  Application Site
-  Kai Pak Ling Road
-  Van Track
-  Access to Application Site



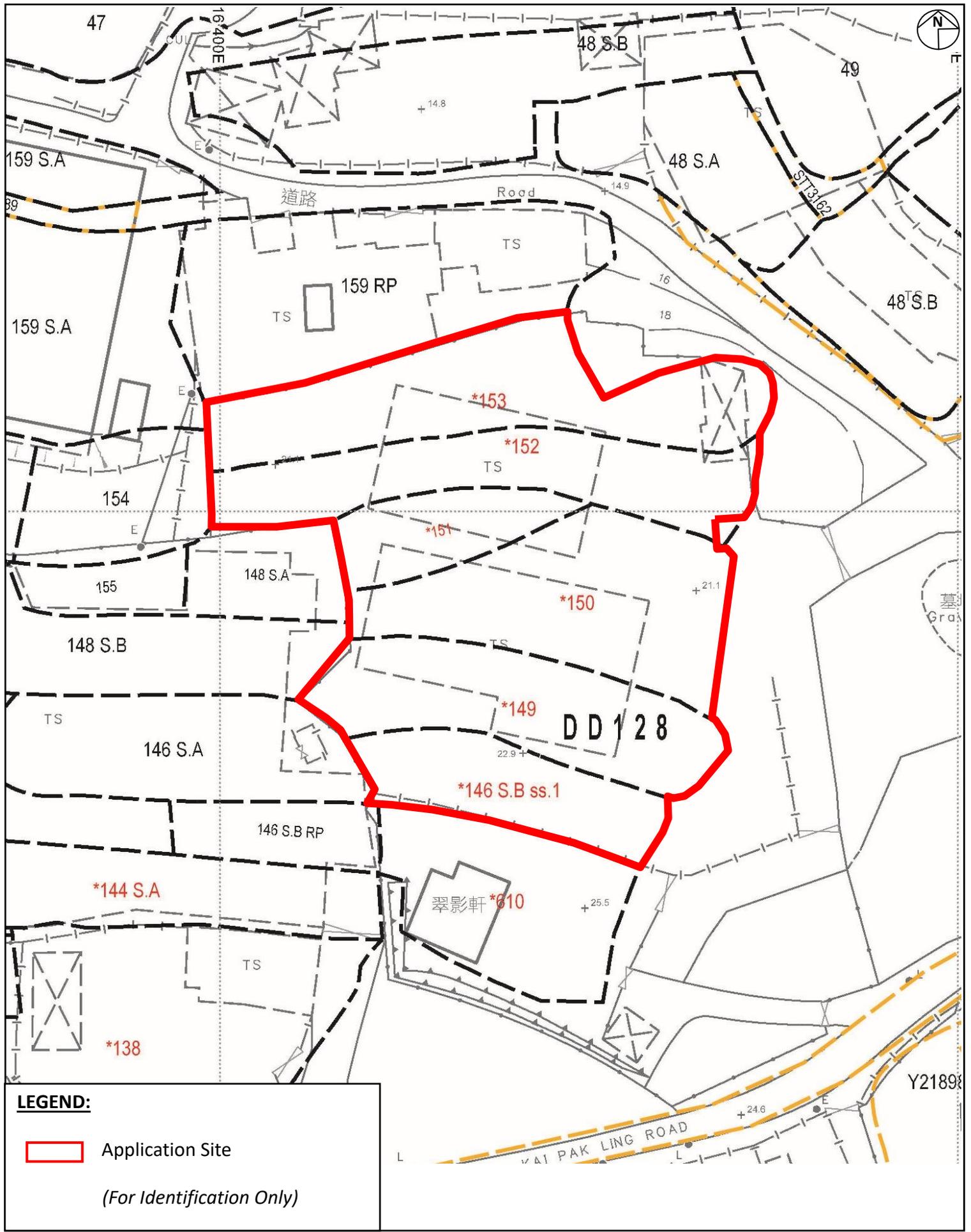
Project:
Section 16 Planning Application for Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Various Lots in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Title:
The Location Plan

Ref.: ADCL/PLG-10326-R001/F001

Figure:
1
Scale:
Not to scale
Date:
Dec 2025

Man Chi Consultants and Construction Ltd.
敏志顧問及建築工程有限公司



LEGEND:



Application Site

(For Identification Only)

Project:

Section 16 Planning Application for Proposed Temporary Pre-delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Various Lots in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Title:

Extract of Lot Index Plan (No.ags_S00000150806_0001)

Ref.: ADCL/PLG-10326-R001/F002

Figure:

2

Scale:

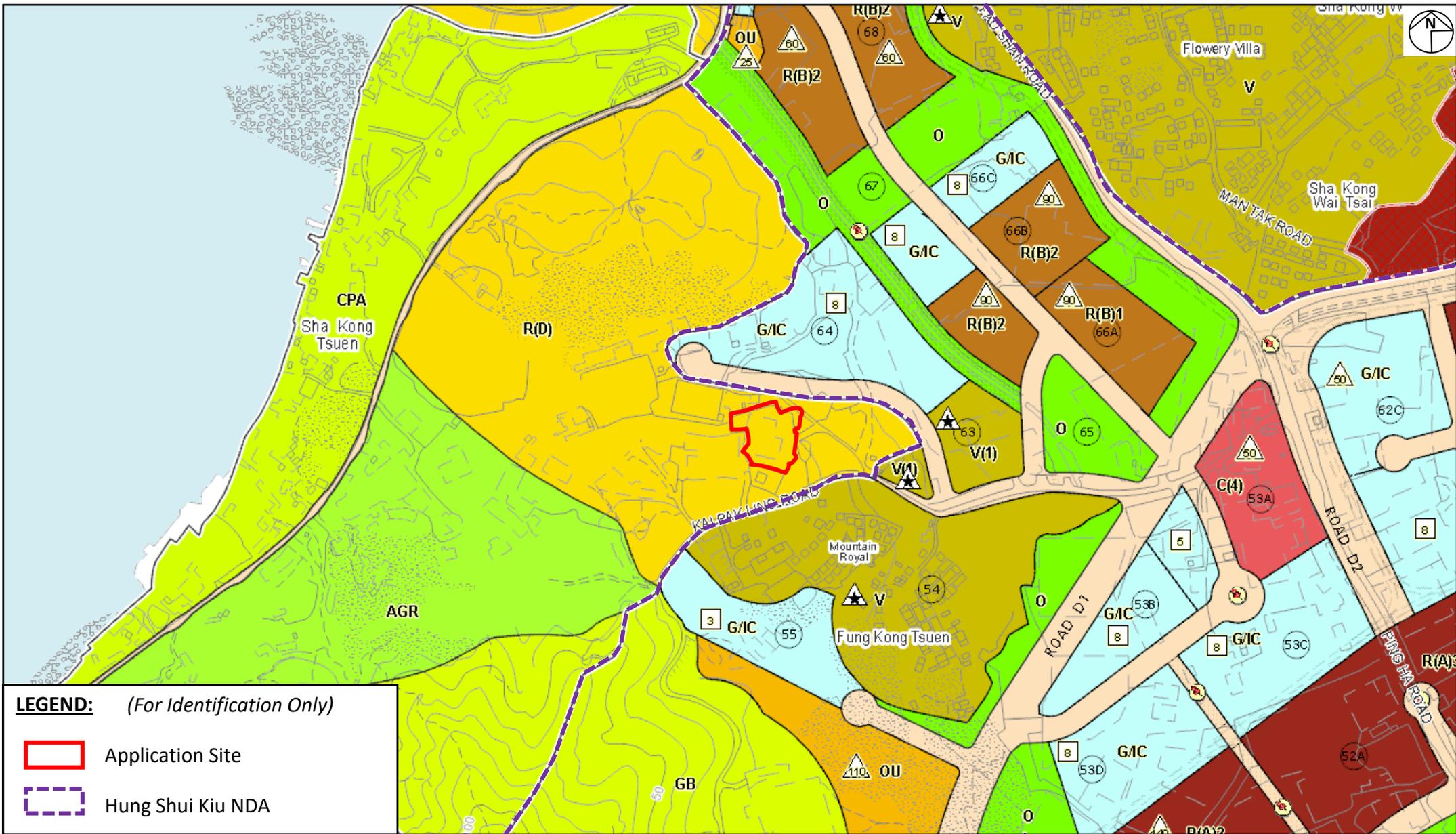
Not to Scale

Date:

Jan 2026

Man Chi Consultants and Construction Ltd.

敏志顧問及建築工程有限公司



Project:
 Section 16 Planning Application for Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Various Lots in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Title:
 Extract of Approved Ha Tsuen Fringe Outline Zoning Plan No. S/YL-HTF/12

Figure:
 3

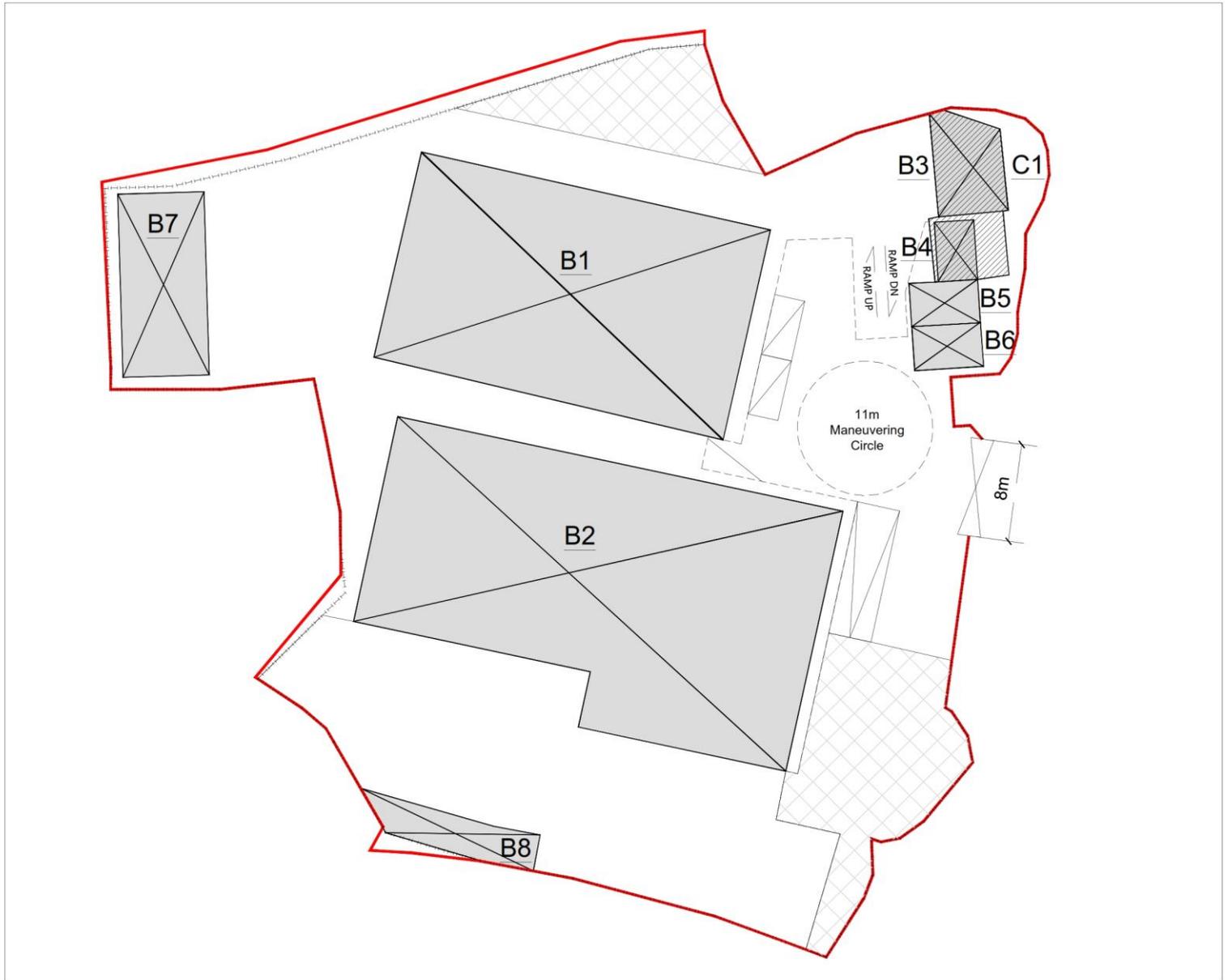
Scale:
 Not to scale

Date:
 Dec 2025

Ref.: ADCL/PLG-10326-R001/F003

Man Chi Consultants and Construction Ltd.
 敏志顧問及建築工程有限公司

STRUCTURE	USE	COVERED AREA	NON-DOM. GFA	BUILDING HEIGHT
B1	Pre-delivery Inspection Centre/ Storage of Vehicle Parts	506 sqm (ABOUT)	506 sqm (ABOUT)	7.3m (ABOUT) (1- STOREY)*
B2	Pre-delivery Inspection Centre/Storage of Vehicle Parts	713 sqm (ABOUT)	713 sqm (ABOUT)	7.3m (ABOUT) (1- STOREY)*
B3	Site Office	N.A	90 sqm (ABOUT)	7.6 (ABOUT) (2- STOREY)
B4	Store Room and Toilet	N.A	16 sqm (ABOUT)	4m (ABOUT) (1- STOREY)
B5	Electricity Substation	20 sqm (ABOUT)	20 sqm (ABOUT)	3.5m (ABOUT) (1- STOREY)
B6	Ancillary General Storage	31 sqm (ABOUT)	31 sqm (ABOUT)	4m (ABOUT) (1- STOREY)
B7	Ancillary General Storage	105 sqm (ABOUT)	105 sqm (ABOUT)	4m (ABOUT) (1- STOREY)*
B8	Water Tank	40 sqm (ABOUT)	40 sqm (ABOUT)	5m (ABOUT) (1- STOREY)
C1	Canopy	76 sqm (ABOUT)	76 sqm (ABOUT)	7.6m (ABOUT)
TOTAL		1,491 sqm (ABOUT)	1,536 sqm (ABOUT)	* excluding existing elevated platform (about 1.3m)



Development Parameters

Site Area: 3,755 sqm (ABOUT)
 Covered Area: 1,491 sqm (ABOUT)
 Uncovered Area: 2,264 sqm (ABOUT)
 Site Coverage: about 40% (ABOUT)

Total GFA: 1,536 sqm (ABOUT)

Provision of Parking and L/UL

Parking for Private Cars (2 nos)
 Loading and Unloading Bay (1nos)

Legend (for identification only)

- Application Site Boundary
- Existing Fencing
- Existing Structure
- Existing Elevated Platform
- Open Storage Area
- Canopy
- Loading and Unloading Bay for M/HGVs (1nos)
- Parking for PCs (2nos)
- Ingress/Egress (8m)



Project:

Section 16 Planning Application for Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Various Lots in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Title:

Indicative Layout Plan

Ref.: ADCL/PLG-10326-R001/F004

Figure:

4

Scale:

1:500

Date:

Jan 2026

Man Chi Consultants and Construction Ltd.

敏志顧問及建築工程有限公司

List of Illustrations

Illustration 1 Existing Condition of the Application Site



Project:

Section 16 Planning Application for Proposed Temporary Pre-Delivery Inspection Centre and Ancillary Open Storage for New Vehicles with Ancillary Facilities for Storage of Vehicle Parts and Site Office for a Period of 3 Years at Various Lots in D.D. 128, Ha Tsuen, Yuen Long, New Territories

Title:

Existing Condition of the Application Site

Ref.: ADCL/PLG-10326-R001/1001

Illustration:

1

Scale:

Not to Scale

Date:

Dec 2025

Man Chi Consultants and Construction Ltd.

敏志顧問及建築工程有限公司

List of Appendices

Appendix 1	Compliance Letters with Planning Approval Conditions under the Last Approved Application
Appendix 2	Accepted Drainage Proposal

Appendix 1

Compliance Letters with Planning Approval Conditions under the Last Approved Application

規 劃 署

屯門及元朗西規劃處
新界沙田上禾輦路1號
沙田政府合署14樓



Planning Department

Tuen Mun and Yuen Long West
District Planning Office
14/F, Sha Tin Government Offices,
No.1 Sheung Wo Che Road,
Sha Tin, N.T.

本函檔號 Your Reference
本署檔號 Our Reference TPB/A/YL-HTF/1137
電話號碼 Tel. No. : 2158 6330
傳真機號碼 Fax No. : 2489 9711

24 January 2024

Man Chi Consultants and Construction Limited
1/F, Front Portion,
134 Cheung Sha Wan Road,
Sham Shui Po, Kowloon, Hong Kong

Dear Sir/Madam,

Planning Application No. A/YL-HTF/1137
Compliance with Approval Condition (d)

I refer to your letter of 27.12.2023 enclosing a revised drainage proposal with responses-to-comments (R-to-C) and email of 2.1.2024 providing revised R-to-C for compliance with the captioned approval condition on the submission of a drainage proposal.

Relevant department has been consulted. Your submission is considered:

- Acceptable. The captioned condition has been **complied with**. Please find detailed departmental comments at **Appendix**.
- Acceptable. Since the captioned condition requires both the submission and implementation of the proposal, it has not been fully complied with. Please proceed to implement the accepted proposal for full compliance with the approval condition.
- Not acceptable. The captioned condition has not been complied with.

Should you have any queries on the above, please contact the undersigned.

Yours faithfully,

(Ms. Jessie KWOK)
for District Planning Officer/
Tuen Mun and Yuen Long West
Planning Department

c.c.
CE/MN, DSD (Attn.: Ms. Vicky SY)

規 劃 署

屯門及元朗西規劃處
新界沙田上禾輦路1號
沙田政府合署 14樓



Planning Department

Tuen Mun and Yuen Long West
District Planning Office
14/F, Sha Tin Government Offices,
No.1 Sheung Wo Che Road,
Sha Tin, N.T.

本函檔號 Your Reference
本署檔號 Our Reference TPB/A/YL-HTF/1137
電話號碼 Tel. No. : 2158 6330
傳真機號碼 Fax No. : 2489 9711

29 February 2024

Man Chi Consultants and Construction Limited
1/F, Front Portion,
134 Cheung Sha Wan Road,
Sham Shui Po, Kowloon, Hong Kong

Dear Sir/Madam,

Planning Application No. A/YL-HTF/1137
Compliance with Approval Condition (e)

I refer to your letter of 7.2.2024 enclosing a condition record of drainage facilities for compliance with the captioned approval condition on the implementation of the drainage proposal.

Relevant department has been consulted. Your submission is considered:

- Acceptable. The captioned condition has been **complied with**.
- Acceptable. Since the captioned condition requires both the submission and implementation of the proposal, it has not been fully complied with. Please proceed to implement the accepted proposal for full compliance with the approval condition.
- Not acceptable. The captioned condition has not been complied with.

Should you have any queries on the above, please contact the undersigned.

Yours faithfully,

(Ms. Jessie KWOK)
for District Planning Officer/
Tuen Mun and Yuen Long West
Planning Department

c.c.
CE/MN, DSD (Attn.: Ms. Vicky SY)

規 劃 署

屯門及元朗西規劃處
新界沙田上禾輦路1號
沙田政府合署14樓



Planning Department

Tuen Mun and Yuen Long West
District Planning Office
14/F, Sha Tin Government Offices,
No.1 Sheung Wo Che Road,
Sha Tin, N.T.

本函檔號 Your Reference
本署檔號 Our Reference TPB/A/YL-HTF/1137
電話號碼 Tel. No.: 2158 6330
傳真機號碼 Fax No.: 2489 9711

新界葵涌
葵豐徑 33-39 號
華豐工業中心第二期八字樓 L 座
實力消防防盜工程有限公司

先生 / 女士:

規劃申請編號: A/YL-HTF/1137
履行規劃許可條件(h)項

謝謝你在 2023 年 12 月 27 日提交的資料,以履行上述的規劃許可條件:(h)項落實消防裝置建議。就你提交的資料,本處已諮詢有關部門,意見如下:

- 接受。因此,你已經履行上述附帶條件。
- 接受。由於上述附帶條件要求提交及落實建議,因此,你未有完全履行有關附帶條件。請你加快落實已批准的建議以完全履行有關附帶條件。
- 不接受。因此,上述附帶條件未能被視作已履行。

如果你有任何疑問,請與本辦事處郭敏行女士聯絡(電話:2158 6330)。

規 劃 署
屯門及元朗西規劃專員

(郭敏行  代行)

2024 年 2 月 20 日

副本送:
消防處處長(經辦人:張永熹先生)
總城市規劃師/城市規劃委員會 2

FSD Ref.:
消防處檔號

FIRE SERVICE (INSTALLATIONS AND EQUIPMENT) REGULATIONS

消防(裝置及設備)規例

(Regulation 9(1))

(第九條(1)款)

A 9727943

CERTIFICATE OF FIRE SERVICE INSTALLATION AND EQUIPMENT

消防裝置及設備證書

Name of Client :

顧客姓名

Name of Building :

樓宇名稱

Street No./Town Lot :

門牌號數/市地段

Lots 146 S.B.ss1,149,150(Part) Street/Road/Estate Name :
151,152(Part),and 153 In D.D.128 街道/屋苑名稱

Ha Tsuen

Block :

座

District :

分區

Yuen Long

Area :

地區

HK

香港

K

九龍

NT

新界

Type of Building 樓宇類型: Industrial工業 Commercial商業 Domestic住宅 Composite綜合 Licensed premises持牌處所 Institutional社團

Part 1 Annual Inspection ONLY
第一部 只適用於年檢事項

In accordance with Regulation 8(b) of Fire Service (Installations and Equipment) Regulations, the owner of any fire service installation or equipment which is installed in any premises shall have such fire service installation or equipment inspected by a registered contractor at least once in every 12 months. 根據消防(裝置及設備)規例第八條(b)款: 擁有裝置在任何處所內的任何消防裝置或設備的人, 須每12個月由一名註冊承辦商檢查該等消防裝置或設備至少一次。

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Comment on Condition 狀況評述	Completion Date 完成日期(DD/MM/YY)	Next Due Date 下次到期日(DD/MM/YY)
11	Emergency Lighting	Warehouse	Conforms with FSD requirements	12-07-2025	11-07-2026
12	Exit Sign	Warehouse	Conforms with FSD requirements	12-07-2025	11-07-2026
13	Fire Alarm Systems (MFA)	Warehouse	Conforms with FSD requirements	12-07-2025	11-07-2026
16	Hose Reel System	Warehouse	Conforms with FSD requirements	12-07-2025	11-07-2026
28	Sprinkler System	Warehouse	Conforms with FSD requirements	12-07-2025	11-07-2026

Part 2 第二部 Installation / Modification / Repair / Inspection work 裝置/改裝/修理/檢查工作

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Nature of Work Carried out 完成之工作內容	Comment on Condition 狀況評述	Completion Date 完成日期(DD/MM/YY)
			NIL		

Part 3 第三部 Defects 損壞事項

Code 編碼 (1-35)	Type of FSI 裝置類型	Location(s) 位置	Outstanding Defects 未修缺點	Comment on Defects 缺點評述
			NIL	

I/We hereby certify that the above installations/equipment have been tested and found to be in efficient working order in accordance with the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment published from time to time by the Director of Fire Services. Defects are listed in Part 3.

本人藉此證明以上之消防裝置及設備經試驗, 證明性能良好, 符合消防處處長不時公佈的最低限度之消防裝置及設備守則與裝置及設備之檢查測試及保養守則的規格, 損壞事項列於第三部。

如證書涉及年檢事項, 應張貼於大廈或處所當眼處以供消防處人員查核

This certificate should be displayed at prominent location of the building or premises for FSD's inspection if any annual maintenance work is involved.

Authorized Signature :
授權人簽署

Name :
姓名

FSD/RC No. :
消防處註冊號碼

Company Name :
公司名稱

Telephone :
聯絡電話

Date :
日期

Ng Chun Man
RC1/309 RC2/459

East Power Engineering Ltd
東力工程有限公司

2789 3690

14-07-2025

For FSD use only:

Inspected

Key-in

Verified

Appendix 2

Accepted Drainage Proposal

**Proposed Temporary Warehouse
(Excluding Dangerous Goods Godown)
For a Period of 3 Years in “Residential (Group D)” Zone,
Lot Nos. 146 S.B. ss.1, 149, 150 (Part), 151, 152(Part) and 153
in D.D.128, Ha Tsuen, Yuen Long, New Territories, Section 16A
Application No. A/YL-HTF/1137-2**

**Drainage Impact Assessment on
Proposed Surface Drainage Outflow
(Rev. B)**

(MWA/202308/DIA-02b)

December 2023

TABLE OF CONTENTS

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1. INTRODUCTION	3
2. REVIEW OF THE CATCHMENT AREA AND EXISTING RUNOFF	4
3. ASSESSMENT OF DRAINAGE CAPACITY	14

LIST OF APPENDICES

- A Proposed Drainage Details for the Application Site
- B CCTV Report
- C Checking of Drainage Capacity
- D Response to DSD's Comments

1. INTRODUCTION

Application for the proposed temporary warehouse (excluding Dangerous Goods Godown) for a Period of 3 years has been submitted to Planning Department at Lots 146 S.B. ss.1, 149, 150(Part), 151, 152(Part) and 153 in DD128. The extent for the application is given in Figure 1 in **Appendix A**.

This report is prepared to support the drainage proposal so as to:-

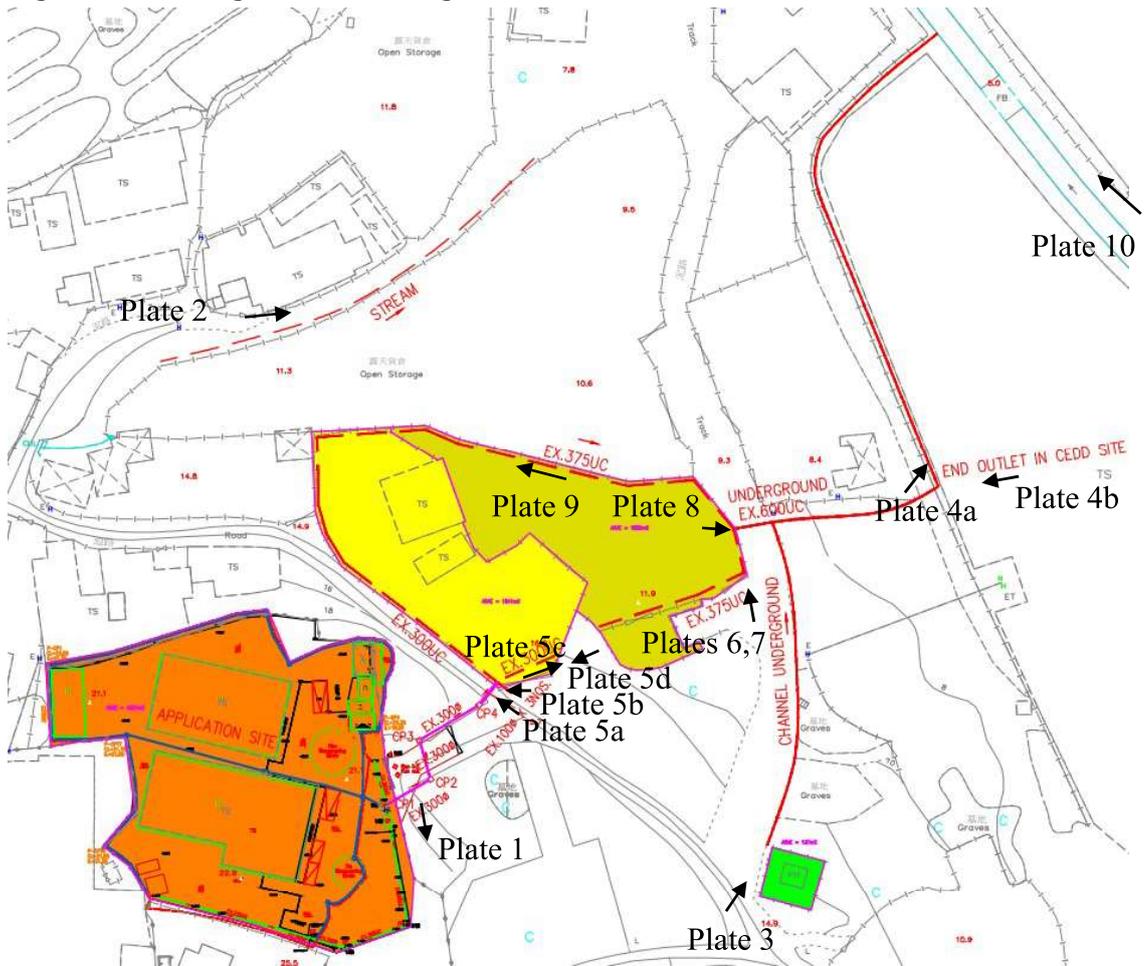
- (a) Identify the existing channel/gully and provide site record photos.
- (b) Demonstrate with hydraulic calculation that the proposed drainage facilities are adequate to collect, convey and discharge the surface runoff.

2. REVIEW OF THE CATCHMENT AREA AND EXISTING RUNOFF

2.1 Existing Surface Drainage

The key plan for the existing catchment and surface drainage is as shown in Figure 1. The locations of record photo are indicated on the plans.

Figure 1 – Existing Surface Drainage Downstream Location Plan



The summary of the site record photo is given as:-

Record Plate	Description/Findings	Time
1	The upper lot over the application site is discharged over the paved open space.	Current
2	The existing stream to the north of the application site collect most runoff for adjacent areas and roads.	Current
3	The catchment include the surface runoff from a WSD pump room	Current
4a 4b	The existing drainage path is intercepted by CEDD project YL/2020/03 and to be collected by existing 600mm U-channel	Current
5a 5b 5c 5d	Existing Drainage within STT 3162	Current
6	Nearby application site downstream site containing the 375UC	Current
7	375UC downstream	Current
8	Start of Existing 600 pipe	Current
9	375 UC existing discharge route	Current
10	Existing Nullah	Current
11	Aerial Photo showing U-channel from WSD Pump Room	Year 1995
12	Aerial Photo showing surface channel under construction	Year 1996
13	Aerial Photo showing surface channels	Year 2021

Plate 1 – The drainage runoff from the upper lot



Plate 2 – Surface Runoff collected by an existing open stream



Plate 3 – Adjacent WSD Catchpit



Plate 4a Existing 600 UC



Plate 4b Existing Outlet in CEDD Site



Plate 5a Existing Terminal Manhole



Plate 5b



Plate 5c



Plate 5d



Plate 6 – Nearby Planning Application Downstream in Lot 50



Plate 7 – 375 UC in Lot 50



Plate 8 – Start of 600mm Pipe in Lot 50 (after cleaning)



Plate 9 – 375 UC in Lot 50



Plate 10 – Existing Nullah



Plate 11 Year 1995 Aerial Photo shows U-Channel being constructed



Plate 12 – Downstream U-channel being Constructed (1996)



Plate 13 U-channel alignment before cover up



2.2 Existing Catchment Collected by the Drainage Provision

The catchment collected by the terminal 600 mm U-channel is as shown in Appendix C. The catchment collected from the application site is given in **Appendix C**.

The CCTV report giving the condition of the underground pipe from the application site to the 300UC is presented in **Appendix B**. As some part of the pipe was broken, the pipes are to be reconstructed in the drainage proposal with Figure 1 in **Appendix A**.

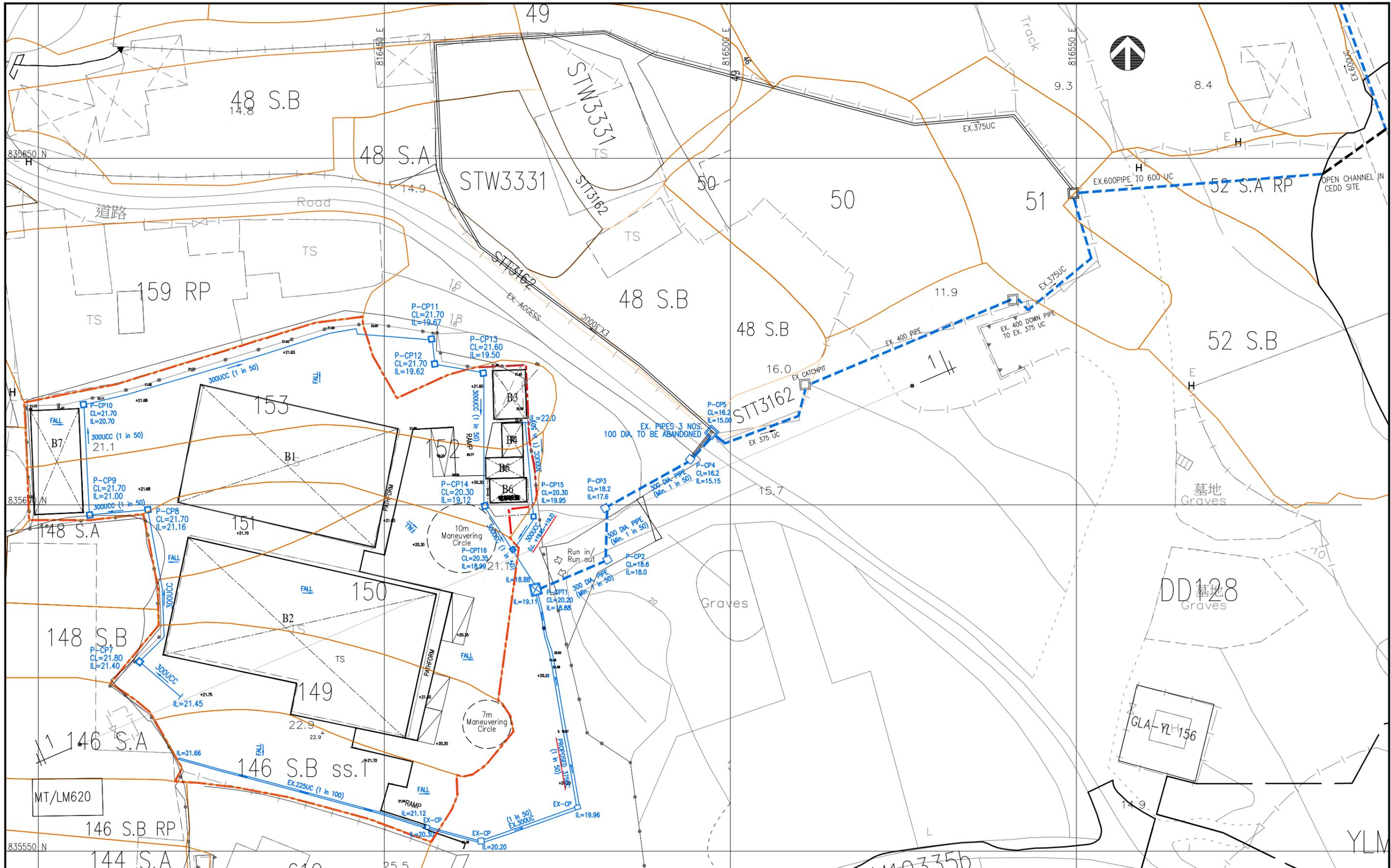
3. ASSESSMENT OF DRAINAGE CAPACITY

The drainage capacity within the application site is to be collected by existing 225UC falling 1 in 100 in the small part at the southern end, and 300UC falling 1 in 50 at the other parts. The runoff of 1 in 200 year return period rainstorm is calculated using rational method according to the TGN30 and latest Stormwater Drainage Manual, 2018. The checking is given in **Appendix C**.

The capacity of the downstream U-channels are also checked in **Appendix C**. In view of the short term application, the increment for weather changes is not considered with the checking.

The capacity of the drainage system is found adequate.

Appendix A



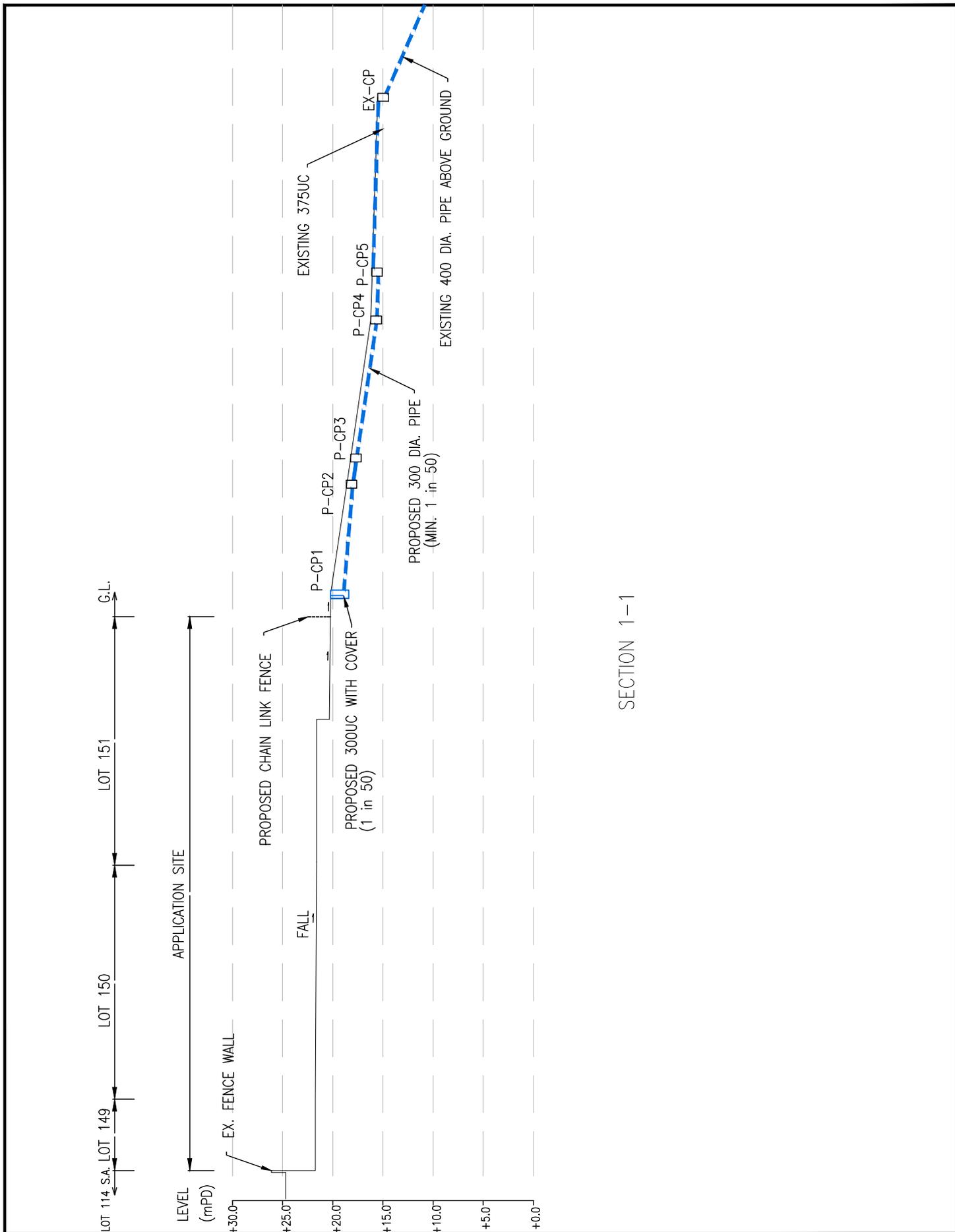
Legends:		
	Lot Boundary Line	
	Application Site Boundary Line	
	+22.9 Existing Spot Level (mPD)	
	Existing Gate	
	Ex-CP Existing Catchpit	
	CPT16 Proposed Catchpit with Trap	CL= Covered Level (mPD)
	CP7 Proposed Catchpit without Trap	IL= Invert Level (mPD)
	300UC Proposed 300mm U-Channel with cover (Fall 1 in 50)	

Project : Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) for a Period of 3 Years at Lot Nos. 146 S.B ss.1, 149, 150, 151, 152 & 153 in D.D.128, Ha Tsuen, Yuen Long, N.T.

Drawing Title : Site Layout Plan
 Drawing No. Figure 1

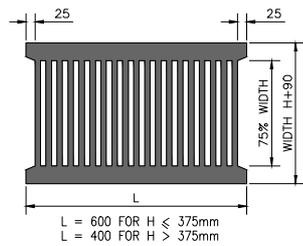
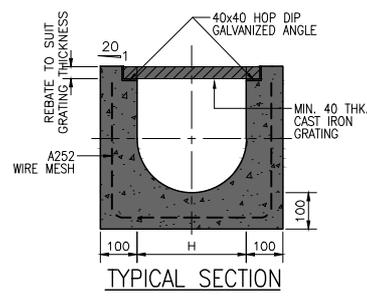
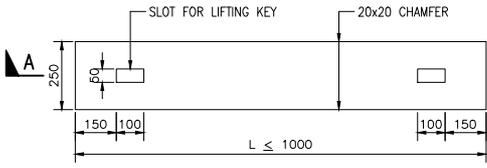
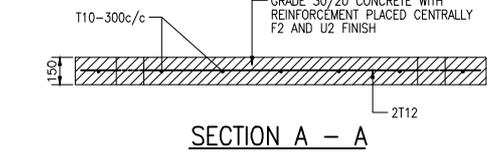
Consultant : **MC Man Chi** Consultants And Construction Limited
 Date : Dec. 2023 Scale : 1 : 500

2023-22-12 05:06 user

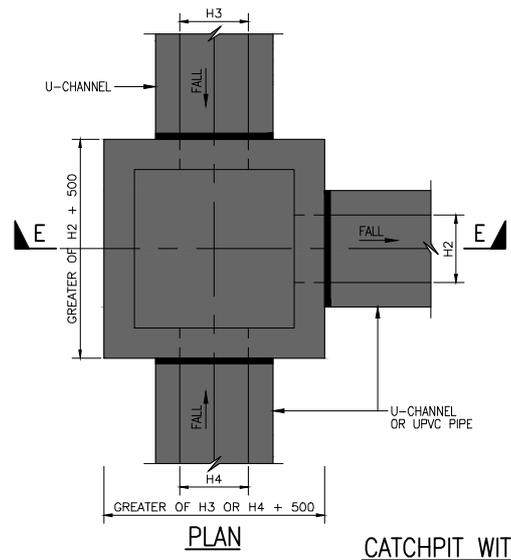


SECTION 1-1

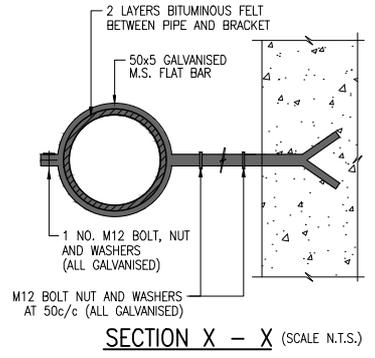
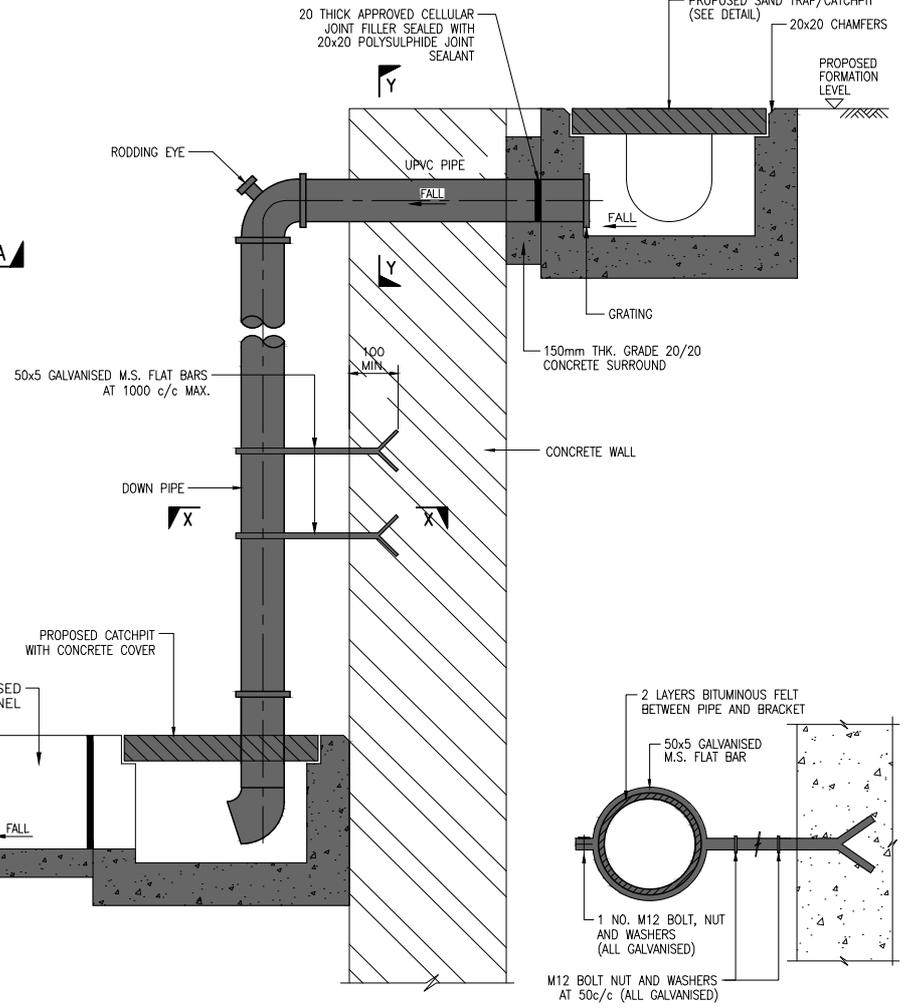
Project : Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) for a Period of 3 Years at Lot Nos. 146 S.B. ss.1, 149, 150, 151, 152 & 153 in D.D.128, Ha Tsuen, Yuen Long, N.T.		Consultant :  Man Chi Consultants And Construction Limited	
Drawing Title : Section		Drawing No. Figure 2	
		Date : Dec. 2023	Scale : 1:500



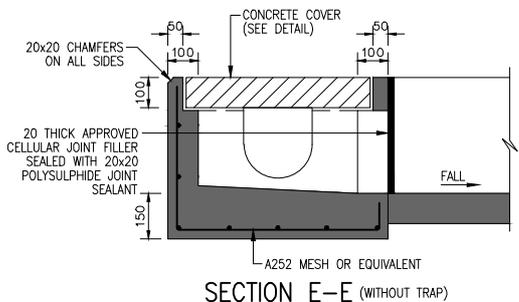
CAST IRON GRATING U-CHANNEL WITH CAST IRON GRATING N.T.S.
(UP TO H OF 525)
(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)



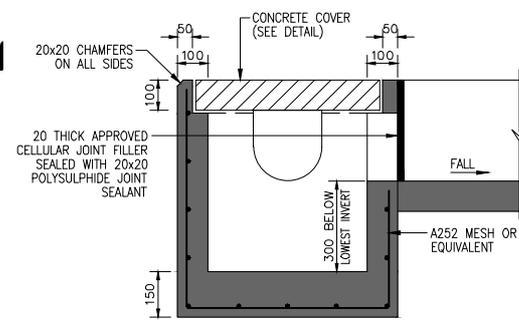
CATCHPIT WITH TRAP N.T.S.



TYPICAL EXPOSED PIPE CONNECTION DETAILS (SCALE N.T.S.)



SECTION E-E (WITHOUT TRAP)



SECTION E-E

NOTES FOR CATCHPIT

- ALL CONCRETE SHALL BE GRADE C35 AND COMPLY WITH CS1:2010.
- MINIMUM CONCRETE COVER SHALL BE 40mm.
- ALL REINFORCEMENT (GRADE 500B) TO BE HIGH TENSILE DEFORMED BAR. ALL REINFORCEMENT SHALL COMPLY WITH CS2:2012. ALL WIRE MESH SHALL BE GRADE 500B STEEL COMPLY WITH CS2:2012.
- RUN OFF FROM THIS SITE SHALL BE PROPERLY TREATED AND CONVEYED TO THE PUBLIC DRAIN VIA CATCHPIT DURING THE SITE FORMATION WORKS.

NOTES FOR U-CHANNEL

- ALL DIMENSIONS ARE IN MILLIMETRES.
- FOR DIMENSIONS OF CHANNEL SEE TABLE.

NOMINAL SIZE	T	B	REINFORCEMENT
225-300	80	100	A252 MESH PLACED CENTRALLY
- CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
- EXPANSION JOINTS SHALL BE PROVIDED AT A MAXIMUM SPACING OF 10 METRES.
- X=20 UNLESS OTHERWISE SPECIFIED.
- ALL CONCRETE SHALL BE GRADE C35.

2023-08-08 15:46 JdJam

Project :
Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) for a Period of 3 Years at Lot Nos. 146 S.B ss.1, 149, 150, 151, 152&153 in D.D.128, Ha Tsuen, Yuen Long, N.T.

Drawing Title :
Typical Details

Drawing No. :
Figure 3

Consultant :
MC Man Chi
Consultants And Construction Limited

Date :
Aug. 2023

Scale :
N.T.S.

Appendix B

Initial 啟 聲 渠 務 有 限 公 司
Initial Drainage Company Limited

**CCTV Inspection of
Existing Drainage
At**

Fung Kong Tsuen

Storm Water Pipe

CCTV Report

*Inspection Undertaken by
Initial Drainage Co., Ltd.
Address: P.O.Box 357
Yuen Long Delivery Office*

Tel No. : 2219 0119

Fax No. : 2219 0669

Email: initialdrainage@yahoo.com.hk

CCTV Survey Report

W.O. :
Location : Fung Kong Tsuen
Date of Survey : 13-Jan-23
Duty : Storm Water Pipe
Page : 1 to 4

W.O. :
Location : Fung Kong Tsuen
Date of Survey : January 13, 2023

Statement of Conformity

This is to certify that qualified personnel have under taken the coding for this Variation Order and reports are compiled in accordance with the contract specification, MSCC (**Manual of Sewer Condition Classification**) (Fourth Edition), SPM (**Standard Practice Manual**) and certified by the undersigned.

For and on behalf of



Mr. Cheung Chi Hung

Brisbane Water Training Centre Certificate No.SA NO. 22

Appendix A

CCTV Survey Results

啟聲渠務有限公司
Initial Drainage Company Limited
 Fung Kong Tsuen

Recommended Remedial Action Sheet

Date of Survey: 13-Jan-2023

Serial No.	Sheet No.	Manhole No.		Faults				SRM Grade		Remedial Action Proposal
		From	To	Code	Description	%	Chainage	Struct	Serv	
1	1	CP1	CP2	B	Broken Pipe	at	16.65	m	4	Install Patch Lining
2	2	CP3	CP2	B	Broken Pipe	at	7.69	m	4	Install Patch Lining

W.O.					Survey Date:			13-Jan-23	
Sheet No. : 1					DRAINAGE SCHEDULE				
Location : Fung Kong Tsuen									
Survey ID	MANHOLE NO:		PIPE		MANHOLE (FROM)				COMMENT
	FROM	TO	LENGTH (m)	SIZE (mm)	MATERIAL	Stream	C.L	DEPTH (mm)	
1	CP1	CP2	18.14	200	PVC	DS			
2	CP3	CP2	8.79	200	PVC	US			
3	CP3	CP4	9.01	200	PVC	DS			
4	CP4	Outlet	6.15	100	PVC	DS			

Total: 42.09

W.O.																							
Sheet No. : 1		COLOUR CCTV DRAINAGE SURVEY																					
Location : Fung Kong Tsuen																							
LOCATION					PIPE							SERVICE CONDITION						MISC					
Survey ID.	VIDEO URGENT	MANHOLE		Length	HOLE	CRACKED	FRACTURED	BROKEN	DEFORMED	COLLAPSED	JOINT DISPLACED	OPEN JOINT	ROOTS	INFILTRATION	ENCRUSTATION / SCALE	SILT	GREASE	OBSTRUCTION	DEBRIS	LINE	SURVEY ABANDONED	CAMERA UNDERWATER	
		FROM	TO																				
1		CP1	CP2	18.14				1															
2		CP3	CP2	8.79				1															
3		CP3	CP4	9.01																			
4		CP4	Outlet	6.15																			
TOTAL =					0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

GRADE 1	GRADE 2	GRADE 3	GRADE 4	GRADE 5
			1	
			1	
0	0	0	2	0

Initial

CCTV SURVEY-PHOTOGRAPHIC SHEET

W.O.

Location : Fung Kong Tsuen

Sheet no.

01

Date :

13-Jan-23

CCTV Survey Photographs



PHOTO NO.: 001
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 0.1 m
DESCRIPTION:

General Photograph

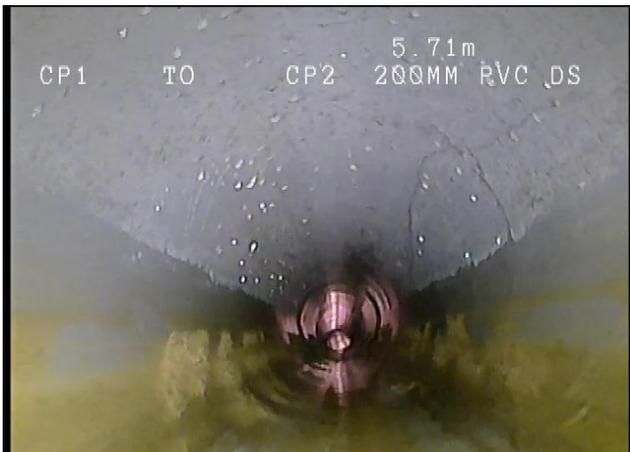


PHOTO NO.: 002
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 5.71 m
DESCRIPTION:

General Photograph



PHOTO NO.: 003
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 10.65 m
DESCRIPTION:

General Photograph

Initial

CCTV SURVEY-PHOTOGRAPHIC SHEET

W.O.
Location : Fung Kong Tsuen

Sheet no. 01
Date : 13-Jan-23

CCTV Survey Photographs

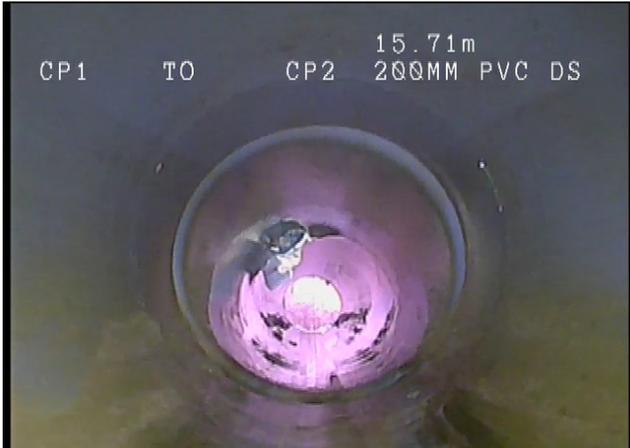


PHOTO NO.: 004
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 15.71 m
DESCRIPTION:

General Photograph

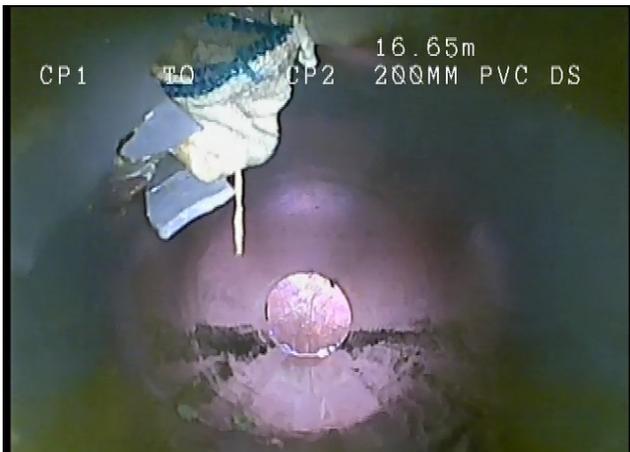


PHOTO NO.: 005
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 16.65 m
DESCRIPTION:

Pipe broken from 10 o'clock to 12 o'clock.



PHOTO NO.: 006
MANHOLE NO.: CP1 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 18.14 m
DESCRIPTION:

Finish of Survey

CP2

Initial

CCTV SURVEY-PHOTOGRAPHIC SHEET

W.O.
Location : Fung Kong Tsuen

Sheet no. 02
Date : 13-Jan-23

CCTV Survey Photographs



PHOTO NO.: 007
MANHOLE NO.: CP3 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 0 m
DESCRIPTION:

General Photograph



PHOTO NO.: 008
MANHOLE NO.: CP3 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 5.27 m
DESCRIPTION:

General Photograph

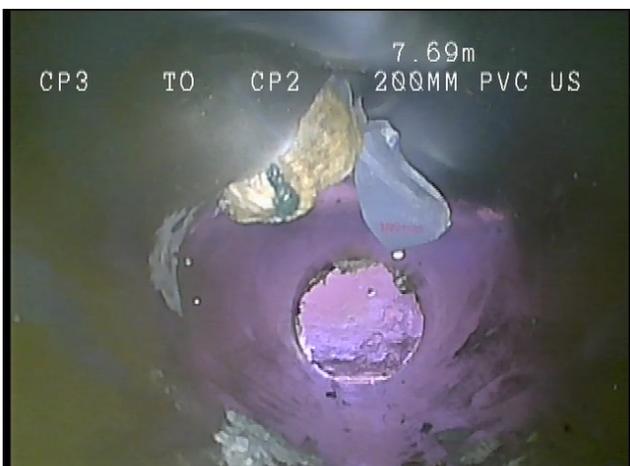


PHOTO NO.: 009
MANHOLE NO.: CP3 to CP2
DIA/SIZE: 200 mm
CHAINAGE: 7.69 m
DESCRIPTION:

Pipe broken from 10 o'clock to 12 o'clock.

Initial

CCTV SURVEY-PHOTOGRAPHIC SHEET

W.O.
Location : Fung Kong Tsuen

Sheet no. 03
Date : 13-Jan-23

CCTV Survey Photographs



PHOTO NO.: 010
MANHOLE NO.: CP3 to CP4
DIA/SIZE: 200 mm
CHAINAGE: 0 m
DESCRIPTION:

General Photograph

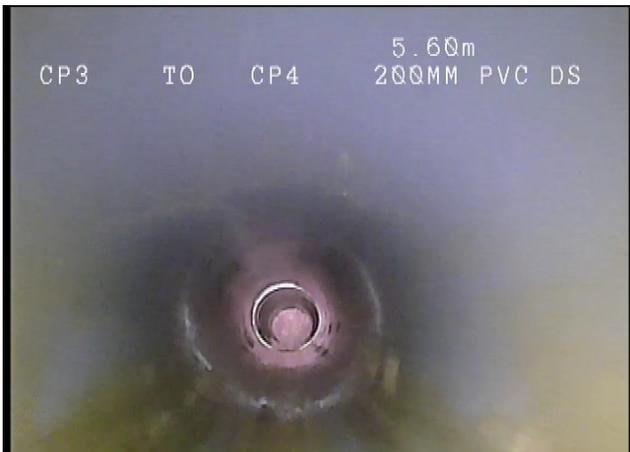


PHOTO NO.: 011
MANHOLE NO.: CP3 to CP4
DIA/SIZE: 200 mm
CHAINAGE: 5.6 m
DESCRIPTION:

General Photograph



PHOTO NO.: 012
MANHOLE NO.: CP3 to CP4
DIA/SIZE: 200 mm
CHAINAGE: 8.68 m
DESCRIPTION:

General Photograph

Initial

CCTV SURVEY-PHOTOGRAPHIC SHEET

W.O.
Location : Fung Kong Tsuen

Sheet no. 04
Date : 13-Jan-23

CCTV Survey Photographs



PHOTO NO.: 013
MANHOLE NO.: CP4 to Outlet
DIA/SIZE: 100 mm
CHAINAGE: 0.43 m
DESCRIPTION:

General Photograph



PHOTO NO.: 014
MANHOLE NO.: CP4 to Outlet
DIA/SIZE: 100 mm
CHAINAGE: 3.95 m
DESCRIPTION:

General Photograph

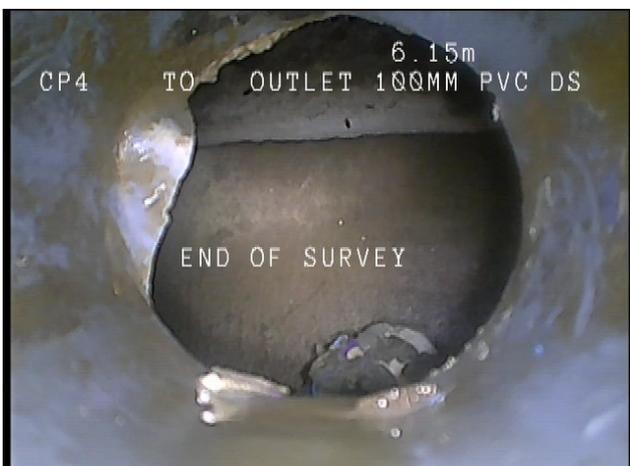


PHOTO NO.: 015
MANHOLE NO.: CP4 to Outlet
DIA/SIZE: 100 mm
CHAINAGE: 6.15 m
DESCRIPTION:

Finish of Survey

Outlet

Appendix B

Progress Photographs

Progress Photographs

Location: Fung Kong Tsuen

Date: 13-Jan-23



PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

Appendix C

Sewer Condition Codes

STRUCTURAL DEFECTS - PIPE SEWERS (渠道結構的缺點)

Code	Description (說明)	Grade (分級)
B	Broken Pipe	4
BJ	Broken Pipe at Joint	4
BR	Branch (Major)	0
CC	Crack Circumferential	2
CCJ	Crack Circumferential at Joint	2
CL	Crack Longitudinal	2
CLJ	Crack Longitudinal at Joint	2
CM	Cracks Multiple	3
CMJ	Cracks Multiple at Joint	3
CN	Connection	0
CNI	Connection Intruding	4
CX	Connection Defective	4
CXI	Connection Defective Intruding	4
D	Deformation 5%	3
D	Deformation 10%	3
D	Deformation 15%	4
D	Deformation 20%	4
D	Deformation 25%	5
D	Deformation 30% or more	5
DC	Diameter Change	0
FC	Fracture Circumferential	3
FCJ	Fracture Circumferential at Joint	3
FL	Fracture Longitudinal	3
FLJ	Fracture Longitudinal at Joint	3
FM	Fractures Multiple	4
FMJ	Fractures Multiple at Joint	4
H	Hole	4
HSH	Hydrogen Sulphide Heavy	4
HSL	Hydrogen Sulphide Light	2
HSM	Hydrogen Sulphide Medium	3
JDL	Joint Displaced Large	3
JDM	Joint Displaced Medium	2

STRUCTURAL DEFECTS - PIPE SEWERS (渠道結構的缺點)

Code	Description (說明)	Grade (分級)
JN	Junction	0
JX	Junction Defective	4
LC	Lining Change	0
LD	Lining Deviates Down	0
LL	Lining Deviates Left	0
LR	Lining Deviates Right	0
LU	Lining Deviates Up	0
MC	Material Change	0
MH	Manhole/ node	0
OJL	Open Joint Large	3
OJM	Open Joint Medium	2
PC	Pipe Length Change	0
SC	Shape Change	0
SSS	Surface Damage Spalling Slight	2
SSM	Surface Damage Spalling Medium	3
SSL	Surface Damage Spalling Large	4
SWS	Surface Damage Wear Slight	2
SWM	Surface Damage Wear Medium	3
SWL	Surface Damage Wear Large	4
X	Collapse	5
FH	Finish of Survey	0
G	Gully	0

SERVICE DEFECTS - PIPE SEWERS (渠道服務的缺點)

Code	Description (說明)	Grade (分級)
CU	Camera Underwater	鏡頭潛水
DE	Debris (non-silt/grease)	垃圾碎 (非淤泥/油脂)
DEJ	Debris at Joint (non-silt/grease)	垃圾碎在接口位 (非淤泥/油脂)
DEG	Debris Grease 5%	垃圾碎, 油脂 5%
DEG	Debris Grease 5%-20%	垃圾碎, 油脂 5%-20%
DEG	Debris Grease 20%+	垃圾碎, 油脂 20%+
DEGJ	Debris Grease at Joint 5%	垃圾碎, 油脂在接口位 5%
DEGJ	Debris Grease at Joint 5%-20%	垃圾碎, 油脂在接口位 5%-20%
DEGJ	Debris Grease at Joint 20%+	垃圾碎, 油脂在接口位 20%+
DES	Debris Silt 5%	沙石, 淤泥 5%
DES	Debris Silt 5%-20%	沙石, 淤泥 5%-20%
DES	Debris Silt 20%+	沙石, 淤泥 20%+
DESJ	Debris Silt at Joint 5%	沙石, 淤泥在接口位 5%
DESJ	Debris Silt at Joint 5%-20%	沙石, 淤泥在接口位 5%-20%
DESJ	Debris Silt at Joint 20%+	沙石, 淤泥在接口位 20%+
EH	Encrustation Heavy	嚴重凝結物
EHJ	Encrustation Heavy at Joint	嚴重凝結物在接口位
EL	Encrustation Light	輕微凝結物
ELJ	Encrustation Light at Joint	輕微凝結物在接口位
EM	Encrustation Medium	中度凝結物
EMJ	Encrustation Medium at Joint	中度凝結物在接口位
ESH	Encrustation Scale Heavy	嚴重鐵銹
ESL	Encrustation Scale Light	輕微鐵銹
ESM	Encrustation Scale Medium	中度鐵銹
FH	Finish Survey	探測完成
GO	General Observation	一般觀察點
GP	General Photograph	一般相片點
ID	Infiltration Dripper	渠筒內發現有滴水
IDJ	Infiltration Dripper at Joint	在接口位有滴水
IG	Infiltration Gusher	渠筒內發現有水湧出
IGJ	Infiltration Gusher at Joint	在接口位有水湧出
IR	Infiltration Runner at Joint	渠筒內發現有水流
IRJ	Infiltration Runner at Joint	在接口位有水流

SERVICE DEFECTS - PIPE SEWERS (渠道服務的缺點)

Code	Description (說明)	Grade (分級)
IS	Infiltration Seeper	渠筒內發現有水滲出
ISJ	Infiltration Seeper at Joint	滲漏在接口位
OB	Obstruction 100%	阻塞物
OBJ	Obstruction at Joint	阻塞物在接口位
R	Remarks	註解
RF	Roots Fine	樹根鬚
RFJ	Roots Fine at Joint	樹根鬚在接口位
RM	Roots Mass 5%	樹根堆 5%
RM	Roots Mass 5%-20%	樹根堆 5%-20%
RM	Roots Mass 20%+	樹根堆 20%+
RMJ	Roots Mass at Joint 5%	樹根堆在接口位 5%
RMJ	Roots Mass at Joint 5%-20%	樹根堆在接口位 5%-20%
RMJ	Roots Mass at Joint 20%+	樹根堆在接口位 20%+
RT	Roots Tap	樹根束
RTJ	Roots Tap at Joint	樹根束在接口位
RS	Repaired Section	補渠位置
SA	Survey Abandoned	探測終止
ST	Start of Survey	開始進行探測
V	Vermin	渠道內發現有老鼠
WL	Water Level	水位

REMARK COMMENT (建議方法)

Code	Description (說明)
HJ	HIGH PRESSURE JETTING(10000 PSI)
RL	RELINING
RP	REPLACEMENT
UTO	Unable to open
UTS	Unable to Survey
S	Start
C	Continue
F	Finish

高壓通渠(10000 磅)
 加裝纖維渠筒
 更換渠筒
 井蓋未能開啟
 未能檢測
 開始
 繼續
 完

Notes on CCTV Sewer Survey

GRADING SYSTEM

Each pipeline has a sewer grade after CCTV survey

The highest grade of each pipeline in the survey would be the action level of it.

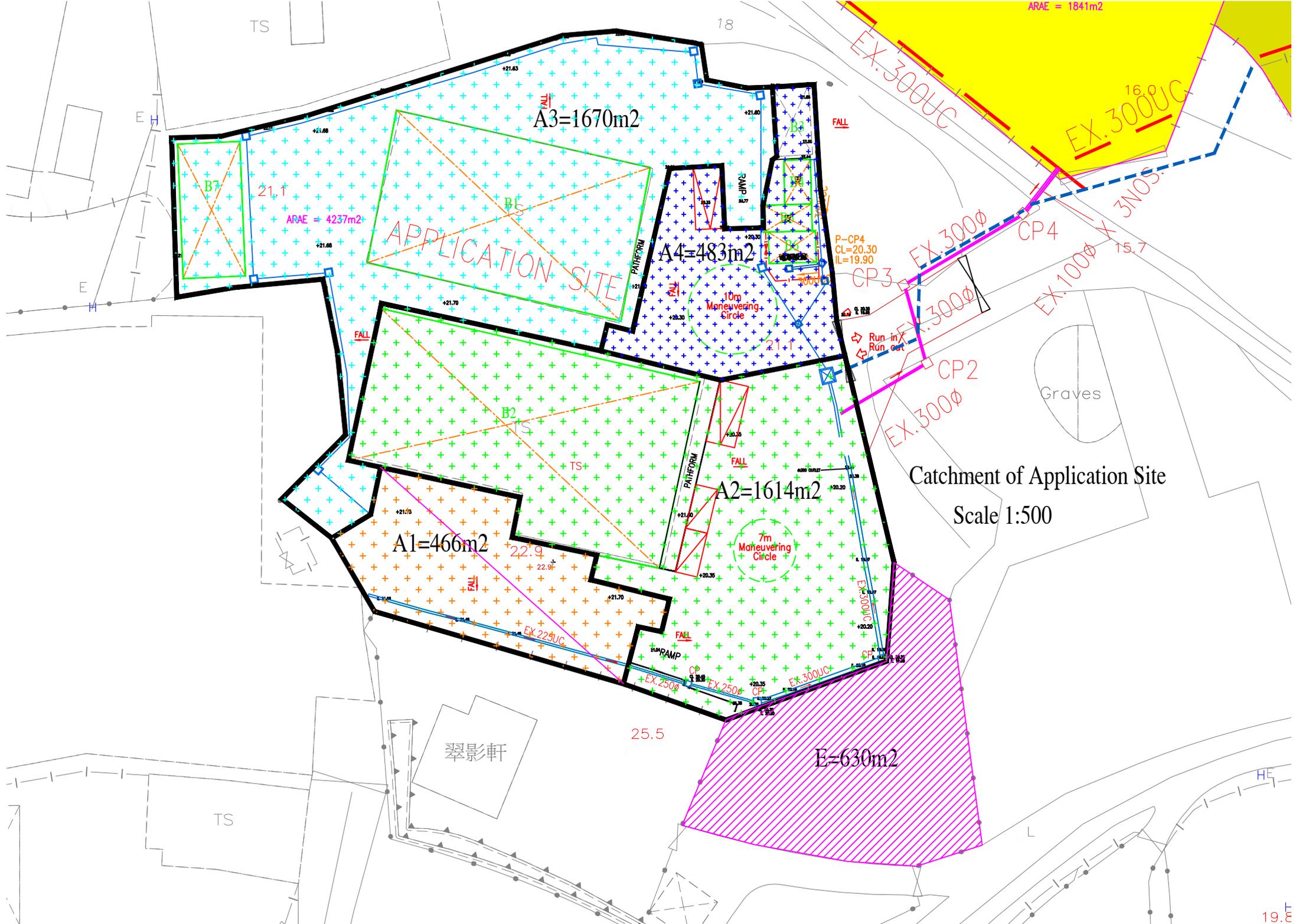
Grade 0	No defect was found
Grade 1	Normal Condition
Grade 2	Acceptable condition
Grade 3	Need to consider the area surrounding the sewer and the probability of environmental impact if no action taken
Grade 4	Fairly urgent, look at the sewer briefly, engineering and environmental improvement are needed
Grade 5	Urgent, look at the sewer, and add engineering and environmental improvements immediately

Appendix D

Site Layout Plan



Appendix C



Catchment of Application Site
Scale 1:500

Calculation of U-channel capacity within Application Site

Catchment ID	Area (m ²)	Run-off Coefficient	Longest Flow Path L (m)	Highest Catchment Level (mPD)	Outlet Level (mPD)	δh (m)	Drop in 100m H (m per 100m)	Time of Entry t_e (min)	U-channel Length w (m)	Assumed Velocity v (m/sec)	Time of Flow t_f (min)	Time of Concentration T_c (min)	Rainfall Intensity (TGN 30) (mm/hr)	Peak Runoff Q (litre/min)	Highest U-channel End (mPD)	Gradient (1 in)
A1	466	0.9	36	21.75	21.7	0.05	0.14	4.181	30	2	0.250	4.431	372	2600	-	-
A2	1614	0.9	61.5	21.75	19.97	1.78	2.89	3.436	90	2	0.750	4.186	377	9127	-	-
A3	1670	0.9	68	21.75	20.77	0.98	1.44	4.353	83	2	0.692	5.045	362	9068	-	-
A4	483	0.9	29	21.65	21.1	0.55	1.90	1.989	82	2	0.683	3.000	402	2912	-	-
E	630	0.9	66	25.5	20.2	5.3	8.03	3.304	86	2	0.717	4.020	380	3591	-	-
Total	4863															

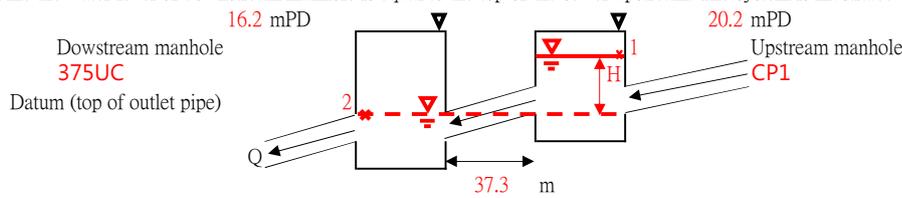
Collect Area	Total Peak Run-off (litre/min)	Required Pipe/Channel	Channel Capacity (litre/min)	Velocity in Chart	
Catchment A1	2600	225UC 1 in 100	3800	1.35m/sec	OK
Catchment A1+A2+E	15318	375UC 1 in 50	20000	2.75m/sec	OK
Catchment A3+A4	11981	300UC 1 in 50	12000	2.4m/sec	OK
Catchment A1+A2+A3+A4 +E	27299	375UC 1 in 25	30000	4m/sec	OK
		600 Dia. Pipe		5.6m/sec <6m/sec	OK

Fall from +11.9 to +9.3 within 50m (Fall 1 in 20)

Refer separate page

Checking 300 mm Pipe Capacity from site

Assume the water level of downstream manhole is equal to the top of the sewer upstream. The system is illustrated as below:-



Ground level (upstream):	21.1 mPD	Downstream invert lev:	15 mPD
Pipe Dia.:	300 mm	Datum lev.:	15.3 mPD
Cross-section area:	0.0706858 m ²	Design flow rate:	0.455 m ³ /s
Length of pipe:	37.3 m	FOS against overflow:	1
		Factored flow rate:	0.455 m ³ /s
		Mean velocity of flow:	6.437 m/s

Water Level in Downstream Manhole = 11.90 mPD

Head loss Calculation

Hydraulic dia of pipe (Dh):	0.3 m	Reynold's Number, Re: VD/v:	1931100
Kinematic viscosity of sewage(v):	1.00E-06 m ² /s	Roughness (ε):	0.00015 m
Mean velocity of flow(V):	6.437 m/s		

By Colebrook White Equation

$$\frac{1}{\sqrt{f}} = -2 \log \left(\frac{\epsilon}{3.7D_h} + \frac{2.51}{Re\sqrt{f}} \right)$$

by try and error method:

Let							
$\frac{1}{\sqrt{f}}$	=	1	7.730149	7.676171	7.67659	7.676587	7.676587
$-2 \log \left(\frac{\epsilon}{3.7D_h} + \frac{2.51}{Re\sqrt{f}} \right)$	=	7.730149	7.676171	7.676591	7.676587	7.676587	7.676587
Therefore:	$\frac{1}{\sqrt{f}}$	=	7.676587				
and	Darcy friction coefficient, f=		0.016969				

Assume entrance loss coefficient

Entrance loss (kent):	0.42237	m	
Exist Loss (kexit):	0.84474	m	
By Darcy-werebach equation, total head loss (hfo)=	(fxL/Dh)*v ² /2g++kent+kexit	=	
			5.723

Total head at each point:

Pressure head at point 1 (P1):	0	m	Pressure head at point 1 (P2):	0	m
Velocity head at point 1 (V1):	0	m	Velocity head at point 1 (V2):	0	m
Elevation head at point 1 (Z1):	H	m	Elevation head at point 1 (Z2):	-3.40	m

By Bernoulli equation includes head loss:

$$(P_1/\rho g + V_1/2g + Z_1) - (P_2/\rho g + V_2/2g + Z_2) = h_{fo}$$

$$(0+0+H)-(0+0+3.4) = 5.723 \text{ m}$$

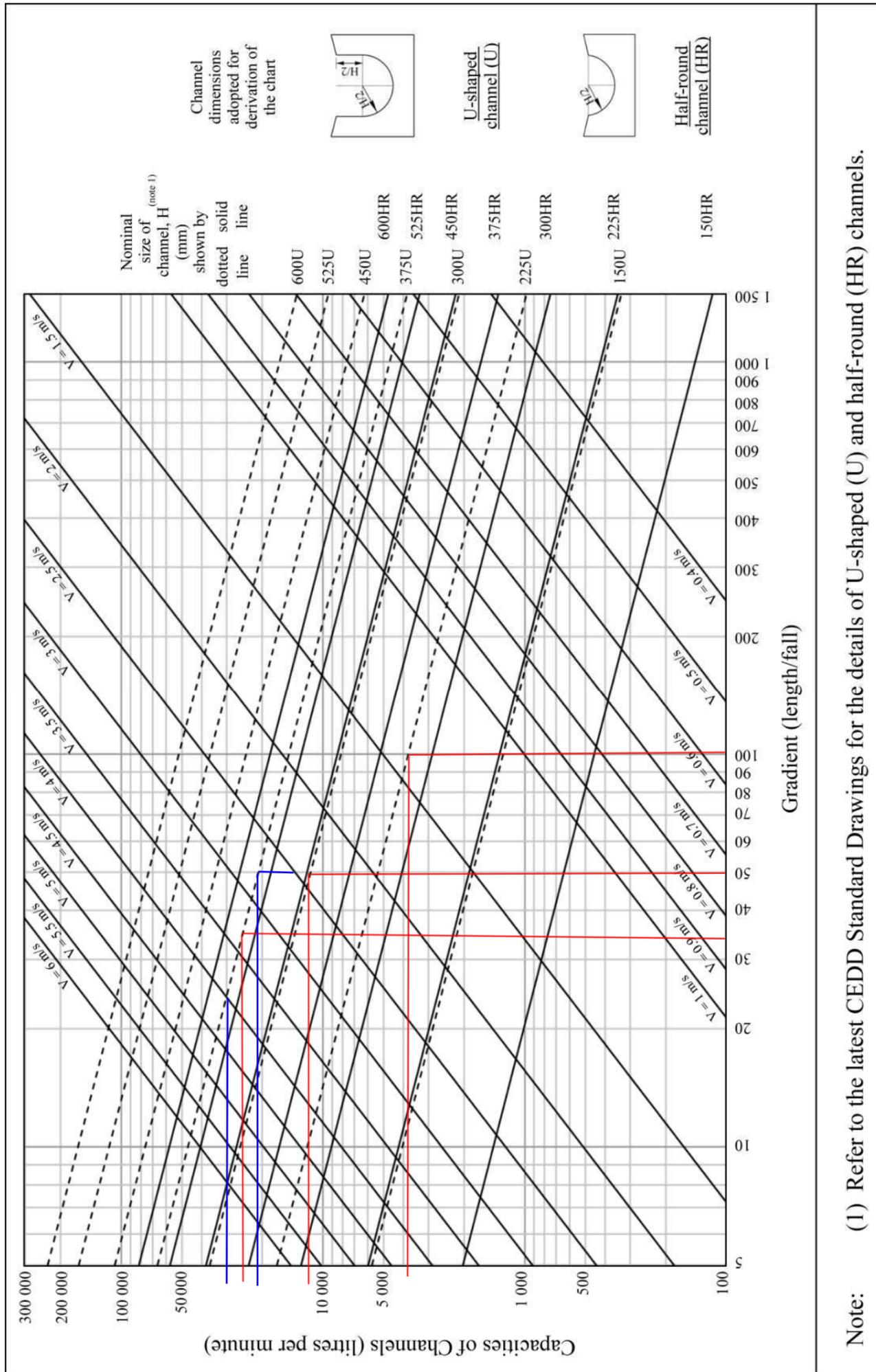
$$H = 2.323 \text{ m} \quad (17.623) \text{ mPD}$$

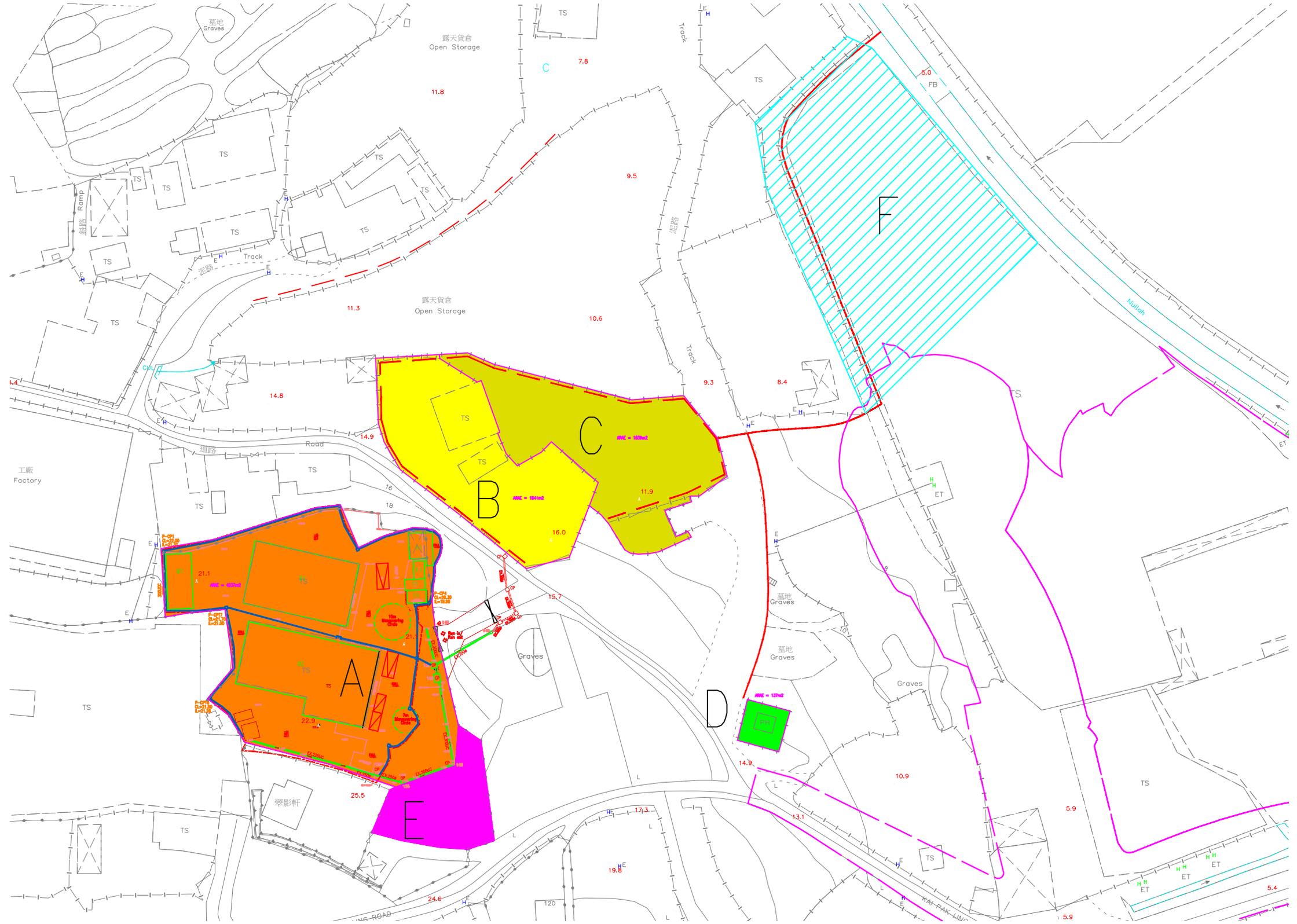
Water Top Level at Upstream Manhole = 17.623 mPD lower than than 18.8 mPD OK
Freeboard = 2.577 m

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Guidelines on Hydraulic Design of U-shaped and Half-round Channels on Slopes

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Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm





Calculation of U-channel capacity with Catchment Areas

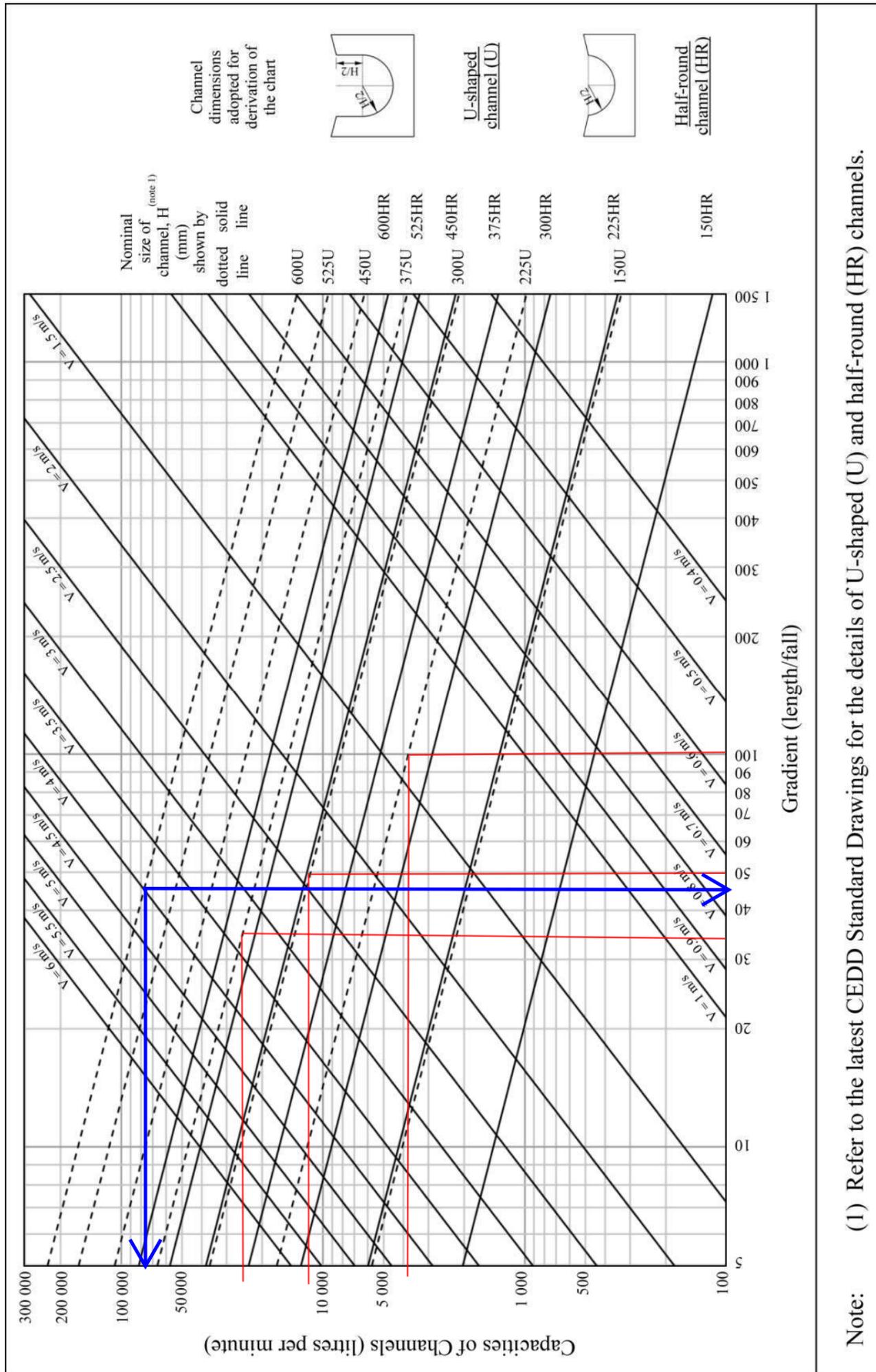
Catchment ID	Area (m ²)	Run-off Coefficient	Longest Flow Path L (m)	Highest Catchment Level (mPD)	Outlet Level (mPD)	δh (m)	Drop in 100m H (m per 100m)	Time of Entry t_e (min)	U-channel Length w (m)	Assumed Velocity v (m/sec)	Time of Flow t_f (min)	Time of Concentration Tc (min)	Rainfall Intensity (TGN 30) (mm/hr)	Peak Runoff Q (litre/min)	Highest U-channel End (mPD)	Gradient (1 in)
A	4233	0.9	140	22.9	18.8	4.1	2.93	7.087	240	2	2.000	9.087	311	19747	-	-
B	1841	0.9	65	16	14.8	1.2	1.85	3.922	90	2	0.750	4.672	368	10162	-	-
C	1839	0.9	36	14.8	9.3	5.5	15.28	1.423	83	2	0.692	2.115	402	11089	-	-
D	137	0.9	15	14.9	14.8	0.1	0.67	1.439	82	2	0.683	2.122	402	826	-	-
E	630	0.9	66	25.5	20.2	5.3	8.03	3.304	86	2	0.717	4.020	380	3591	-	-
F	4165	0.9	110	8.4	5	3.4	3.09	5.517	120	2	1.000	6.517	340	21242	-	-

Collect Area	Total Peak Run-off (litre/min)	Provided Pipe/Channel	Channel Capacity (litre/min)	Velocity in Chart	
A+B+C+D +E+F	66657	600UC 1 in 45	75000	4m/sec	OK

GEO Technical Guidance Note No. 43 (TGN 43)
Guidelines on Hydraulic Design of U-shaped and Half-round Channels on Slopes

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Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm



Appendix D

Responses to DSD's Comments Dated 4.10.2023

DSD Comment	Our response to DSD's Comments
<p>(i) We note that the applicant will coordinate with the Civil Engineering and Development Department (CEDD)'s contractor to verify the location of existing drainage facility, which may be located in CEDD's site and is part of the proposed discharge path from the application site. Please note that the existing drainage facility should be identified to demonstrate its presence.</p>	<p>The existing 600mm pipe is terminated at the CEDD site, and discharged to the existing 600UC as shown in the drainage proposal plan (Figure 1 of Appendix A).</p> <p>The record photos are presented with Plates 4a, 4b, and Plates 5a, 5b, 5c, 5d in the report text.</p>
<p>(ii) Based on the site photos submitted, it is noted that some surface channels, such as those indicated in record plate items 7 to 9 of Section 2.1, are covered with debris. Please carry out necessary maintenance works and provide updated site photos to demonstrate the existing condition of channels. The applicant is reminded to identify the owner of the existing facilities and obtain consent from the owner prior to commencement of the proposed works.</p>	<p>The debris was cleaned are presented in the new photo. The owner of the existing facilities has been identified and maintenance work has been carried out. The works in the private lots was also found existing (375 UC and 400 pipes above ground). Full consents has been obtained from the owner for the use of the facilities.</p> <p>The record photos are presented with Plates 4a, 4b, and Plates 5a, 5b, 5c, 5d in the report text.</p>
<p>(iii) Appendix A: As stipulated in Section 11.10 of the Stormwater Drainage Manual published by the Drainage Services Department, backdrop manholes should be used at catchpit P-CPT16 where the level difference between the proposed connection invert level and outlet invert level is greater than 600mm.</p>	<p>Noted. The invert level difference is reduced to less than 600mm.</p>

<p>(iv) Appendix D: According to item (i) of the R-to-C, please clarify whether the rigid fence wall are within the boundary of application site. Please note that items (x) to (xii) of our previous comments dated 2.12.2022(and stated in letter to you dated 5.12.2022) are still valid. Adequate opening should be provided at the existing fence wall within the application site to intercept the existing overland flow passing through the site. As such, external catchment shall be considered in the calculation.</p>	<p>Noted. The addition catchment E (external catchment) from the upper lot is added to the calculation. The proposed surface channel is changed to 375UC from 300UC accordingly.</p>
<p>(v) Appendix D: According to item (iii) of the R-to-C, example provided in our previous comment is only for your reference. It is noted that gradients of several u-channels, including those proposed to be in gradient of min. 1 in 50, are still found too steep. Please review the proposed drainage system and consider using step channel or downpipe for such connections. Please note that the velocity of flow at u-channel should not exceed the maximum permissible velocity of 4m/s as stipulated in Section 5.1 of GEO Technical Guidance Note No. 43 (TGN 43).</p>	<p>Noted. The flow velocity of u-channel is limited to less than 4m/sec.</p>