渠務署及城市規劃委員會:

有關 A/YL-KTN/983 的擬議渠務建議詳細

在申請地點東面是臨時倉地，並設有實心金屬圍邊，地面為混凝土。申請地點南面是私人地段，目前是草地及廢棄房屋。申請地點西面為草地，申請地點北面為行人道路及渠道。由於申請範圍比東面的用地低，有機會會有水流從東面流入。其他方向比申請範圍低，因此沒有流水從其他方向流入申請地點。

本申請地點的集水區面積約 7,635.9 平方米，集水區全部為混凝土作表面。

申請地點計劃舖設 375mmUC 引導及收集雨水及地面水，根據 STORMWATER DRAINAGE MANUAL – Seation 7.5.2 Rational Method 計算，計劃的渠道有足夠的容量處理集水區內的水流量。

現場相片請參考文件尾端。

希望此附加文件能釋除　　貴署的隱憂。

申請人

鄧子其

二零二四年五月十日

Calculation of Peak Runoff, Q_p (Rational Method)

Rainfall Intensity, *i*

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

Where *i* = extreme mean intensity in mm/hr,
t_d = duration in minutes ($t_d \leq 240$), and
a, b, c = storm constants given in Table 3 of SMD, as shown below

for 50 year Design Return Period (Using Table 3a – Storm Constants for Different Return Periods of HKO Headquarters on SDM)

a=	451.3
b=	2.46
c=	0.337

The Rainfall Intensity of the site is around 71 mm/hr.

Calculation of Peak Runoff, Q_p (Rational Method)

According to Section 7.5.2(b) of the Stormwater Drainage Manual (SDM), Fifth Edition January 2018

Surface Characteristics	Runoff coefficient, C
Asphalt	0.70-0.95
Concrete	0.80-0.95
Brick	0.70-0.85
Grassland (heavy soil)	
Flat	0.13-0.25
Steep	0.25-0.35
Grassland (sandy soil)	
Flat	0.05-0.15
Steep	0.15-0.20

For catchment area of the site at the proposed development, the Concrete runoff coefficient is taken as 0.95.

Peak Runoff, Q_P

$Q_P = 0.278\ C\ i\ A$

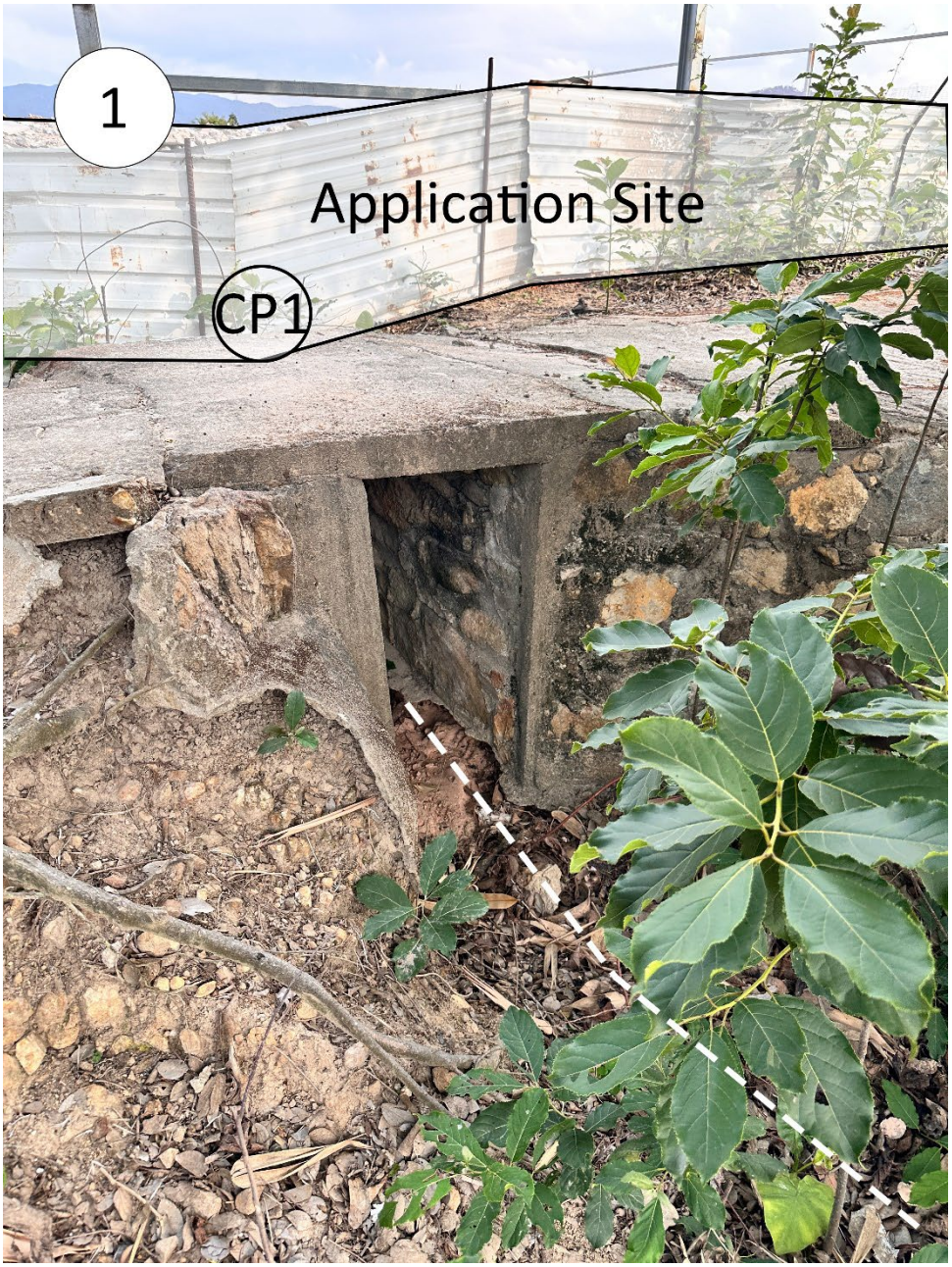
Where Q_P = Peak runoff in km^3/s
C = Runoff coefficient (dimensionless)
i = Rainfall intensity in mm/hr
A = Catchment area in km^2

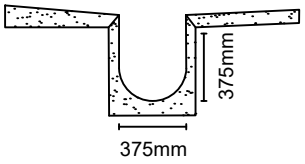
	The site
C=	0.95
i=	71
A=	0.0076359
Q_P=	0.143

The total design runoff of the catchment area is 0.143 m^3/s, which is around 8,590.9 liter/min.

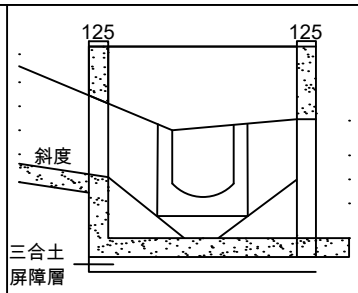
According to GEO Technical Guidance Note No. 43 (TGN 43),
For gradient 1:200, a 375UC will be suitable.

本申請會採用 375mmUC。

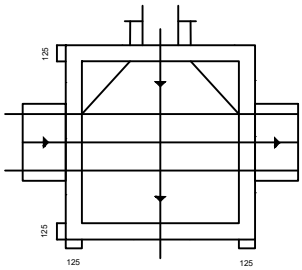




U型明渠切面圖



沙井切面圖



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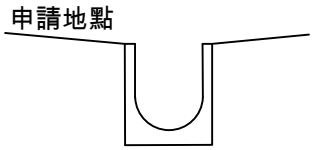
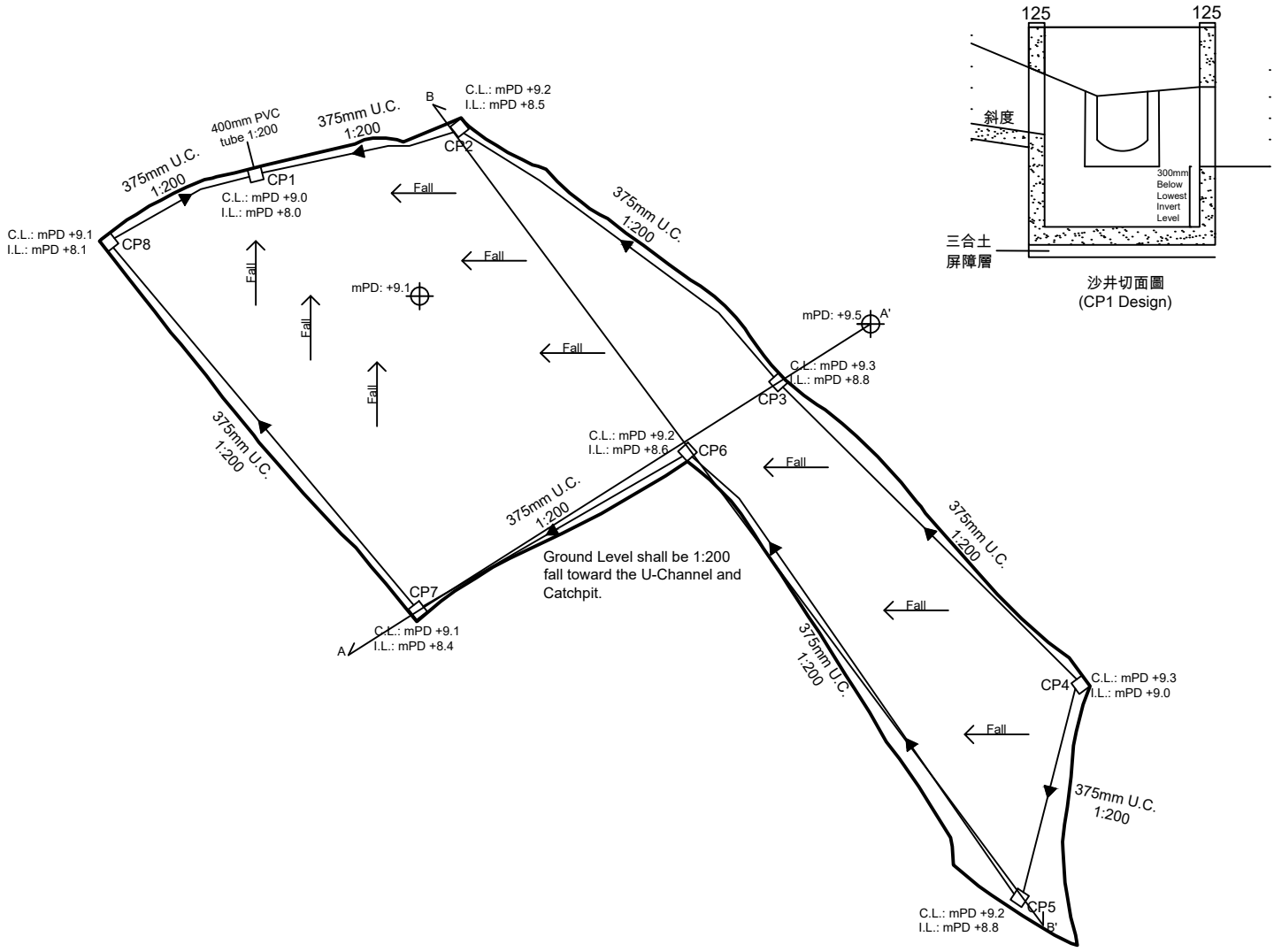


U型明渠切面略圖



Legend:

□	Proposed Catchpit
——	Proposed U-Channel
▶	Water Flow
⊕	Formation Level

Note:

1. Adequate opening will be provided around the application site.
2. Catchpit design shall follow CEDD standard drawing No. C2406I.
3. All proposed U-channel and Catchpit must maintain in good shape (i.e. Inspection and maintenance regularly).
4. Grating Cover is provided to reduce the irregular road surface from entering the site.

Appendix 5

Location: DD 107 Lot 1406
DD 107 Lot 1407
DD 107 Lot 1429
DD 107 Lot 1431

OZP: S/YL-KTN/11
District: Kam Tin North
Zoning: Agriculture

Date: 18 April 2024

Proposed Drainage Plan
擬議渠道計劃

擬議臨時貨倉 (危險品倉庫除外) 連附屬設施(為期3年)及填土工程

Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Filling of Land

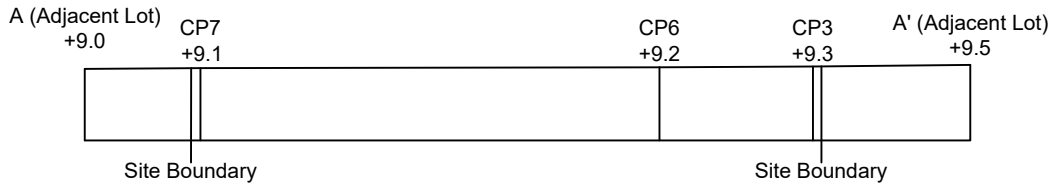
SCALE

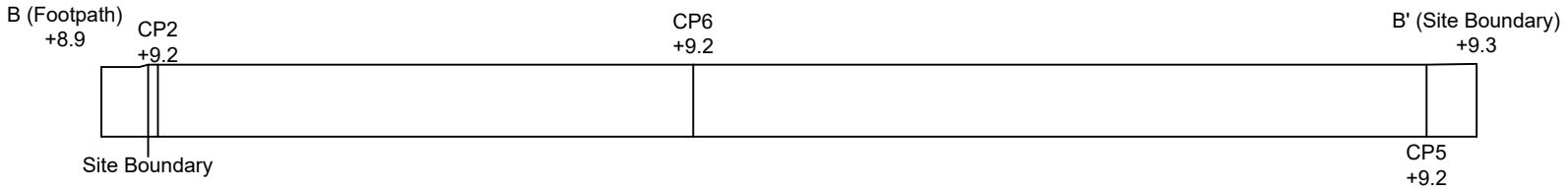
1:750

@A4

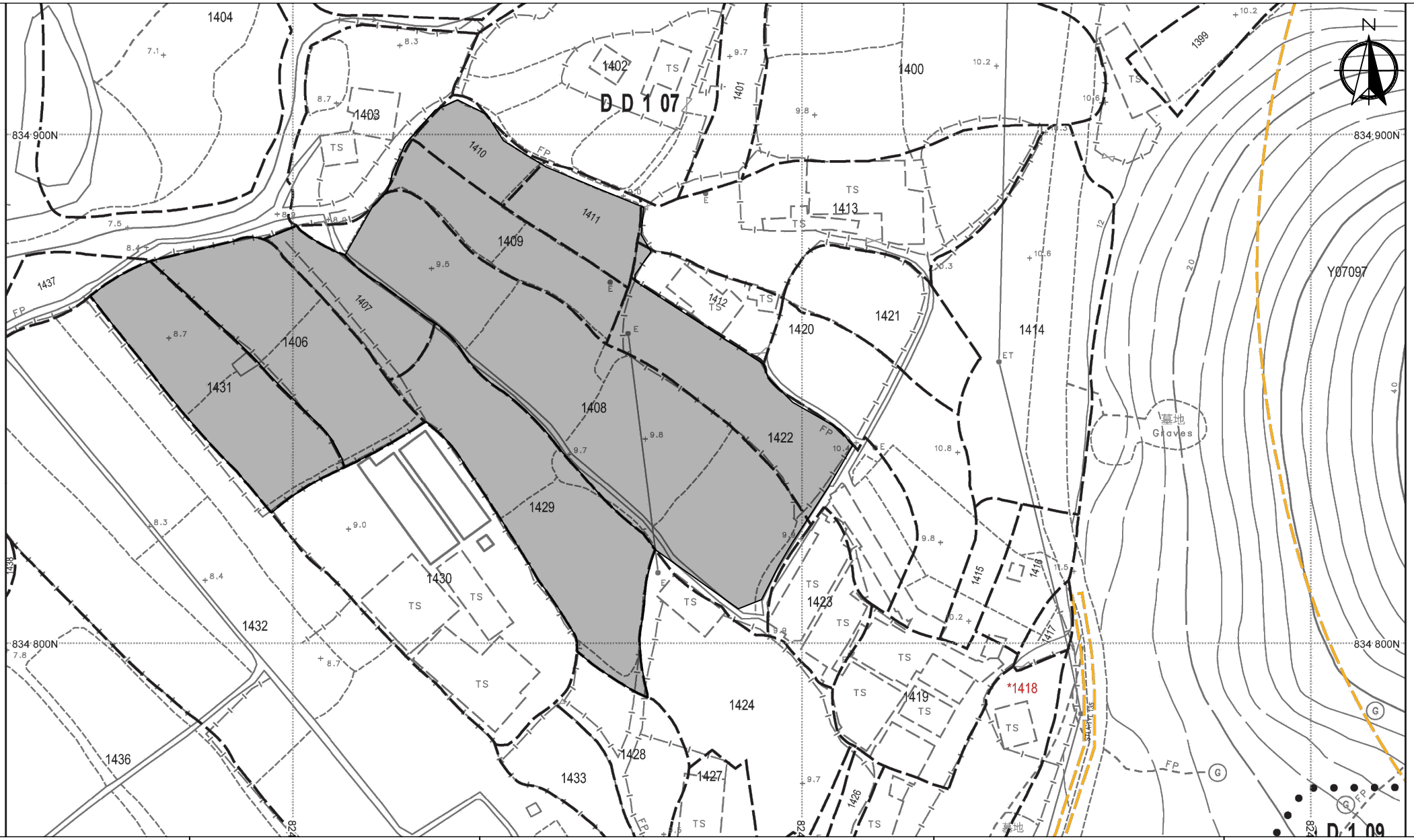
For Identification Only

Drawing No.: 5-01





Appendix 5.1 Cross Section A-A' B-B'	Location: D.D. 107 Lot 1406, 1407, 1429 and 1431 OZP: S/YL-KTN/11 District: Kam Tin North Zoning: Agriculture	Project: Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Filling of Land		Drawing No.: 5.1-1 For Identification Only Date: 18/04/2024



Appendix 5.2 Catchment Area	Location: D.D. 107 Lot 1406, 1407, 1429 and 1431 OZP: S/YL-KTN/11 District: Kam Tin North Zoning: Agriculture	Project: Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years and Filling of Land	Around 7,635.9 m^2 Scale: 1:1000 @A4	Drawing No.: 5.2-1 For Identification Only Date: 18/04/2024

Table 3a – Storm Constants for Different Return Periods of HKO Headquarters

Return Period T (years)	2	5	10	20	50	100	200	500	1000
a	499.8	480.2	471.9	463.6	451.3	440.8	429.5	414.0	402.1
b	4.26	3.36	3.02	2.76	2.46	2.26	2.05	1.77	1.55
c	0.494	0.429	0.397	0.369	0.337	0.316	0.295	0.269	0.251

Table 3b – Storm Constants for Different Return Periods of Tai Mo Shan Area

Return Period T (years)	2	5	10	20	50	100	200
a	1743.9	2183.2	2251.3	2159.2	1740.1	1307.3	1005.0
b	22.12	27.12	27.46	25.79	19.78	12.85	7.01
c	0.694	0.682	0.661	0.633	0.570	0.501	0.434

Table 3c – Storm Constants for Different Return Periods of West Lantau Area

Return Period T (years)	2	5	10	20	50	100	200
a	2047.9	1994.1	1735.2	1445.6	1107.2	909.1	761.8
b	24.27	24.23	21.82	18.36	13.01	8.98	5.40
c	0.733	0.673	0.619	0.561	0.484	0.428	0.377

Table 3d – Storm Constants for Different Return Periods of North District Area

Return Period T (years)	2	5	10	20	50	100	200
a	1004.5	1112.2	1157.7	1178.6	1167.6	1131.2	1074.8
b	17.24	18.86	19.04	18.49	16.76	14.82	12.47
c	0.644	0.614	0.597	0.582	0.561	0.543	0.523

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

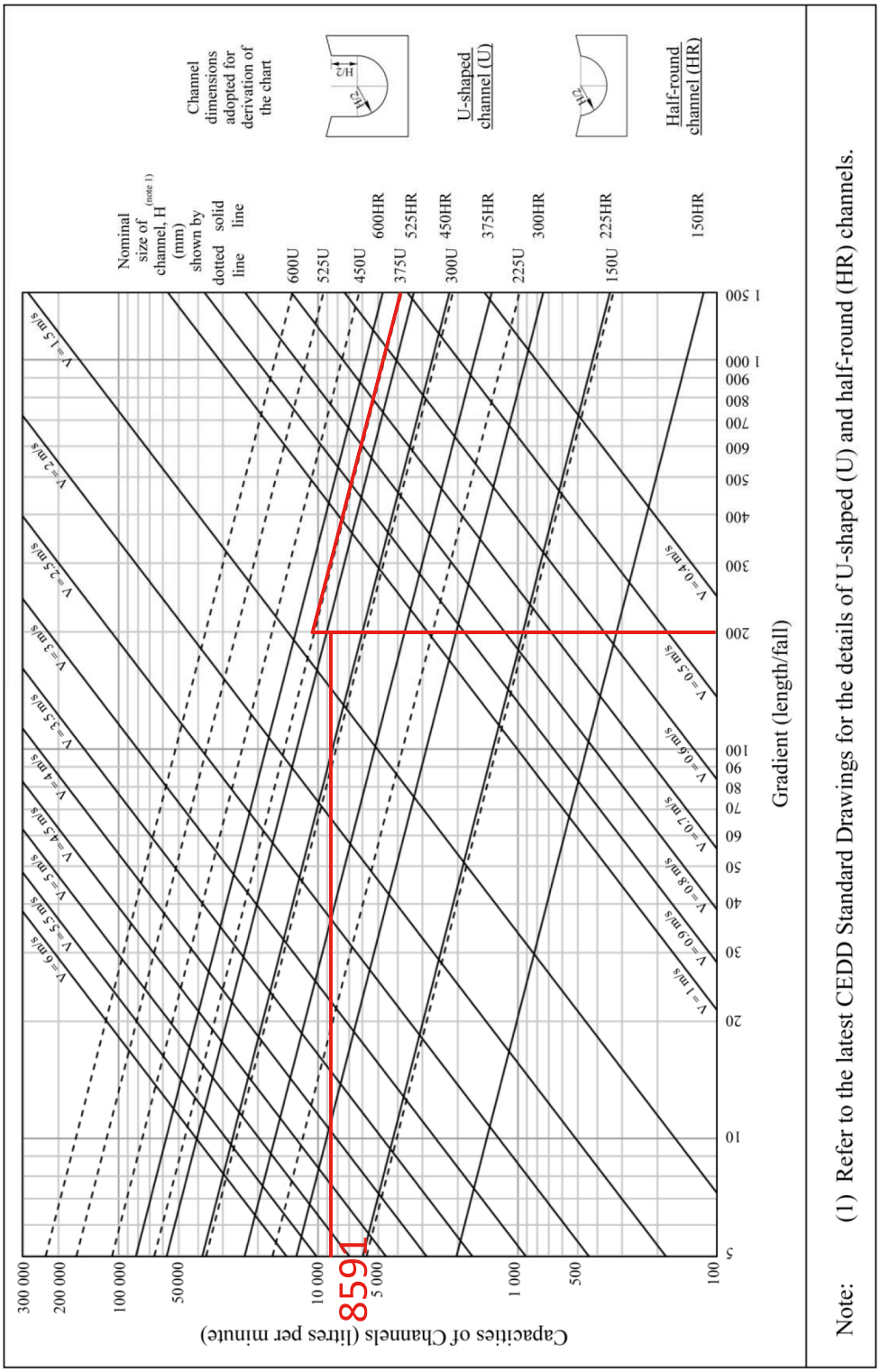


Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm

Note: (1) Refer to the latest CEDD Standard Drawings for the details of U-shaped (U) and half-round (HR) channels.