

## 規 劃 署

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全堅土地行政師行（香港）有限公司  
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東港中心 905 室  
（經辦人：Hermose CHONG）

先生/女士：

履行規劃許可附帶條件（f）項  
提交消防裝置建議

擬在劃為「未決定用途」地帶的  
元朗青山公路 — 元朗段第 115 約地段第 725 號（部分）、  
第 726 號（部分）、第 727 號餘段（部分）、第 729 號、  
第 730 號、第 731 號（部分）、第 758 號（部分）、  
第 759 號（部分）、第 760 號（部分）、  
第 774 號 A 分段（部分）、第 774 號 B 分段及第 775 號（部分）  
經營臨時食肆和商店及服務行業（私家車銷售）（為期三年）  
(規劃申請編號：A/YL-NSW/315)

本處收到你於二零二四年七月二十三日提交的資料以履行上述規劃許可附帶條件。就你提交的資料，本處已諮詢有關部門，有關意見如下：

- 接受。因此，你已經履行上述附帶條件。部門詳細意見請見附件。
- 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。部門詳細意見請見附件。

透過規劃工作，使香港成為一個宜居、具競爭力和可持續發展的亞洲國際都會

We plan to make Hong Kong a Liveable • Competitive • Sustainable ASIA'S WORLD CITY

很抱歉因為人手短缺，我們未能為你提供部門詳細意見的中文譯本。如你對部門意見有疑問，請直接聯絡消防處策劃組張永熹先生(電話: 2733 7737)或袁梓峰先生(電話: 2733 7781)。

規劃署  
粉嶺、上水及元朗東規劃專員

( 盧玉敏女士



)

二零二四年八月十九日

**副本抄送:**

消防處處長

(經辦人: 張永熹先生)

**內部抄送:**

總城市規劃師/城市規劃委員會 3

附件:

消防處處長的意見:

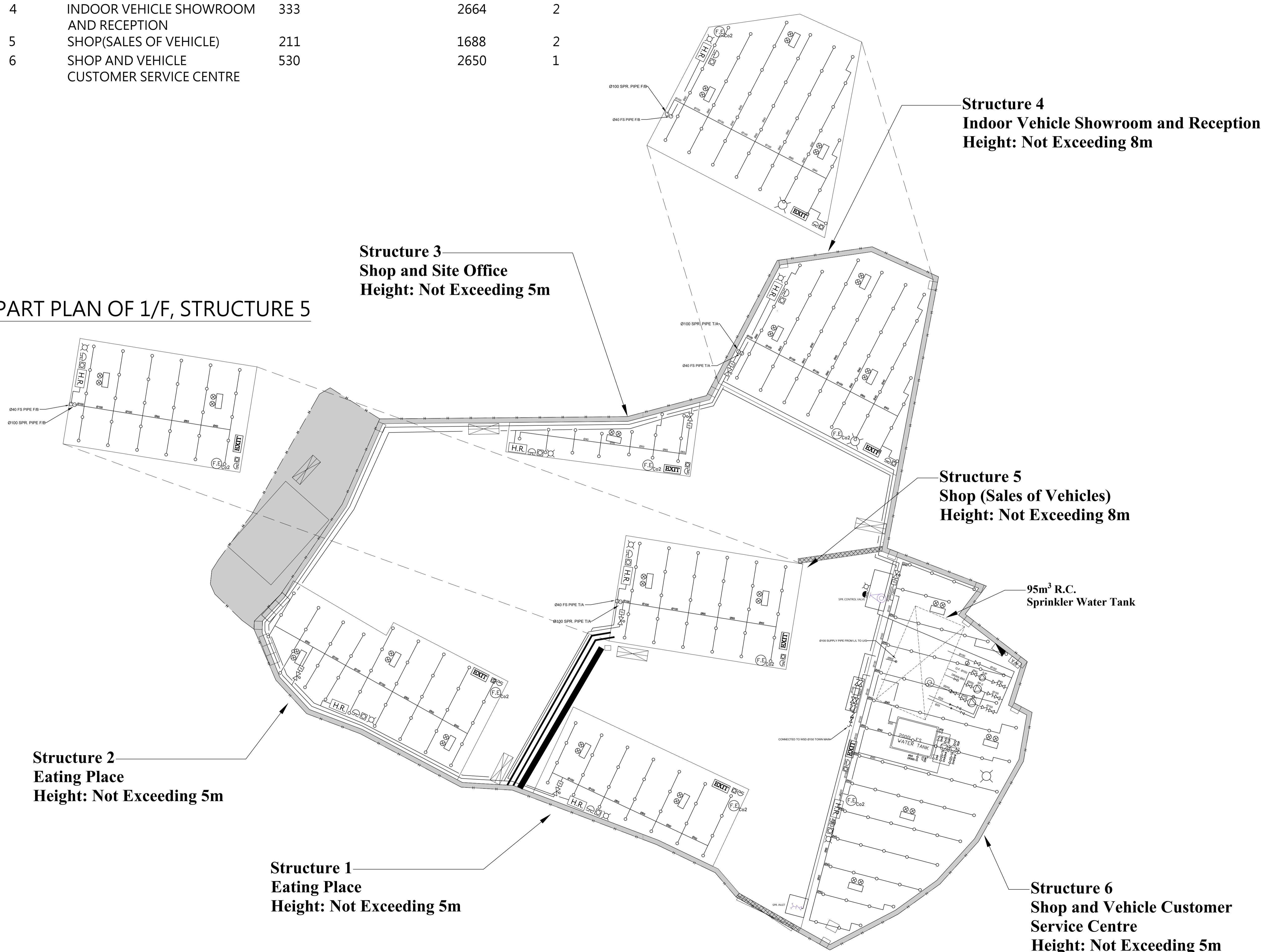
The applicant is advised that the installation/ maintenance/ modification/ repair work of FSIs shall be undertaken by a Registered Fire Service Installation Contractor (RFSIC). The RFSIC shall after completion of the installation/ maintenance/ modification/ repair work issue to the person on whose instruction the work was undertaken a certificate (F.S. 251) and forward a copy of the certificate to the Director of Fire Services.

JL/GL/ym

NO.	STRUCTURE CONTENT	APPROXIMATED AREA (m <sup>2</sup> )	VOLUME (m <sup>3</sup> )	NO. OF STOREY
1	EATING PLACE	188	940	1
2	EATING PLACE	267	1335	1
3	SHOP AND SITE OFFICE	95	475	1
4	INDOOR VEHICLE SHOWROOM AND RECEPTION	333	2664	2
5	SHOP(SALES OF VEHICLE)	211	1688	2
6	SHOP AND VEHICLE CUSTOMER SERVICE CENTRE	530	2650	1

**PART PLAN OF 1/F, STRUCTURE 4**

**PART PLAN OF 1/F, STRUCTURE 5**



**FS LAYOUT PLAN AT G/F**

REV.	DATE	DESCRIPTION	DRAWN
0	04/24	SUBMISSION TO PLAN. DEPT. TONY.L	

PROJECT  
TEMPORARY EATING PLACE, SHOP AND SERVICES(SALES OF PRIVATE CARS) FOR A PERIOD 3 YEARS AT LOTS 725(PART), 726(PART), 727 R.P(PART), 729, 730, 731(PART), 758(PART), 760(PART), 774 S.A(PART), 774 S.B AND 775(PART) IN D.D.115, CASTLE PEAK ROAD-YUEN LONG SECTION, YUEN LONG, N.T.

TITLE  
PROPOSED FSI LAYOUT PLAN

DRAWING NO.  
FS-DD115-FSP-02

SCALE  
1:200 @ A1

DATE  
MAY. 2024

REVISION  
REV. 1

R.F.S.I.C.  
 MAN LICK ENGINEERING AND TRADING CO. LTD.
























FLAT 1, 4/F., KINGLET IND. BLDG., 21-23 SHING WAN RD., SHATIN, N.T.

TEL : 2380 1211  
2380 8139  
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## FIRE SERVICES NOTES:

1. HOSE REEL SYSTEM
  - 1.1 HR SYSTEM TO BE PROVIDED AND INSTALLED FOR THE STRUCTURE (CONTAINER FREIGHT STATION) IN ACCORDANCE WITH THE CODE OF PRACTICE FOR MINIMUM FIRE SERVICE INSTALLATIONS AND EQUIPMENT
  - 1.2 HOSE REELS SHALL BE PROVIDED AT THE POSITIONS INDICATED ON PLAN.
  - 1.3 SUFFICIENT HOSE REELS TO BE PROVIDED TO ENSURE THAT EVERY PART OF THE AREA CAN BE REACHED BY A LENGTH OF NOT MORE THAN 30m OF HOSE REEL TUBING.
  - 1.4 AN MODIFIED HOSE REEL SYSTEM WITH 2000L F.S. WATER TANK TO BE PROVIDED AND TO BE SINGLE END FEED FROM TOWN MAIN. THE LOCATION OF THE FS WATER TANK AND FS PUMP ROOM ARE CLEARLY MARKED ON PLANS.
  - 1.5 TWO FIXED FIRE PUMPS (DUTY & STANDBY) TO BE PROVIDED IN THE PUMP ROOM.
  - 1.6 NO FIRE SERVICES INLET TO BE PROVIDED FOR THE MODIFIED HOSE REEL SYSTEM.
  - 1.7 AN INSTRUCTION PLATE SHALL BE PROVIDED NEXT TO THE BREAK GLASS UNIT FOR OPERATION OF HOSE REEL
2. AUTOMATIC SPRINKLER SYSTEM
  - 2.1 AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED TO THE ENTIRE STRUCTURE IN ACCORDANCE WITH LPC RULES INCORPORATING BS EN12845 : 2015 AND FSD CIRCULAR LETTER 5/2020. THE SPRINKLER TANK, SPRINKLER PUMP ROOM, SPRINKLER INLET AND SPRINKLER CONTROL VALVE GROUP SHALL BE CLEARLY MARKED ON PLANS.
  - 2.2 THE HAZARD GROUP OF THE SPRINKLER SYSTEM IS OH3.
  - 2.3 A 95000L SPRINKLER WATER TANK TO BE PROVIDED AS INDICATED ON THE PLAN. SINGLE-END WATER SUPPLY WILL BE FEED FROM TOWN MAIN
  - 2.4 SPRINKLER CONTROL VALVE SET AND SPRINKLER INLET TO BE PROVIDED AT GROUND FLOOR AND THE LOCATION AS INDICATED ON PLAN
  - 2.5 TWO SPRINKLER PUMPS (DUTY & STANDBY) AND ONE SPRINKLER JOCKEY PUMP TO BE PROVIDED FOR SERVING THE STRUCTURE AND LOCATED IN PUMP ROOM.
  - 2.6 ALL SPRINKLER PIPE SIZE SHOULD BE  $\phi 32\text{mm}$  UNLESS SPECIFY
  - 2.7 ALL INSTALLED SPRINKLER SHOULD BE PENDENT TYPE AND THE TEMPERATURE RATING OF SPRINKLER HEAD SHALL BE  $68^\circ\text{C}$  UNLESS OTHERWISE SPECIFIED.
  - 2.8 ALL SPRINKLER ALARM SIGNALS TO BE TRANSMITTED TO THE AFA PANEL LOCATED AT THE FS PUMP ROOM AS INDICATED ON PLANS. THE SPRINKLER ALARM SIGNAL SHALL BE TRANSMITTED TO THE F.S. COMMUNICATION CENTRE BY DIRECT TELEPHONE LINE.
3. FIRE ALARM SYSTEM
  - 3.1 FIRE ALARM SYSTEM SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS 5839-1 : 2017 AND FSD CIRCULAR LETTER 6/2021. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE SHOULD BE LOCATED AT EACH HOSE REEL POINT. THE ACTUATION POINT SHOULD INCLUDE FACILITIES FOR HOSE REEL PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION.
  - 3.2 AN ADDRESSABLE TYPE FIRE ALARM PANEL TO BE PROVIDED AND LOCATED INSIDE PUMP ROOM
4. EMERGENCY LIGHTING
  - 4.1 SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDINGS/STRUCTURES IN ACCORDANCE WITH BS 5266-1:2016 AND BS EN 1838:2013 AND FSD CIRCULAR LETTER 4/2021.
5. EXIT SIGN
  - 5.1 SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266: PART 1 AND FSD CIRCULAR LETTER 5/2008.
6. MISCELLANEOUS F.S. INSTALLATION
  - 6.1 PORTABLE FIRE EXTINGUISHERS WITH SPECIFIED TYPE AND CAPACITY TO BE PROVIDED AT LOCATION AS INDICATED ON PLANS.
  - 6.2 NO EMERGENCY GENERATOR TO BE PROVIDED FOR SERVING THE EMERGENCY POWER. DUPLICATED POWER SUPPLIES FOR ALL FIRE SERVICES INSTALLATIONS COMPRISING A CABLE CONNECTED FROM ELECTRICITY MAINS DIRECTLY BEFORE THE MAIN SWITCH
  - 6.3 WHEN A VENTILATION / AIR CONDITIONING CONTROL SYSTEM TO A BUILDING IS PROVIDED, IT SHALL STOP MECHANICALLY INDUCED AIR MOVEMENT WITHIN A DESIGNATED FIRE COMPARTMENT
  - 6.4 SMOKE EXTRACTION SYSTEM SHALL NOT BE PROVIDED AS THE FIRE COMPARTMENT DOES NOT EXCEED  $7000\text{m}^3$

## LEGEND (FOR LAYOUT PLAN)

	HOSE REEL W/ LOCKABLE GLASS FRONTED NOZZLE BOX, STRIKER, C/W FIRE ALARM BELL & BREAK GLASS UNIT
	150mm FIRE ALARM BELL
	BREAK GLASS UNIT
	SPRINKLER HEAD
	FLOW SWITCH
	MONITORED GATE VALVE
	SPRINKLER CONTROL VALVE SET
	GATE VALVE
	NON RETURN VALVE
	VORTEX INHIBITOR
	BALL FLOAT VALVE
	PRESSURE SWITCH
	SPRINKLER / HOSE REEL PIPE
	CHECK METER POSITION
	SPRINKLER / F.S. INLET
	5Kg CO2 TYPE FIRE EXTINGUISHER
	PUMP
	150mm WATER ALARM GONG
	ADDRESSABLE TYPE FIRE ALARM PANEL
	PUMP CONTROL PANEL
	EMERGENCY LIGHTING COMPLETE WITH 2 HOURS BATTERY BACK UP
	EXIST SIGN COMPLETE WITH 2 HOURS BATTERY BACK UP
	VISUAL FIRE ALARM

## ABBREVIATION

SPR.	SPRINKLER
H.R.	HOSE REEL
F.E.	FIRE EXTINGUISHER
CO <sub>2</sub>	CARBON DIOXIDE
L.P.C.	LOSS PREVENTION COUNCIL
F.S.I.	FIRE SERVICES INSTALLATION
H/L	HIGH LEVEL
M/L	MID LEVEL
L/L	LOW LEVEL
F/A	FROM ABOVE
F/B	FROM BELOW
T/A	TO ABOVE
T/B	TO BELOW
U/G	UNDERGROUND
F.S.	FIRE SERVICES

## DRAWING LIST

<u>DRAWING NO</u>	<u>DESCRIPTION</u>
FS-DD115-FSP-01	FS NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST
FS-DD115-FSP-02	PROPOSED FSI LAYOUT PLAN

## COLOUR CODE

PIPE SIZES	COLOUR
$\phi 25\text{mm}$	LIGHT GREEN
$\phi 32\text{mm}$	RED
$\phi 40\text{mm}$	PURPLE
$\phi 50\text{mm}$	YELLOW
$\phi 65\text{mm}$	BLUE
$\phi 80\text{mm}$	GREEN
$\phi 100\text{mm}$	LIGHT BROWN
$\phi 150\text{mm}$	DEEP BROWN

REV.	DATE	DESCRIPTION	DRAWN
0	05/03	SUBMISSION TO PLAN. DEPT.	TONY.L


PROJECT  
 TEMPORARY EATING PLACE, SHOP AND SERVICES(SALES OF PRIVATE CARS) FOR A PERIOD 3 YEARS AT LOTS 725(PART), 726(PART), 727 R.P(PART), 729, 730, 731(PART), 758(PART), 760(PART), 774 S.A(PART), 774 S.B AND 775(PART) IN D.D.115, CASTLE PEAK ROAD-YUEN LONG SECTION, YUEN LONG, N.T.

TITLE  
 FS NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST

DRAWING NO.  
 FS-DD115-FSP-01

SCALE  
 N.T.S.

DATE MAY. 2024	REVISION REV. 1
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ISSUE 3

## **TEMPORARY DRAINAGE PROPOSAL (FINAL)**

APPLICATION SITE OF PROPOSED TEMPORARY EATING PLACE AND SHOP AND SERVICES (SALES OF PRIVATE CARS) FOR A PERIOD OF 3 YEARS IN LOTS 725 (PART), 726 (PART), 727 RP (PART), 729, 730, 731 (PART), 758 (PART), 759 (PART), 760 (PART), 774 S.A (PART), 774 S.B AND 775 (PART) IN D.D. 115, CASTLE PEAK ROAD-YUEN LONG SECTION, YUEN LONG

**PROJECT NO. AGLA/TDM/012**



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# 1 Introduction

## 1.1 Background

1.1.1 This report presents the Drainage Proposal for supporting the Proposed Temporary Eating Place and Shop and Services (Sales of Private Cars) for a Period of 3 Years in Lots 725 (Part), 726 (Part), 727 RP (Part), 729, 730, 731 (Part), 758 (Part), 759 (Part), 760 (Part), 774 S.A (Part), 774 S.B and 775 (Part) in D.D. 115, Castle Peak Road-Yuen Long Section, Yuen Long.

## 1.2 Objectives of the Report

1.2.1 This report shall be prepared to include the following:

- Identify the potential drainage impact assessment from the proposed Application Site
- recommend and implement all necessary measures to mitigate adverse drainage impacts arising from the application site

## 1.3 Report Structure

1.3.1 The report contains the following sections:

- Section 1 on Introduction;
- Section 2 on Development Proposal;
- Section 3 on Assessment Criteria;
- Section 4 on Potential Drainage Impact; and
- Section 5 on Conclusion.

# 2 Development Proposal

## 2.1 Location of the Application Site

2.1.1 The application Site is located within the Castle Peak Road-Yuen Long Section, Yuen Long with an area of around 3,526m<sup>2</sup> and ground level varying between + 8.2mPD and + 7.6mPD. The layout plan is provided in **Appendix B**.

2.1.2 This application site is "Undetermined" zoning, the type of application is the Temporary Use/Development in Rural Areas for a Period of 3 Years.

### 3 Assessment Criteria

#### 3.1 Design Return Periods

3.1.1 The drainage system in the Application site is to collect surface flows and convey to downstream village drain. The recommended design return periods based on the flood levels for the various drainage systems depend on the drainage system, land use, hazard to public safety and community expectations. The recommended design return period is reproduced in Table 3-1 below:

**Table 3-1 Recommended Design Return Periods based on Flood Levels**

DESCRIPTION	DESIGN RETURN PERIODS
Intensively Used Agricultural Land	2 – 5 Years
Village Drainage including internal Drainage System under a polder Scheme	10 Years
Main Rural Catchment Drainage Channels	50 Years
Urban Drainage Trunk System	200 Years
Urban Drainage Branch System	50 Years

3.1.2 As per Storm Drainage Manuel (SDM) Section 6.6.2 Urban Drainage Branch and Urban Drainage Trunk Systems “An ‘Urban Drainage Branch System’ is defined as a group or network of connecting drains collecting runoff from the urban area and conveying stormwater to a trunk drain, river or sea. For a simple definition, the largest pipe size or the equivalent diameter in case of a box culvert in a branch system will normally be less than 1.8m.

3.1.3 An ‘Urban Drainage Trunk System’ collects stormwater from branch drains and/or river inlets, and conveys the flow to outfalls in river or sea. Pipes with size or diameter equal to or larger than 1.8m are normally considered as trunk drains.”

3.1.4 As per SDM, since the proposed U-channels are sized smaller than 1.8m, the drainage system would be defined as an urban drainage branch with recommended design return period of 50 years.

3.1.5 The 50 years design return period will be considered to ensure adequacy of the stormwater drainage system.

#### 3.2 Calculation Methodology for Runoff

3.2.1 Peak instantaneous runoff values before and after the development were calculated based on the Rational Method and with recommended physical parameters including runoff coefficient (C) and storm constants for different return periods referred to the SDM, based on the following equation:

$$Q_p = 0.278 C i A$$

- where
- $Q_p$  = Peak Runoff, m<sup>3</sup>/s
  - $C$  = Runoff Coefficient
  - $i$  = Rainfall Intensity, mm/hr
  - $A$  = Catchment Area, km<sup>2</sup>

3.2.2 The paved area of the site will account for 3,526m<sup>2</sup>. For conservative, the runoff coefficient of 1.0 is assumed, such that the all the run-off would be collected from the catchment area without any infiltration as the critical scenario.

3.2.3 Based on the storm constants for 50-year return period recommended in the SDM, the appropriate rainfall intensities (i) are calculated as detailed in **Appendix D**

### **3.3 Calculation Methodology for Pipe Capacity Checking**

3.3.1 Because the catchment areas are less than 1ha, U-channels are recommended to be constructed to collect the stormwater runoff within the site. The collected stormwater should finally be diverted to the downstream via the proposed U-channel system.

3.3.2 For the worst-case scenario, bad condition of concrete pipe is assumed for the Manning's roughness coefficient (coefficient value is 0.016) for calculating capacities of concrete U-channel using Manning's Equation.

3.3.3 Manning's Equation for calculating the channel and pipe capacities is adopted.

## **4 Potential Drainage Impact**

### **4.1 Existing Site Condition**

4.1.1 The application Site is located within the Castle Peak Road-Yuen Long Section, Yuen Long with an area of around 3,526m<sup>2</sup> and ground level varying between + 8.2mPD and + 7.6mPD.

4.1.2 There is no specific drainage provision for the current site, the collected stormwater would be discharged as surface runoff and infiltration leading to the natural stream or river.

4.1.3 Only the application site with a projected area of 3,480m<sup>2</sup> is considered as part of the catchment, no external / additional catchments are required to consider.

### **4.2 Changes in Drainage Characteristics**

4.2.1 The characteristics of the sub-catchment areas are remained unchanged due to the temporary development for the application site, which are paved area.

4.2.2 The application site is fully covered by concrete surface currently. This application does not propose adding any additional concrete area, the difference in surface runoff that can be attributed to this application is negligible. Also, adjacent sites have adequate drainage facilities and no record of flooding for the application site has been found. To manage the stormwater flows after developing the site, this drainage Proposal detailed the proposed drainage system consisting of a set of U-channels and underground pipe for diverting stormwater flows to avoid causing flooding to the site.

4.2.3 Since there are no changes in drainage characteristics, it is considered that the drainage discharge from the application site will not cause adverse impact to the entire downstream drainage system.

### 4.3 Potential Drainage Impact

- 4.3.1 The details of the proposed drainage works are illustrated in **Appendix C**.
- 4.3.2 To effectively convey stormwater away from the application site and minimize the potential impact to the drainage infrastructure of the village area, drainage works consists of U-channels, are proposed to convey the stormwater runoff to the terminate catchpit with sand trap (TCP).
- 4.3.3 The runoff from the Application site is collected by 400mm U-channels along the boundary and convey to the terminate catchpit with sand trap (TCP), before discharge to the existing village drainage system via 400mm pipe at the east-south direction of the application site, and eventually discharge to the further downstream as indicated in the Appendix C.
- 4.3.4 The 400 mm U-channel receives stormwater from the surface. For Conservative, the critical scenario is considered for collecting all the flow leading to the 400mm U-channel. The design calculation of the proposed drainage is provided in **Appendix D**. The design calculation is summarized in Table 4-1.

**Table 4-1 Design calculation of the proposed drainage work**

DRAINAGE SYSTEM	ESTIMATED FLOW (M <sup>3</sup> /S)	CAPACITY (M <sup>3</sup> /S)	RESERVE CAPACITY
400mm UC	0.178	0.239	26%

Note:

- [1] Rainfall increase due to climate change at the end of 21<sup>st</sup> century is considered according to stormwater drainage manual Table 28.
- [2] The reserve capacity is calculated by assuming that the U-channel reach its full capacity.

- 4.3.5 The design runoff arise from the proposed Application Site is to be discharged into the proposed terminate catchpit with the runoff anticipated to be 0.178m<sup>3</sup>/s, which is within the drainage capacity of the proposed 400mm u-channel of 0.239m<sup>3</sup>/s with gradient 1:100, the reserve capacity is 26%.
- 4.3.6 It is considered that the drainage discharge from the Application Site will not cause adverse impact to the entire downstream drainage system.
- 4.3.7 All u-channels & catch pits will be constructed according to the CEDD’s standard drawings, please refer to the **Appendix E**.

## 5 Construction Stage

### 5.1 Temporary Drainage Arrangements

- 5.1.1 Proper measures shall be taken to maintain the existing drainage characteristics of the catchment areas and to minimize drainage impacts associated with the construction works. The principal drainage impacts which are associated with construction of the works have been identified as follows:
  - (a) Erosion of ground materials;
  - (b) Sediment transportation to existing downstream drainage system; and
  - (c) Obstruction to drainage systems.
- 5.1.2 Regular inspections shall be carried out to ensure integrity of the works. These inspections shall cover works under construction as well as recently completed areas.

- 5.1.3 To ensure proper operation of the site drainage channels and desilting facilities, inspection of the perimeter drains shall be carried out on a weekly basis and the desilting facilities shall be cleaned on a daily basis.
- 5.1.4 If excavated materials are not possible to transport away the excavated material within the same day, the material should be covered by tarpaulin/impervious sheets. Stockpiles of construction materials (for examples aggregate, fill materials) of more than 50 m<sup>3</sup> in an open area shall also be covered with tarpaulin or similar fabric during rainstorms.
- 5.1.5 All runoff discharged into the existing drainage system will be settled in a silt trap to ensure no sediment will be discharged into the channel. Silt traps will normally be provided along the site drainage immediately upstream of the proposed discharge point to the existing Site. The silt traps will be inspected daily and immediately after each rainstorm.
- 5.1.6 Liaison will be carried out with relevant parties regarding temporary drainage arrangements to ensure that the drainage system is functioning adequately.

## **6 Conclusions**

### **6.1 Conclusion**

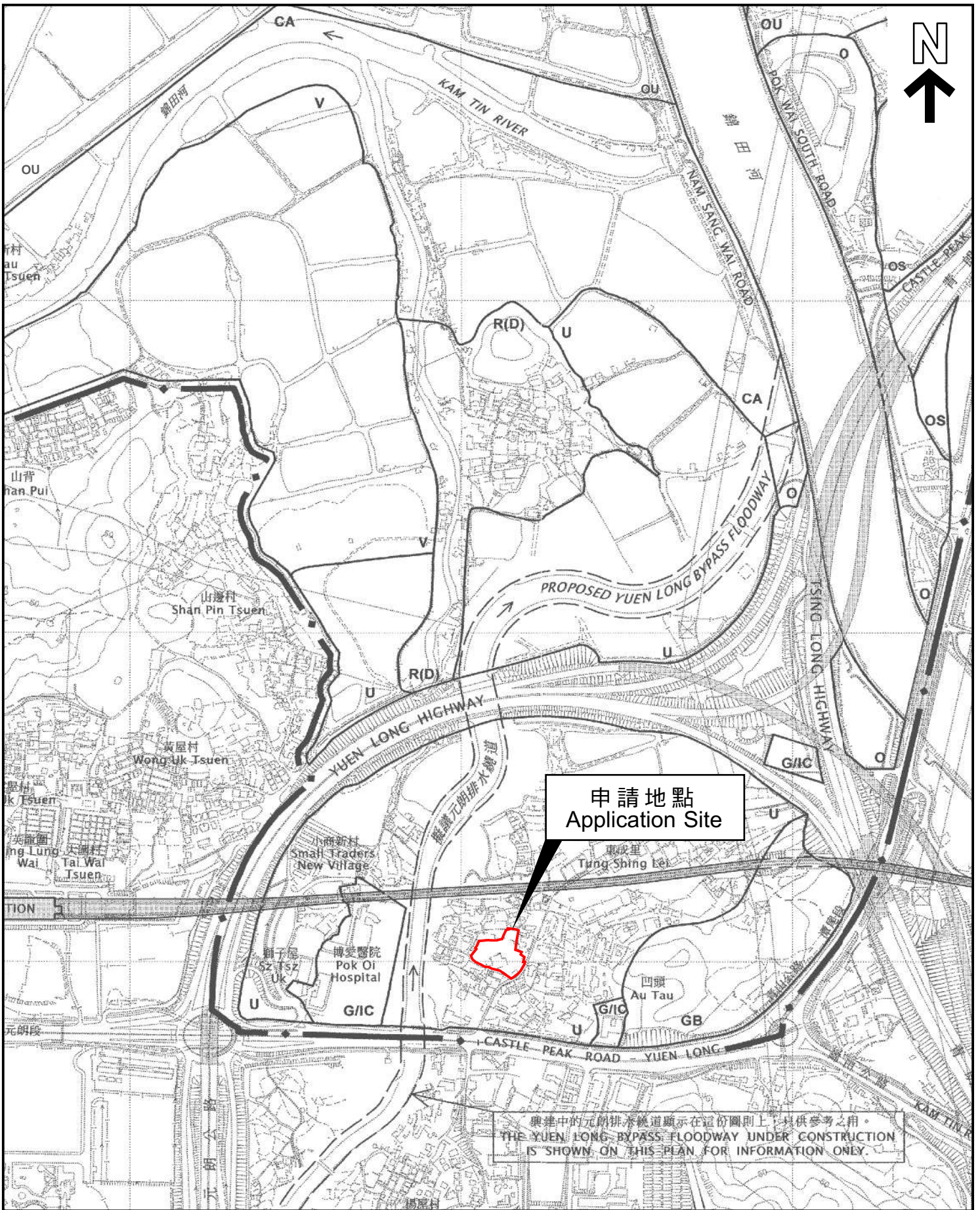
- 6.1.1 The analysed catchment area of 3526m<sup>2</sup> consists of the site area of the proposed Application Site only, no external catchment area had been identified.
- 6.1.2 U-channels are proposed to convey runoff from the application site for collection. The proposed U-channels are located along the site boundary which is subject to change to suit the building layout.
- 6.1.3 The assessment reviews the drainage pipe have the sufficient capacity to cater for the drainage flow from the Application Site.
- 6.1.4 Mitigation measures are proposed during the application site proposed Application Site and to ensure that the existing drainage system within the site will not be affected during the construction stage.

**END OF TEXT**



**APPENDIX A**  
**SITE LAYOUT PLAN**



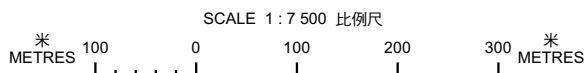


申請地點  
Application Site

興建中的元朗排水繞道顯示在這份圖則上，只供參考之用。  
THE YUEN LONG BYPASS FLOODWAY UNDER CONSTRUCTION IS SHOWN ON THIS PLAN FOR INFORMATION ONLY.

位置圖 LOCATION PLAN

本摘要圖於2023年4月27日擬備，  
所根據的資料為於2006年10月17日  
核准的分區計劃大綱圖編號 S/YL-NSW/8  
EXTRACT PLAN PREPARED ON 27.4.2023  
BASED ON OUTLINE ZONING PLAN No.  
S/YL-NSW/8 APPROVED ON 17.10.2006

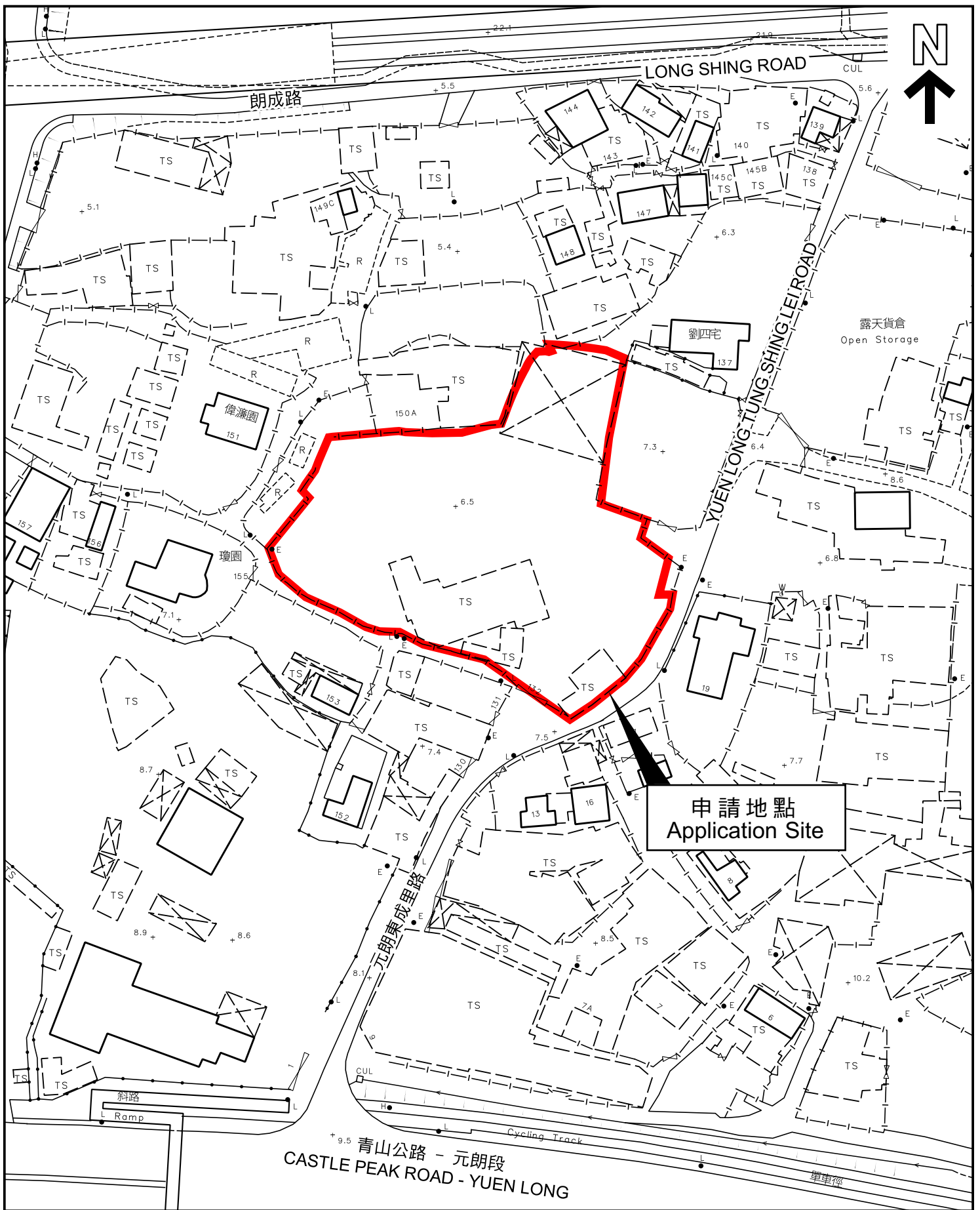


申請地點界線只作識別用  
APPLICATION SITE BOUNDARY  
FOR IDENTIFICATION PURPOSE ONLY

參考編號  
REFERENCE No.

A/YL-NSW/315

**APPENDIX B**  
**LAYOUT PLAN**



申請地點  
Application Site

平面圖 SITE PLAN

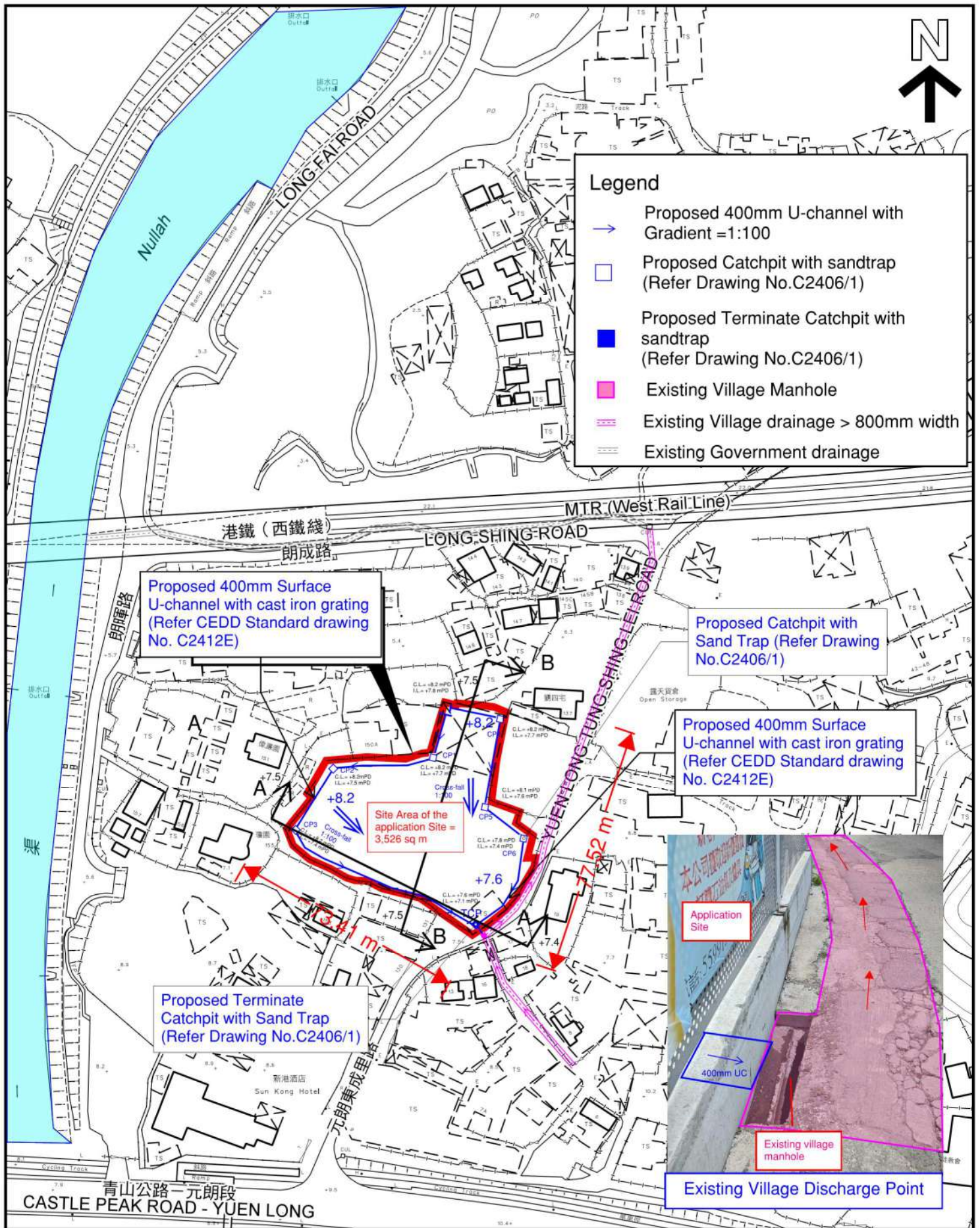
本摘要圖於2023年4月27日擬備，  
所根據的資料為測量圖編號  
6-NE-6C 及 6-NW-10D  
EXTRACT PLAN PREPARED ON 27.4.2023  
BASED ON SURVEY SHEETS No.  
6-NE-6C & 6-NW-10D







申請地點界線只作識別用  
APPLICATION SITE BOUNDARY  
FOR IDENTIFICATION PURPOSE ONLY

參考編號  
REFERENCE No.

**A/YL-NSW/315**

**APPENDIX C**  
**PROPOSED DRAINAGE PLAN**



- Legend**
-  Proposed 400mm U-channel with Gradient = 1:100
  -  Proposed Catchpit with sandtrap (Refer Drawing No.C2406/1)
  -  Proposed Terminate Catchpit with sandtrap (Refer Drawing No.C2406/1)
  -  Existing Village Manhole
  -  Existing Village drainage > 800mm width
  -  Existing Government drainage

平面圖 SITE PLAN

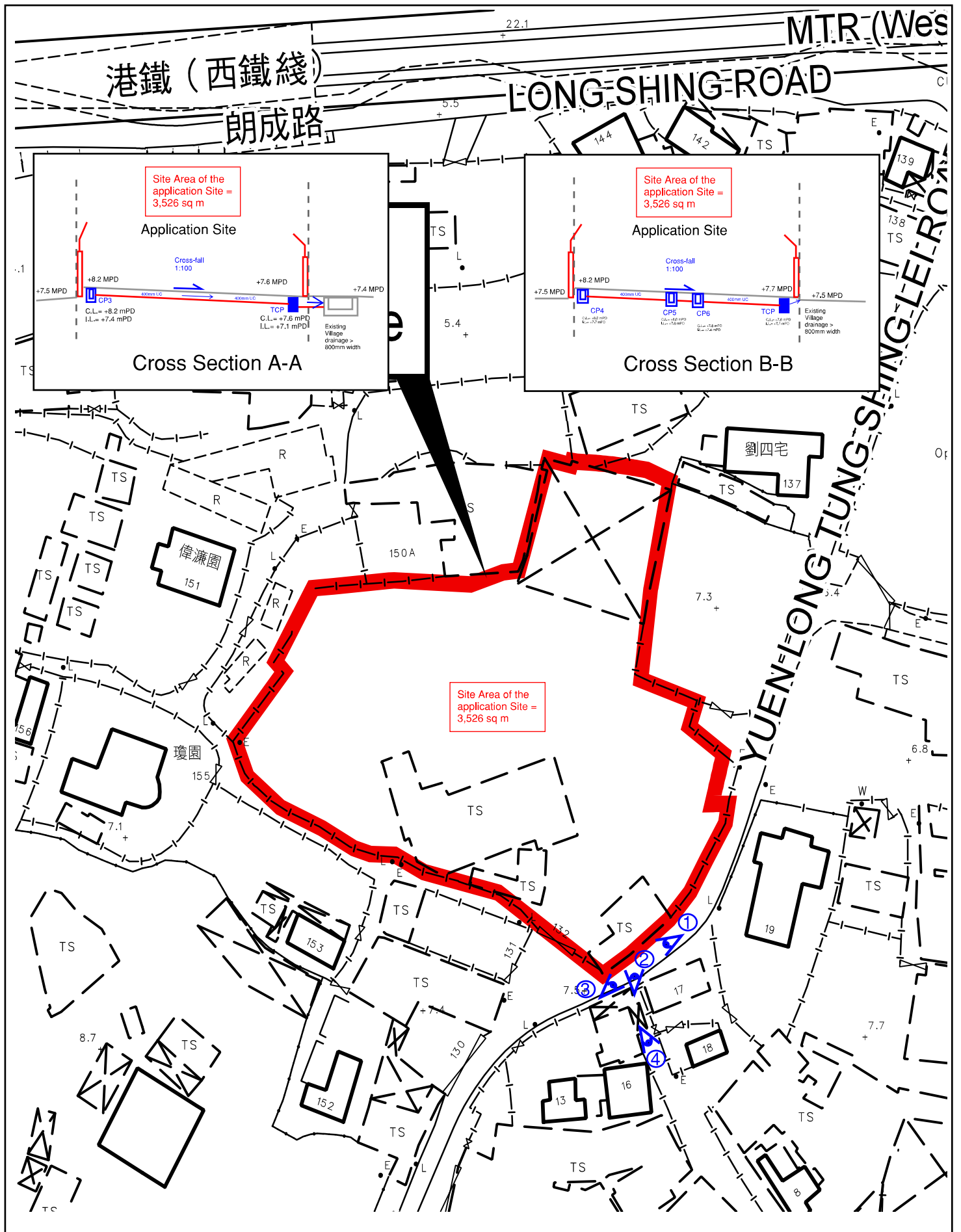
本摘要圖於2021年3月10日擬備，  
 所根據的資料為測量圖編號  
 6-NE-6A、6-NE-6C、6-NW-10B 及 6-NW-10D  
 EXTRACT PLAN PREPARED ON 10.3.2021  
 BASED ON SURVEY SHEETS No.  
 6-NE-6A, 6-NE-6C, 6-NW-10B & 6-NW-10D

Appendix C -  
 Proposed Drainage Plan

申請地點界線只作識別用  
 APPLICATION SITE BOUNDARY  
 FOR IDENTIFICATION PURPOSE ONLY

參考編號  
 REFERENCE No.

A\_YL-NSW\_315



平面圖 SITE PLAN

本摘要圖於2021年3月10日擬備，  
 所根據的資料為測量圖編號  
 6-NE-6A、6-NE-6C、6-NW-10B 及 6-NW-10D  
 EXTRACT PLAN PREPARED ON 10.3.2021  
 BASED ON SURVEY SHEETS No.  
 6-NE-6A, 6-NE-6C, 6-NW-10B & 6-NW-10D

Appendix C -  
 Proposed Drainage Plan

申請地點界線只作識別用  
 APPLICATION SITE BOUNDARY  
 FOR IDENTIFICATION PURPOSE ONLY

參考編號  
 REFERENCE No.

A\_YL-NSW\_315



平面圖 SITE PLAN

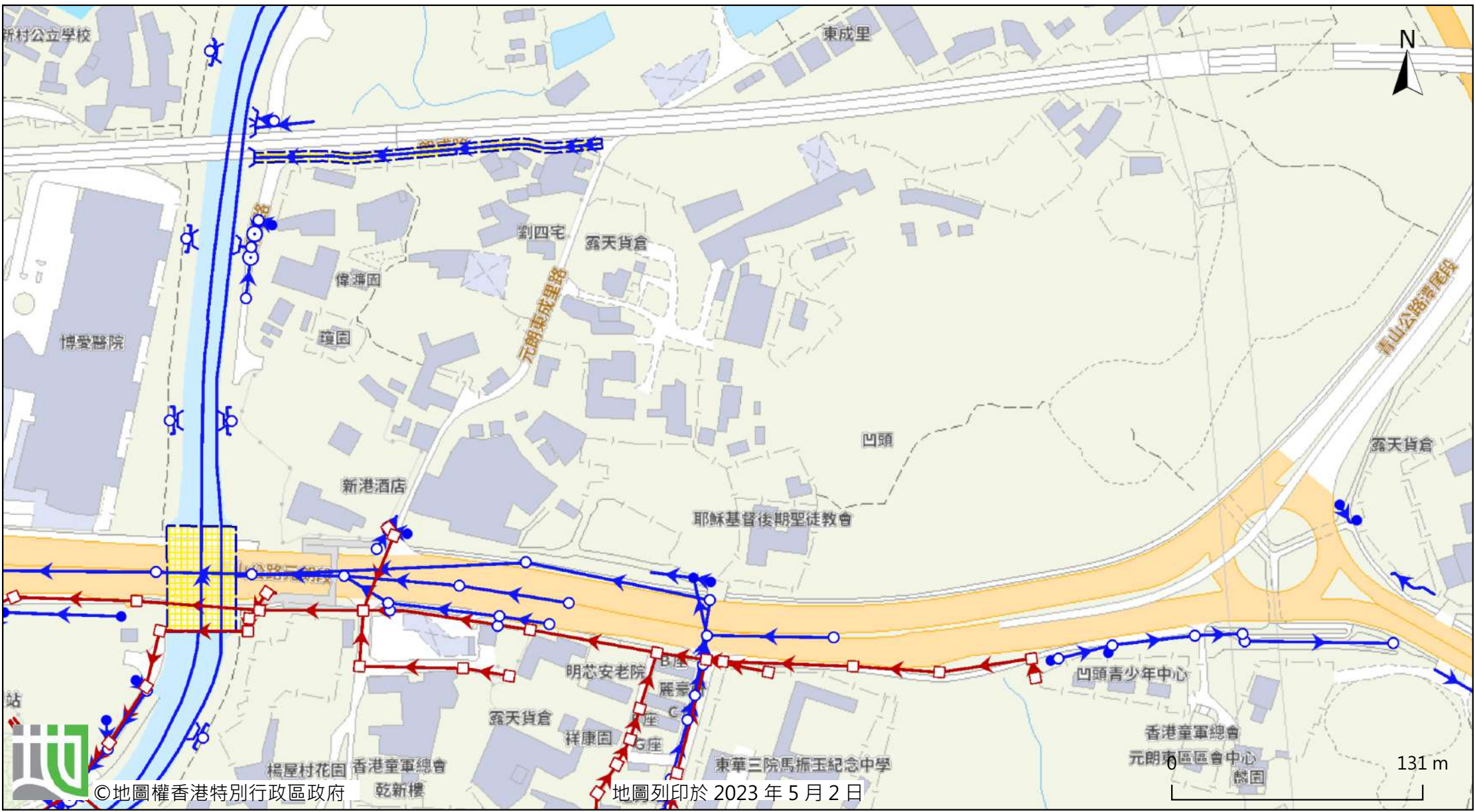
本摘要圖於2021年3月10日擬備，  
 所根據的資料為測量圖編號  
 6-NE-6A、6-NE-6C、6-NW-10B 及 6-NW-10D  
 EXTRACT PLAN PREPARED ON 10.3.2021  
 BASED ON SURVEY SHEETS No.  
 6-NE-6A, 6-NE-6C, 6-NW-10B & 6-NW-10D

Appendix C -  
 Proposed Drainage Plan

申請地點界線只作識別用  
 APPLICATION SITE BOUNDARY  
 FOR IDENTIFICATION PURPOSE ONLY

參考編號  
 REFERENCE No.

A\_YL-NSW\_315





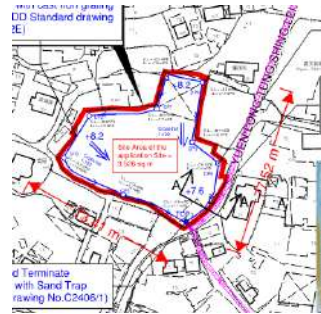
**APPENDIX D**  
**DESIGN CALCULATION OF THE PROPOSED DRAINAGE**

**Design Data**

1. Design follows the Rational Method in accordance with Stormwater Drainage Manual 2018 (DSD)
2. For conservative, Runoff coefficient for paved / unpaved land is 1.
3. Design return period is 50 years.
4. For manning's equation coefficient n is 0.016.

**Check for Hydraulic Capacity:**

Catchment	K	Area (A)
Application Site Area	1.00	3526.0
External Catchment Area	1.00	0.0 m <sup>2</sup>
Total Catchment Area	1.00	3526.0 m <sup>2</sup>



Runoff estimation

Average slope, H = 1 / 100m

Catchment area, A = 3526 m<sup>2</sup>

Distance between summit and point under consideration, L = 73 m

SDM 7.5.2 Time of concentration of natural catchment, t<sub>0</sub> = 0.14465 x L / (H<sup>0.2</sup> x A<sup>0.1</sup>)

= 4.67 min.

Length of drain, L<sub>j</sub> = 150 m

Velocity, V<sub>j</sub> = 1.676 m/s

SDM 7.5.2 Flow time, t<sub>f</sub> = Σ (L<sub>j</sub> / V<sub>j</sub>)

= 1.49140314 min.

Time of concentration, t<sub>c</sub> = t<sub>0</sub> + t<sub>f</sub>

= 6.16 min.

SDM Table 3 Storm constants for 50-year return period: a = 1167.6

b = 16.76

c = 0.561

SDM 4.3.2 Extreme mean intensity, i<sub>50<sub>yr</sub></sub> = a / (t<sub>d</sub> + b)<sup>c</sup>

= 181.591976 mm/hr

GMS Fig 8.2 Design flow, Q < 405.000 mm/hr

SDM 7.5.2 = 0.278 i Σ K A

= 0.178 m<sup>3</sup>/s

400mm u-channel capacity

Diameter = 400 mm

Cross-sectional area of 400mm U-channel = (PI x R ^2 / 2) + R x R/2 = 0.1428 m<sup>2</sup>

Gradient = 0.01

Manning's Eq. flow velocity = 1.676 m/s

Design Capacity = 0.239 m<sup>3</sup>/s

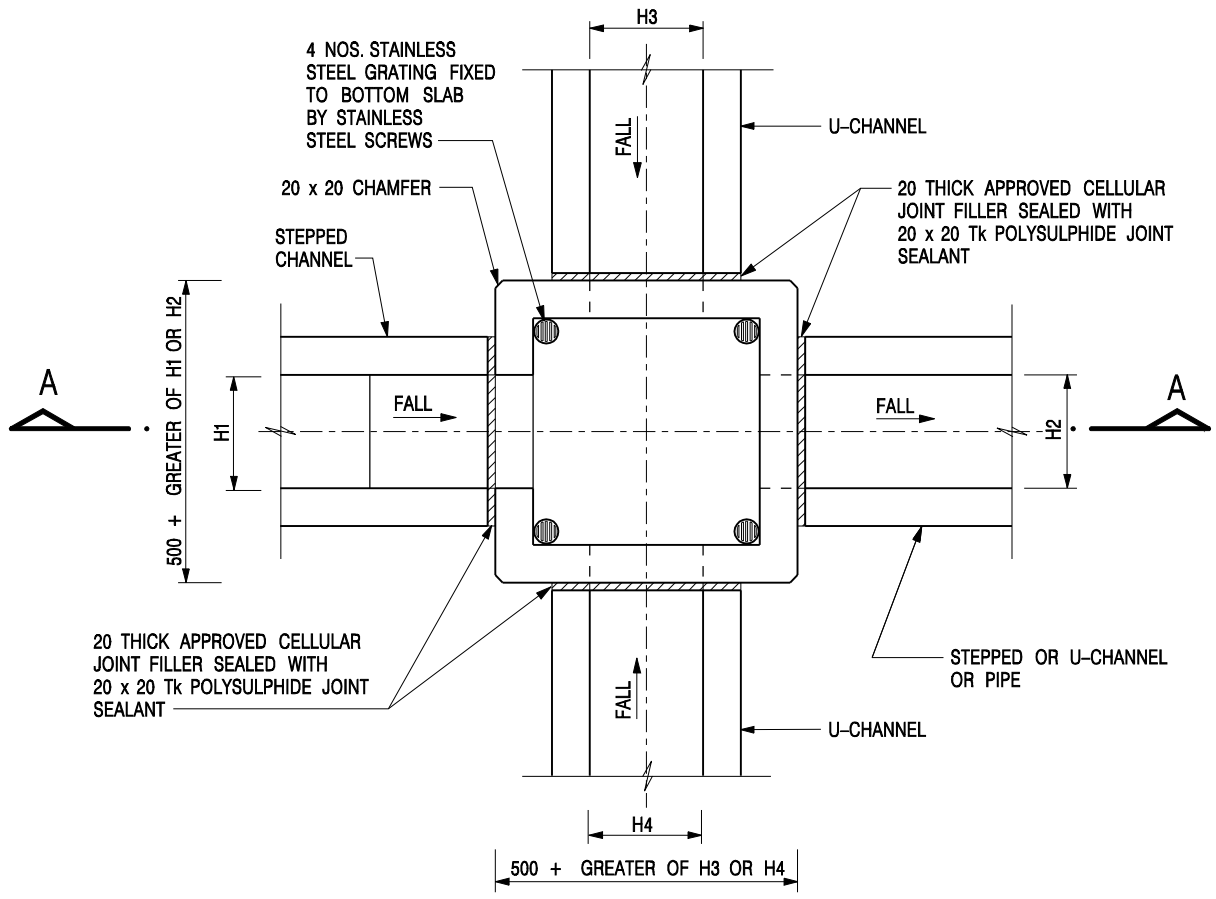
> 0.178 m<sup>3</sup>/s

Reserve capacity = 26% OK

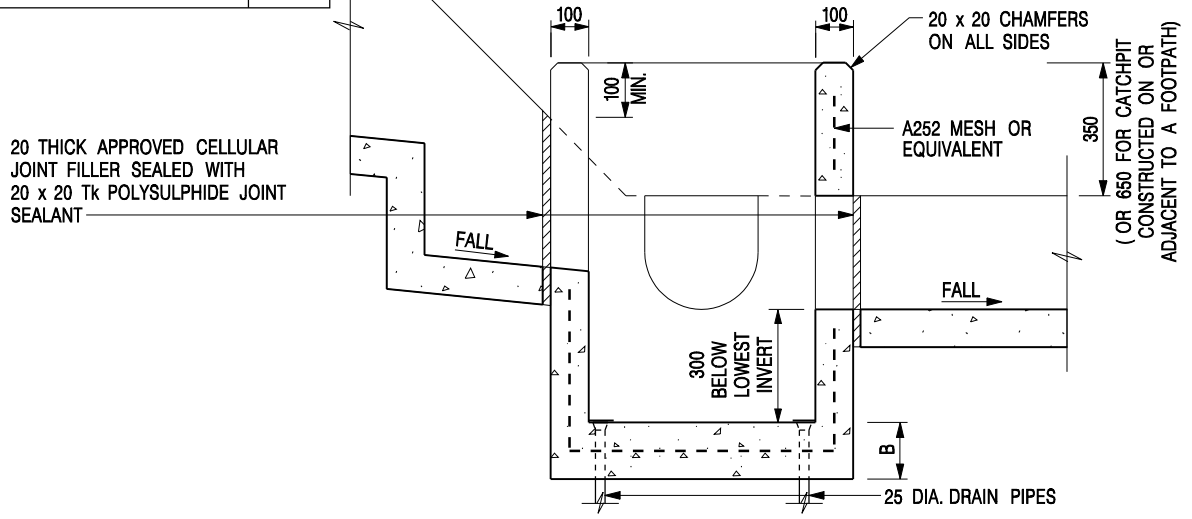
For conservative, all the U-channel along the site boundary shall be 400mm.

**APPENDIX E**

**TYPICAL STANDARD DRAWINGS OF U-CHANNEL AND CATCHPIT  
(EXTRACTED FROM CEDD, FOR REFERENCE ONLY)**



NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175



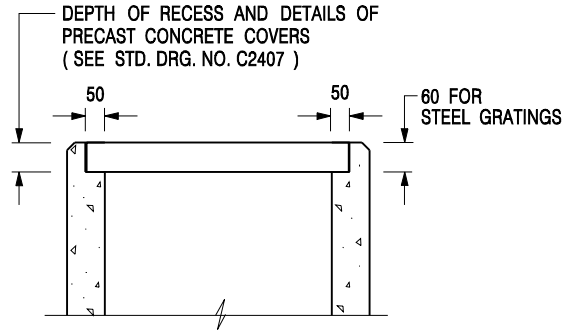
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
  2. REFER TO SHEET 2 FOR OTHER NOTES.

-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**CATCHPIT WITH TRAP**  
**(SHEET 1 OF 2)**

**CEDD** **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

**SCALE** 1 : 20 **DRAWING NO.**  
**DATE** JAN 1991 **C2406 /1**



**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 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 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.

A	MINOR AMENDMENT.	Original Signed	04.2016
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
<b>REF.</b>	<b>REVISION</b>	<b>SIGNATURE</b>	<b>DATE</b>

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



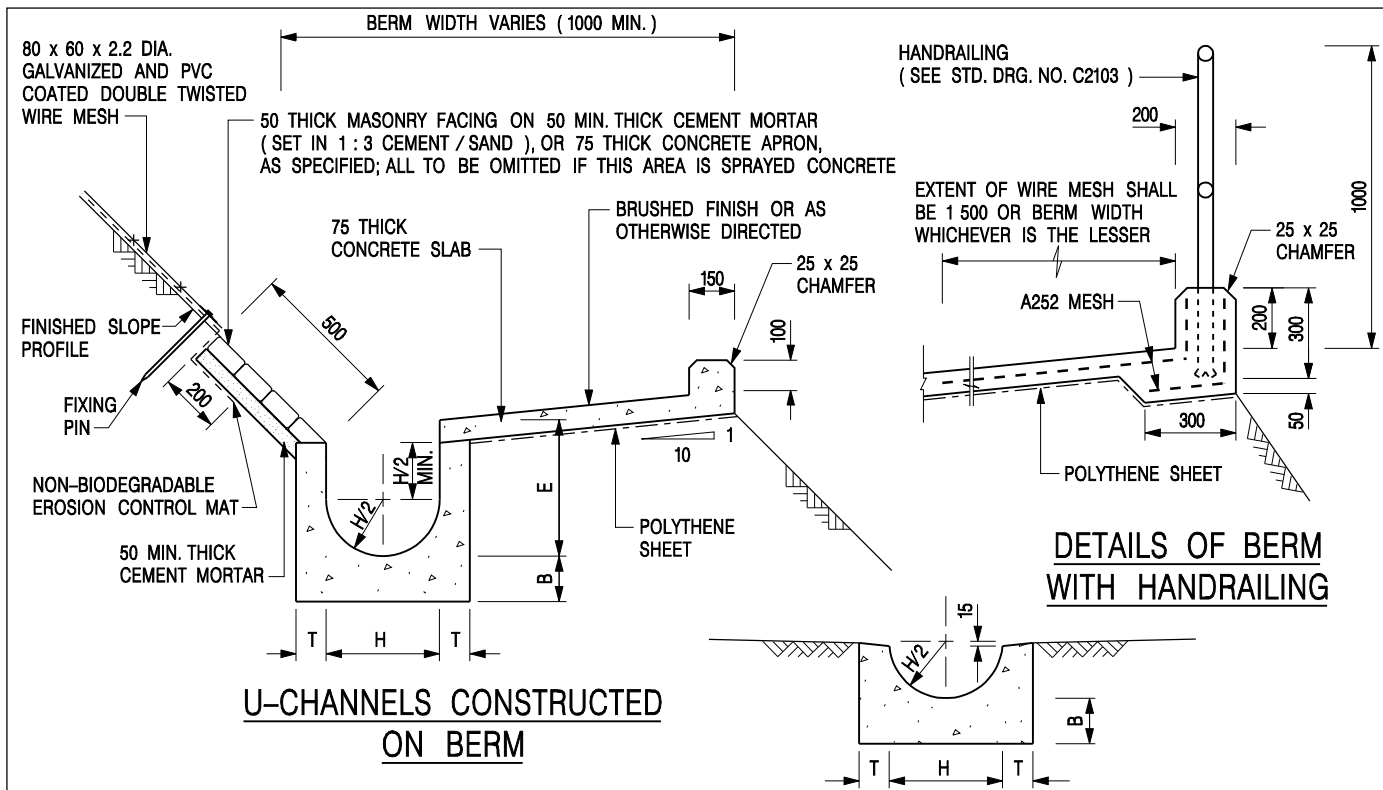
**CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT**

**SCALE** 1 : 20

**DRAWING NO.**

**DATE** JAN 1991

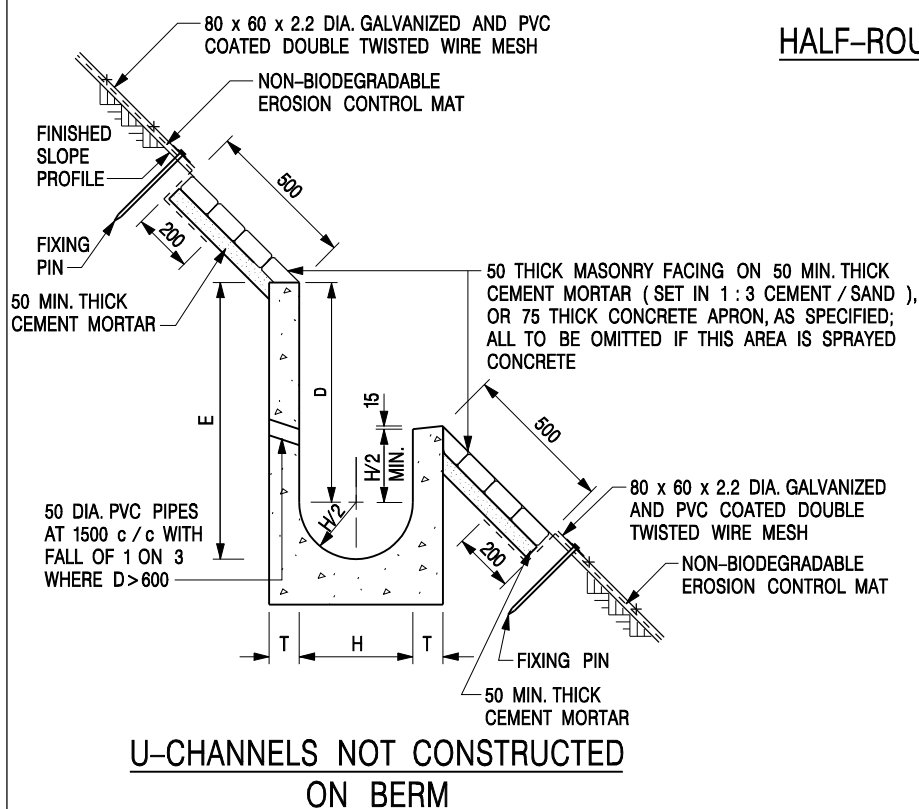
**C2406 /2A**



**DETAILS OF BERM WITH HANDRAILING**

**U-CHANNELS CONSTRUCTED ON BERM**

**HALF-ROUND CHANNEL**



**U-CHANNELS NOT CONSTRUCTED ON BERM**

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE TO BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/E.
8. CONCRETE TO BE COLOURED AS SPECIFIED.
9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/E)

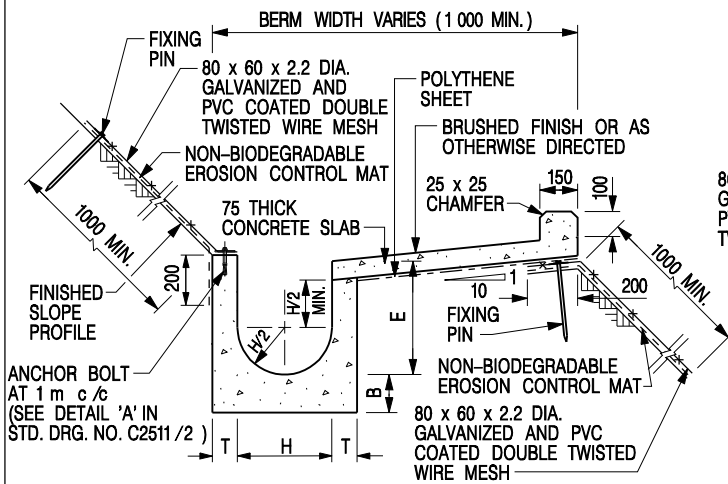
NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650
375 - 600	100	150	
675 - 900	125	175	A252 MESH PLACED CENTRALLY

REF.	REVISION	SIGNATURE	DATE
I	MINOR AMENDMENT.	Original Signed	07.2018
H	THICKNESS OF MASONRY FACING AMENDED.	Original Signed	01.2005
G	MINOR AMENDMENT.	Original Signed	01.2004
F	GENERAL REVISION.	Original Signed	12.2002
E	DRAWING TITLE AMENDED.	Original Signed	11.2001
D	MINOR AMENDMENT.	Original Signed	08.2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6.99
B	MINOR AMENDMENTS.	Original Signed	3.94

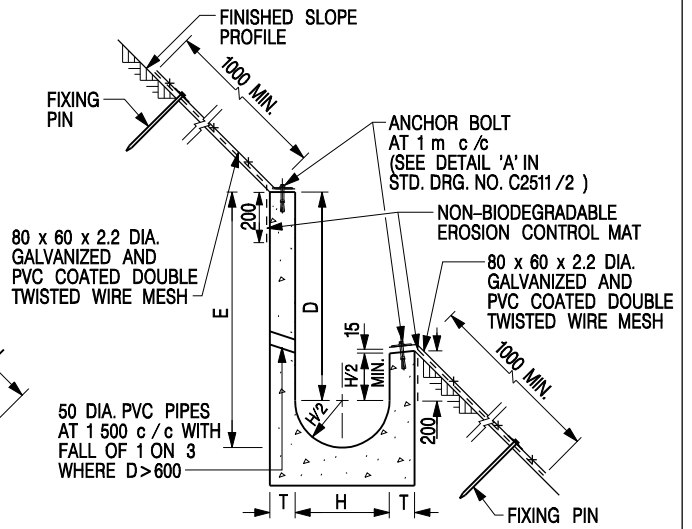
**DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE A - WITH MASONRY APRON)**

**CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

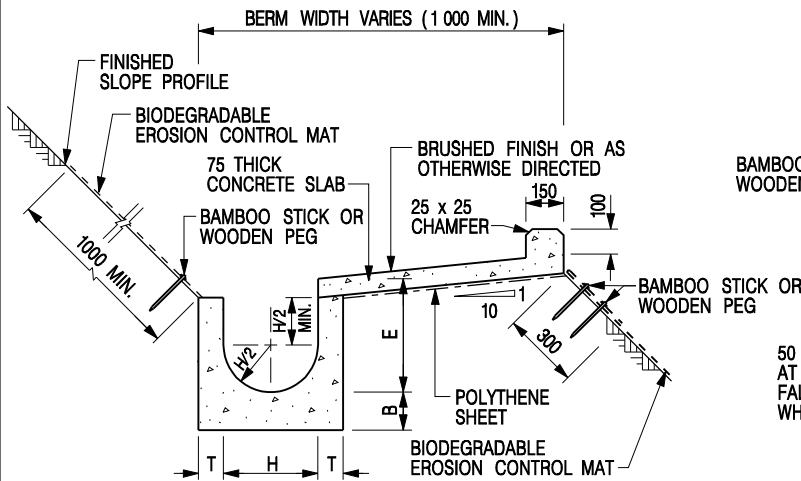
**SCALE 1 : 25** **DRAWING NO. C2409I**  
**DATE JAN 1991**



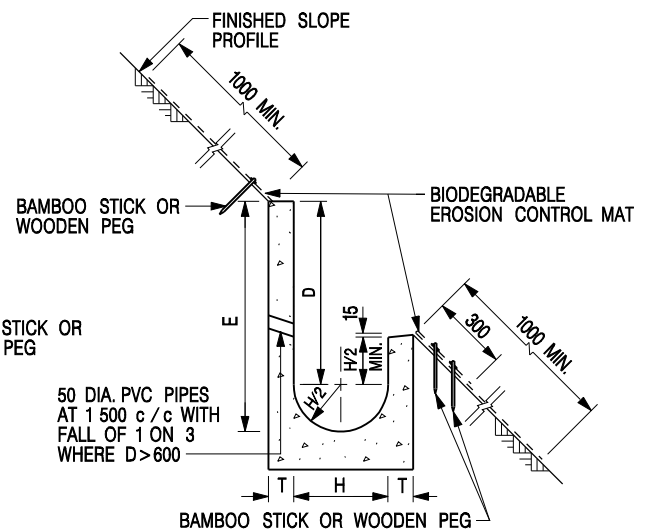
**U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT**



**U-CHANNELS NOT CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT**



**U-CHANNELS CONSTRUCTED ON BERM WITH BIODEGRADABLE EROSION CONTROL MAT**



**U-CHANNELS NOT CONSTRUCTED ON BERM WITH BIODEGRADABLE EROSION CONTROL MAT**

**NOTES:**

- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CONCRETE TO BE GRADE 20 /20.
- CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
- SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
- JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
- FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
- FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO. C2511/2.
- MINIMUM SIZE OF 25 x 50 x 300mm SHALL BE PROVIDED FOR WOODEN PEG.
- MINIMUM SIZE OF 10mm DIAMETER WITH 200mm LONG SHALL BE PROVIDED FOR BAMBOO STICK.
- THE FIXING DETAILS OF NON-BIODEGRADABLE AND BIODEGRADABLE EROSION CONTROL MATS ON EXISTING BERM SHALL REFER TO STD. DRG. NO. C2511/1.

NOMINAL SIZE H	T	B	REINFORCEMENT
300	80	100	A252 MESH PLACED CENTRALLY AND T=100 WHEN E > 650
375 - 600	100	150	
675 - 900	125	175	

REF.	REVISION	SIGNATURE	DATE
I	MINOR AMENDMENT.	Original Signed	07.2018
H	FIXING DETAILS OF BIODEGRADABLE EROSION CONTROL MAT ADDED.	Original Signed	12.2017
G	DIMENSION TABLE AMENDED.	Original Signed	01.2005
F	MINOR AMENDMENT.	Original Signed	01.2004
E	GENERAL REVISION.	Original Signed	12.2002
D	MINOR AMENDMENT.	Original Signed	08.2001
C	150 x 100 UPSTAND ADDED AT BERM.	Original Signed	6.99
B	MINOR AMENDMENT.	Original Signed	3.94
A	MINOR AMENDMENT.	Original Signed	10.92

**DETAILS OF HALF-ROUND AND U-CHANNELS (TYPE B - WITH EROSION CONTROL MAT APRON)**



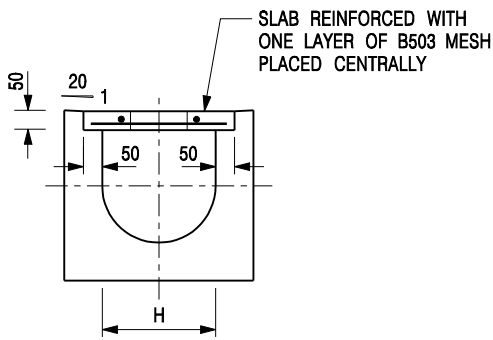
**CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

**SCALE** DIAGRAMMATIC

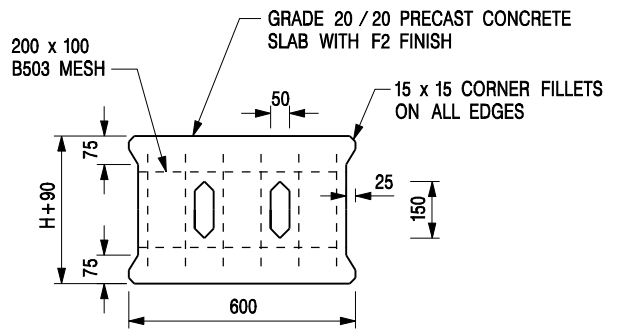
**DRAWING NO.**

**DATE** JAN 1991

**C24101**



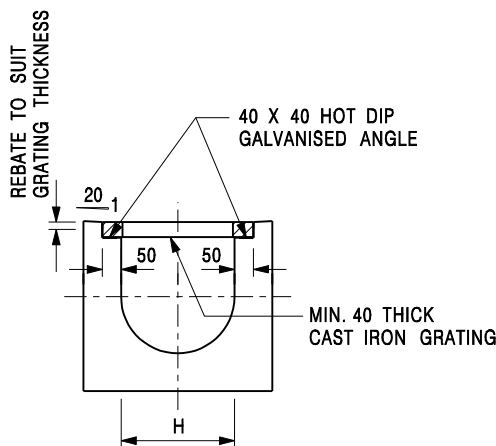
**TYPICAL SECTION**



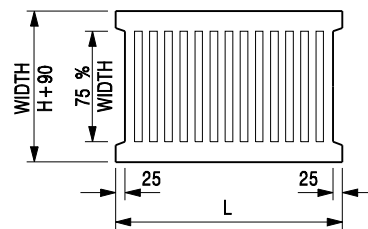
**PLAN OF SLAB**

**U-CHANNELS WITH PRECAST CONCRETE SLABS**

(UP TO H OF 525)



**TYPICAL SECTION**



L = 600mm FOR H ≤ 375mm  
L = 400mm FOR H > 375mm

**CAST IRON GRATING**

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

**U-CHANNEL WITH CAST IRON GRATING**

(UP TO H OF 525)

**NOTES:**

- ALL DIMENSIONS ARE IN MILLIMETRES.
- H=NOMINAL CHANNEL SIZE.
- ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
- FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

E	NOTES 3 & 4 AMENDED.	Original Signed	12.2014
D	NOTE 4 ADDED.	Original Signed	06.2008
C	MINOR AMENDMENT. NOTE 3 ADDED.	Original Signed	12.2005
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	CAST IRON GRATING AMENDED.	Original Signed	12.2002
<b>REF.</b>	<b>REVISION</b>	<b>SIGNATURE</b>	<b>DATE</b>

**COVER SLAB AND CAST IRON  
GRATING FOR CHANNELS**



**CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT**

**SCALE** 1 : 20

**DRAWING NO.**

**DATE** JAN 1991

**C2412E**



**APPENDIX F**  
**RESPONSE TO COMMENTS**

**Response to Comments on Temporary Drainage Proposal**

1. Comments from DSD (Issue 1).....2  
2. Comments from DSD (Issue 2).....3

**1. Comments from DSD (Issue 1)**

<b>No.</b>	<b>Comments</b>	<b>Response</b>
A.	Please advise if any site formation/ land filling works to be carried out under this application. Please note that the overland flow from the adjacent lands should not be affected.	Please be advised that no site formation works to be carried out under this application. Since there is no change in drainage characteristics, the overland flow from the adjacent lands would not be affected.
B.	Please clarify the type and size of outlet pipe of TCP as the legend is not consistent. Please revise.	Revised accordingly, a 450mm UC would be connected to the existing village manhole.
C.	Please indicate clearly 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).	The full alignment of the discharge path from the application site is indicated in Appendix C.
D.	The existing drainage facilities, to which the stormwater of the development from the subject site would discharge, are not maintained by this office. The applicant should identify the owner of the existing drainage facilities to which the proposed connection will be made. Also, DSD noticed that the proposed drainage connections) to the surrounding/downstream area(s) will run through other private lot(s). The applicant shall demonstrate that the proposed drainage construction / improvement / modification works and the operation of the drainage can be practicably implemented.	Noted. Please refer to Section 4.2.  "This application does not propose adding any additional concrete area, the difference in surface runoff that can be attributed to this application is negligible. Also, adjacent sites have adequate drainage facilities and no record of flooding for the application site has been found. To manage the stormwater flows after developing the site, this drainage Proposal detailed the proposed drainage system consisting of a set of U-channels and underground pipe for diverting stormwater flows to avoid causing flooding to the site."
E.	The applicant should check and ensure the hydraulic capacity of the existing drainage facilities would not be adversely affected by the captioned development. Please provide site photos covering the whole alignment of existing drainage path to show existing condition of the existing drainage facilities which receives the discharge from the application site.	Noted. The site photos are provided in the Appendix C.
F.	Please clarify whether any walls or hoarding would be erected along the site boundary. Where walls or hoarding are erected are laid along the site boundary, adequate opening should be provided to intercept the existing overland flow passing through the site.	Hoarding with adequate opening would be provided.
G.	Cross sections showing the existing and proposed ground levels of the captioned site with respect to the adjacent areas should be given.	Cross sections are provided in Appendix C.
H.	The development should neither obstruct overland flow nor adversely affect existing natural streams, village drains, ditches and the	Please refer the captioned report and the drainage calculation in Appendix D. It is considered that the drainage discharge

### Temporary Drainage Proposal (Issue 3)

No.	Comments	Response
	adjacent areas, etc.	from the Application Site will not cause adverse impact to the entire downstream drainage system.
1.	The applicant(s) shall resolve any conflict/disagreement with relevant lot owner(s) and seek LandsD's permission for laying new drains/channels and/or modifying/upgrading existing ones in other private lots or on Government land (where required) outside the application site(s).	Noted with thanks.

### 2. Comments from DSD (Issue 2)

No.	Comments	Response
1.	R-to-C item B - The proposed u-channel with size of 400mm does not tally with the size of 450mm UC as stated in your response. Please clarify.	The typo is revised accordingly. Please be clarified that the proposed u-channel should be 400mm UC.
2.	R-to-C item F - Please clearly state the opening separation. Normally, 100mm should be provided along the proposed hoarding/ walls.	Please note that 100mm openings would be provided along the hoarding/ walls in 2m internal to allow the passage of rainwater.
3.	Previous comment G has not been fully addressed. Ground levels of application site and adjacent lands should be provided. The cross section should cut through the whole application site with adjacent lands along both east-west and north-south directions. All proposed drainage facilities should be shown in sections. The proposed opening should be indicated in sections.	The sections are provided accordingly.  Please be advised that the submission is just a temporary drainage proposal for applications for S.16. The level of details for the submission are make reference to the Technical Note to prepare a drainage submission by DSD dated November 2001. <a href="https://www.dsd.gov.hk/EN/Files/Technical Manual/dsd guideline/Drainage Submission.pdf">https://www.dsd.gov.hk/EN/Files/Technical Manual/dsd guideline/Drainage Submission.pdf</a>
4.	It appears some adjacent lands are higher than the application site, please critically review the assessment with external catchment areas included	Please be clarified that minor site formation was carried out at the application site. The ground level of application site would be from +8.2mPD to +7.6mPD. As the application site is higher than the application site, no external catchment area was identified.
5.	According to existing ground level record, the ground level of application site should be +6.5mPD. Please justify why the site would be from +8.2mPD to +7.6mPD as you advised no land filling works to be conducted	Please be clarified that minor site formation was carried out at the application site. The ground level of application site would be from +8.2mPD to +7.6mPD.
6.	Appendix D The outlet drain stated as pipe does not tally with a proposed UC as shown in drainage plan. Please also review the calculations.	Noted and Appendix D is revised accordingly.