TEMPORARY DRAINAGE PROPOSAL

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

A-YL-KTN-1198

ISSUE 1 (MARCH 2026)

Content Page

Appendix

1.   Introduction

This report presents the temporary drainage proposal for proposed temporary place of recreation, sport or culture (padel tennis) with ancillary eating place and shop and services for a period of 3 years at Lot 1560 (Part) in D.D.107 and adjoining government land, Kam Tin, Yuen Long, New Territories. The site location is shown in **Appendix A**.

1.1.   Objectives of the Report

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

1.2.   Report Structure

The report contains the following sections:
- Section 1 on Introduction;
- Section 2 on Development Proposal;
- Section 3 on Assessment Methodology;
- Section 4 on Potential Drainage Impact; and /
- Section 5 on Conclusion

1.3.   References

This report has been prepared with reference to the following documents:

- Stormwater Drainage Manual: Planning, Design and Management (Fifth Edition, January 2018)
- Technical Mote No.1 Technical Note to Prepare a Drainage Submission (December 2024)
- Stormwater Drainage Manual – Corrigendum No. 1/2022
- Stormwater Drainage Manual – Corrigendum No. 1/2024

2.　Development Proposal

2.1.　Existing Site Conditions

The application site is located in Kam Tin in Yuen Long, New Territories. The total area is approximately 9000 m^2. The site layout plan is provided in **Appendix B**.

The applied development is a temporary place of recreation, sport or culture (padel tennis) with ancillary eating place and shop and services for a period of 3 years. The zonings are under "Comprehensive Development Area (1)" and "Comprehensive Development Area". The application site is Lot 1560 (Part) in D.D.107 and adjoining government land, Kam Tin, Yuen Long, New Territories.

Site formation is required for the proposed tennis court area. The existing ground level is approximately +4.50 to 5.20 mPD, while the proposed is ground level is approximately +4.89 to +4.92 mPD.

The application site is less than 1 ha in size and neither fall within flood prone areas such as lowlying areas and flooding blackspots nor involve pond filling and substantial earth filling, so it is regarded as simple site.

There is an existing public open channel (SCP1013160) with width of 12m on the north side of the application site and the other existing public open channel (SCP1009605) with width of 6.5m on the south side of the application site that proposed be the ultimate discharge point. There are also existing village surface channels with 750mm width and catchpits in vicinity of the application site. The location and picture of the existing village surface channel and open channel are shown **Figure 1** and appended in **Appendix C**.
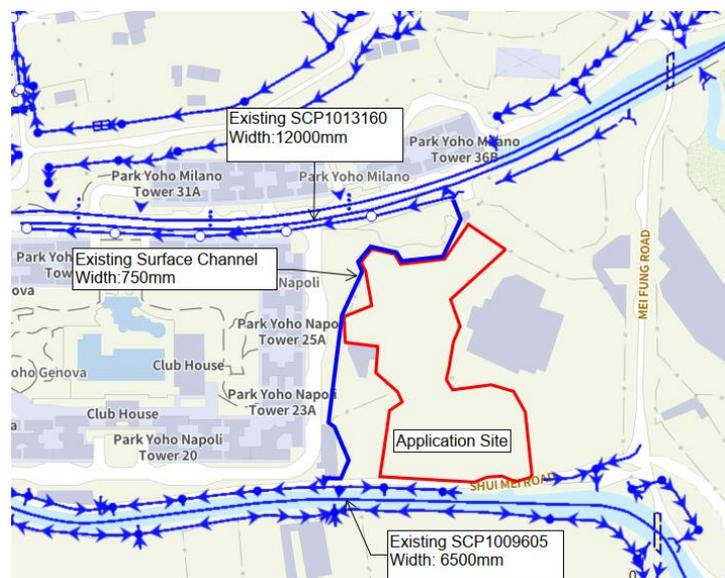

Figure 1. Location Plan of Existing Drainage Facilities

3. Assessment Methodology

3.1. Calculation Methodology for Runoff

According to Section 6.6.2 of *the Storm Drainage Manual*, an "Urban Drainage Branch System" refers to a network of interconnected drains that collect rainwater runoff from an urban area and transport it to a trunk drain, river, or sea. In simpler terms, 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.

Referring to Stormwater Drainage Manual, since the proposed U-channels have dimensions smaller than 1.8m, the drainage system would be classified as an urban drainage branch. In consideration of the effect of recent climate change in the drainage design, the return period is 50 years with the storm constraints specified in *Stormwater Drainage Manual – Corrigendum No. 1/2024.*

To calculate the peak instantaneous runoff values before and after the development, the Rational Method with recommended physical parameters including runoff coefficient (C) and storm constants for different return periods are adopted referred to the SDM.

The Rational Method is adopted for hydraulic analysis and the peak runoff is calculated based on the following equation:

$$Q_p = 0.278\, Ci\, A$$

where Qp = Peak Runoff, m^3/s
C = Runoff Coefficient
i = Rainfall Intensity, mm/hr
A = Catchment Area, km^2

The runoff coefficient of 1 is assumed. Based on the storm constants for the 50-year return period recommended in the SDM, the appropriate rainfall intensities (i) are calculated as detailed in **Appendix E**.

3.2. Calculation Methodology for Capacity Checking

Based on the runoff results, a drainage layout was developed to intercept and convey stormwater efficiently. Surface U-channels were proposed along the site perimeter and internal flow paths to collect runoff directly from paved and filled areas. These channels guide surface water toward catchpits, which act as collection points and allow debris to settle before water enters underground pipes.

Underground drainage pipes were designed to carry collected runoff from the catchpits to a suitable discharge point.

Since the catchment areas are less than 1 ha, peripheral surface U-channels are proposed to collect stormwater runoff within the site. Surface U-channels with nominal widths of 450 mm and 525 mm are proposed along the site periphery to convey the collected runoff. The stormwater will be discharged to the 750mm surface U-channel or existing 12 m wide open channel or the existing 6.5 m wide open channel located in the vicinity of the site.

Fair condition of concrete U channel is assumed for the Manning's roughness coefficient i.e coefficient value is 0.015 for calculating capacities of concrete U-channel using Manning's Equation. The recommended roughness values ks for concrete channels with float finish is 3.3 mm under normal condition.

Manning's Equation for calculating the channel and pipe capacities is adopted for this analysis:

$$V = \frac{R^{2/3}S^{1/2}}{n}$$

where V = mean velocity, m/s
S = slope of the total energy line
n = Manning's roughness coefficient
R = hydraulic radius, m

Deposition of sediment in stormwater drainage system is considered in the hydraulic calculation as required by the SDM. 10% reduction in flow area is adapted to consider the effects to flow capacity due to materials deposited on the bed.

3.3.   Summary of Assessment Assumptions

The assumptions of the Drainage Proposal are summarized below for ease of reference:

- Runoff coefficient of 1 for the paved area is assumed;
- Storm constants for 50 years return periods of HKO Headquarters
- Manning's roughness coefficient of 0.015 for the proposed concrete U-channels and concrete pipe are adopted; and
- Roughness values ks of 3.3 mm for concrete channels with float finish is adopted.

4. Potential Drainage Impact

4.1.   Change in Drainage Characteristics

There is no existing drainage provision inside the current site, the stormwater was discharged as surface runoff and infiltration leading to the natural stream or river.
The total application area is approximately 9000 m^2, they are divided into four catchment areas, namely CA1 (2,300 m²), CA2 (2,700 m²), CA3 (2,000 m²) and CA4 (2,000 m²).

The adjacent sites have no record of flooding. Peripheral surface channels are proposed to collect the surface runoff accrued on the site. After site formation, the proposed ground level is generally higher than the adjacent lands, only insignificant overland flow from adjacent lands will pass through the application site. Hoardings are erected with adequate opening to allow existing overland flow passing through the site.

To manage the stormwater flows after developing the site, this drainage proposal detailed the proposed drainage system consisting of a set of U-channels for diverting stormwater flows to avoid causing flooding to the site.

4.2.   Proposed Drainage Works

The runoff from the application site is proposed to be collected by U-channels along the site boundary and discharged to the four terminate catchpits with sand trap and eventually lead to the existing open channels in vicinity of the site. Cover levels and invert levels of both the proposed and existing drainage facilities were shown on the drainage plan. The invert levels of the upstream drainage facilities were higher than those at the downstream to ensure proper flow direction. In addition, the gradients and sizes of the proposed and existing drainage facilities were also indicated on the drainage plan. The detail of the proposed drainage works in drainage plan are illustrated in **Appendix D1**.

Cross sections showing the proposed drainage facilities and the existing and proposed ground levels of the captioned site with respect to the adjacent areas were provided in **Appendix D2.**

Hydraulic calculations were carried out to demonstrate that the proposed drainage facilities were adequate to collect, convey, and discharge the surface runoff generated from the application site. The hydraulic calculations for the proposed U-channel are presented in **Appendix E1** and drainage pipes are presented in **Appendix E2**.

Moreover, separate hydraulic calculation has been checked for the existing facilities to be discharged to have sufficient capacity to cater for application site, it is appended in **Appendix F**.

The construction details of the proposed drainage facilities and typical designs for the U-channels and catchpits in CEDD's standard drawings are provided in **Appendix G** as a reference.

4.3. Design Calculation and Result

Hydraulic calculation demonstrated 450mm width surface U-channels are adequate to collect the surface runoff accrued on CA1 and CA4 while 525mm width are adequate for the surface runoff accrued on CA2 and CA3. The design calculations for U-channel with the application site are summarized in **Table 1** and appended in **Appendix E1.**

Catchment Area (m²)	Surface Channel	From	To	Cover Level	Inlet Level	Width (mm)	Length (m)	Grad.	Vel. Full Bore (m/s)	Runoff / Cap. (Q/Qo)	Check
CA1: 2300	UC1	CP1	CP2	4.92	4.35	450	12.3	100	1.80	66.0%	OK
	UC2	CP2	CP3	4.92	4.13	450	21.6	100	1.80	65.0%	OK
	UC3	CP3	CP4	4.91	3.85	450	27.8	100	1.47	63.7%	OK
	UC4	CP4	TCP5	4.89	3.66	450	19.2	100	1.47	62.8%	OK
	UC5	CP18	CP8	4.93	3.85	450	38.4	100	1.80	57.6%	OK
	UC6	CP8	CP7	4.92	3.68	450	17.4	100	1.80	57.0%	OK
	UC7	CP7	CP6	4.90	3.56	450	18.1	150	1.47	69.1%	OK
	UC8	CP6	TCP5	4.89	3.46	450	15.1	150	1.47	68.4%	OK
CA2: 2700	UC9	CP16	CP17	4.92	4.32	525	11.8	150	1.63	63.2%	OK
	UC10	CP17	CP18	4.93	4.24	525	12.1	150	1.63	62.6%	OK
	UC11	CP8	CP9	4.91	3.74	525	16.9	150	1.63	60.0%	OK
	UC12	CP9	CP10	4.91	3.68	525	8.8	150	1.63	59.7%	OK
	UC13	CP10	TCP11	4.90	3.44	525	35.4	150	1.63	58.2%	OK
	UC14	CP16	CP12	4.92	4.03	525	54.1	150	1.63	51.7%	OK
	UC15	CP12	TCP11	4.10	3.70	525	49.7	150	1.63	50.5%	OK
CA3: 2000	UC16	CP12	TCP13	4.90	3.86	525	35.4	200	1.42	40.9%	OK
	UC17	CP16	CP15	4.92	4.26	525	26.7	200	1.42	47.0%	OK
	UC18	CP15	CP14	4.92	4.18	525	16.3	200	1.42	46.4%	OK
	UC19	CP14	TCP13	4.90	4.01	525	34.8	200	1.42	45.2%	OK
CA4: 2000	UC20	CP18	CP19	4.93	4.14	450	9.5	150	1.80	58.4%	OK
	UC21	CP19	CP20	4.92	3.88	450	38.9	150	1.47	69.0%	OK
	UC22	CP20	CP21	4.92	3.63	450	38.4	150	1.47	66.7%	OK
	UC23	CP21	CP22	4.92	3.45	450	26.1	200	1.47	65.4%	OK
	UC24	CP22	TCP23	4.92	3.31	450	21.1	200	1.47	64.3%	OK
	UC25	CP1	TCP23	4.92	4.33	450	14.3	100	1.80	56.6%	OK

Table 1: Drainage Schedule of Proposed U-channel

Drainage pipes are proposed to connect from the terminal catchpits to the existing village surface channel and open channel. The sizes of the drainage pipes are 450mm and 525mm respectively, they are detailed as in **Table 2** and appended in **Appendix E2**.

From	To	U/S I.L. (mPD)	D/S I.L. (mPD)	Width (mm)	Length (m)	Grad.	Vel. V (m/s)	Runoff Q (m3/s)	Runoff / Cap. (Q/Qo)	Check
TCP5	DP1	3.46	3.32	450	7.9	56	2.068	0.194	59%	OK
TCP11	DP2	3.44	2.98	525	31.9	69	2.068	0.222	50%	OK
TCP13	DP3	3.29	2.90	525	15.2	39	2.758	0.164	27%	OK
TCP23	DP4	3.31	2.99	450	9.8	31	2.807	0.163	36%	OK

Table 2: Drainage Schedule of Proposed Drainage Pipe

To confirm that the receiving drainage facilities have sufficient capacity to accommodate the discharge from the application site, additional hydraulic calculations were carried out on existing 750 mm U-channel and 6500mm open channel in the vicinity of the application site. The results are summarized in **Table 3** and appended in **Appendix F**. This demonstrates that the proposed development will not adversely affect the existing drainage system.

Catchment Area (m²)	Surface Channel	From	To	Cover Level	Inlet Level	Width (mm)	Length (m)	Grad.	Vel. Full Bore (m/s)	Runoff / Cap. (Q/Qo)	Check
DP1	Existing UC	CA1	2300	1	750	0.016	0.83	223.53	0.14	17.2%	OK
DP2	Existing UC	CA2	2700	1	750	0.016	0.76	197.48	0.15	19.5%	OK
DP3	SCP1009605	CA3	2000	1	6500	0.016	32.28	87.79	0.05	0.2%	OK
DP4	Existing UC	CA4	2000	1	750	0.016	0.57	165.45	0.09	16.1%	OK

Table 3: Design Checking for Existing Drainage Facilities

5. Conclusion

A temporary drainage proposal has been designed for proposed temporary place of recreation, sport or culture (padel tennis) with ancillary eating place and shop and services for a period of 3 years at Lot 1560 (Part) in D.D.107 and adjoining government land, Kam Tin, Yuen Long, New Territories.

Based on the hydraulic calculations, a set od peripheral U-channel with width of 450mm and 525mm have been deemed sufficient to convey peak runoff under a 50-year return period from the application site. The stormwater collected from the site will be discharged into the village surface channels with 750mm width and catchpits in vicinity of the application site. The ultimate discharge points will be existing public open channel (SCP1013160) with width of 12m on the north side of the application site and the other existing public open channel (SCP1009605) with width of 6.5m on the south side of the application site.

Coordination will be undertaken with relevant stakeholders, agreement will be sought from the owner prior to commencement of the proposed work, and feedback will be sought from appropriate government departments regarding temporary drainage arrangements to ensure the system operates effectively.

Appendix A
Location Plan of Application Site

N

S/YL-KTN/11

申請地點
Application Site

新田公路
TSING LONG HIGHWAY

逢吉裏路

R(A)
CA
G/IC
R(A)
R(C)13
2
I(D)
AGR
OU
185

逢吉鄉
輸水隧道入口
Fung Kat Heung Portal
1
G/IC

逢吉鄉
Fung Kat Heung

G/IC

SHA PO TSUEN ROAD
沙埔村
Sha Po Tsuen
R(A)
CDA
CDA
V
CDA(1)
沙埔村路
CDA

沙埔村路

峻巒
Park Yoho
CDA

水尾路

G/IC
1
漁農自然護理署
凹頭漁業辦事處
AFCD Au Tau
Fisheries Office
G/IC
1

長春新村
Cheung Chun San Tsuen
16

V
水尾村
Shui Mei Tsuen
北圍村
Pak Wai Tsuen

NBA
C
OU(A)
CDA
CDA(1)
CDA

CA
CA(1)

山水盈
Crescent Green
13
R(B)1
OU
R(E)
23
青朗公路

治河係

錦田河

CHI HO ROAD

KAM TIN RIVER

OU
AGR
OU(A)

水頭村
Shui Tau Tsuen

PFS
1
錦田公路
爾巒
Riva
3
下高埔村
Ha Kò Po Tsuen
12
R(B)
G/IC
OU(A)

CA(1)
錦田抽水站

錦慶圍
Kam Hing Wai

AGR

錦田河北

位置圖　LOCATION PLAN

本摘要圖於2025年12月22日擬備，
所根據的資料為於2023年12月5日
核准的分區計劃大綱圖編號 S/YL-KTN/11
EXTRACT PLAN PREPARED ON 22.12.2025
BASED ON OUTLINE ZONING PLAN No.
S/YL-KTN/11 APPROVED ON 5.12.2023

SCALE 1 : 7 500 比例尺
米 METRES 100　0　100　200　300 米 METRES

參考編號
REFERENCE No.

A/YL-KTN/1198

申請地點
Application Site

N

PARK YOHO
峻巒

Tower 33A　Tower 33B
Park Yoho Milano
Tower 26
Yoho Napoli
Tower 25B
Tower 25A
Tower 23B
Tower 23A
平台
Podium
Tower 22

Road

TS

TS

水尾路　SHUI MEI ROAD

斜路　Ramp

露天貨倉
Open Storage

CUL

TS

本摘要圖於2025年12月22日擬備，
所根據的資料為測量圖編號
6-NE-6B 及 7A
EXTRACT PLAN PREPARED ON 22.12.2025
BASED ON SURVEY SHEETS No.
6-NE-6B & 7A

平面圖　SITE 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-KTN/1198

Appendix B
Layout Plan of Application Site

Structure 2 (Container)
Function Room
GFA: 90m² (About)
No. of storey: 2
Height: Not exceeding 7m

Structure 3 (Container)
Storage Room, Toilet & Changing Room
GFA: 130m² (About)
No. of storey: 2
Height: Not exceeding 7m

Structure 4 (Container)
Storage Room
GFA: 130m² (About)
No. of storey: 2
Height: Not exceeding 7m

Structure 1 (Container)
Toilet & Changing Room
GFA: 230m² (About)
No. of storey: 2
Height: Not exceeding 7m

Structure 7-24
18 Padel Tennis Courts
Size : 11m x 21m
Height: Not exceeding 11m

Structure 5 (Container)
Reception, Shop & Eating place
GFA: 230m² (About)
No. of storey: 2
Height: Not exceeding 7m

Application Site
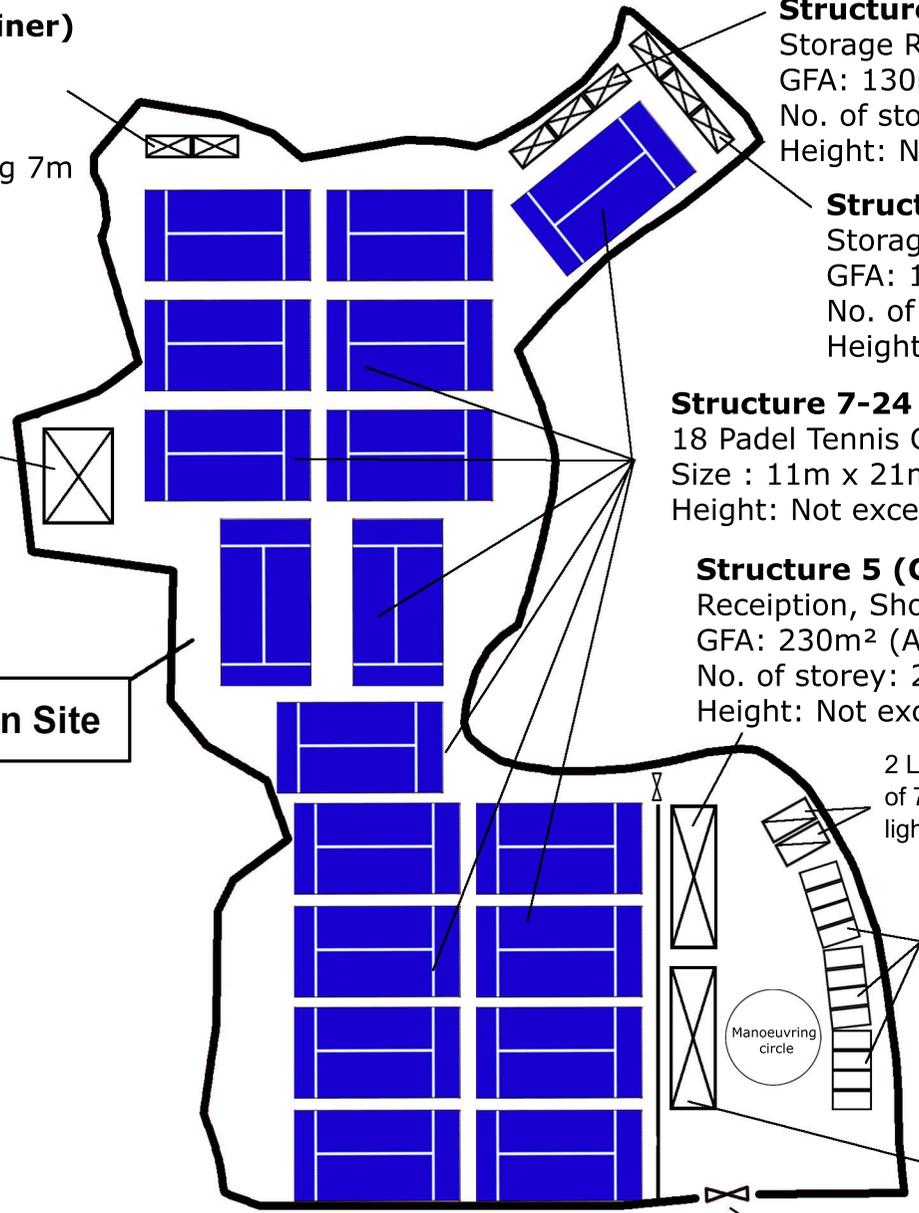
2 Loading/unloading spaces
of 7m x 3.5m for
light goods vehicle

12 Parking spaces
of 5m x 2.5m for
private vehicle

Manoeuvring circle

Structure 6 (Container)
Reception, Shop & Eating place
GFA: 230m² (About)
No. of storey: 2
Height: Not exceeding 7m

Ingress/Egress 6m

Appendix C
Location Plan and Photos of the Existing Drainage

N

Sha Po Tsuen Stormwater Pumping Station

Existing SCP1013160
Width:12000mm

Park Yoho Milano
Tower 36B

Park Yoho Milano
Tower 31A

Park Yoho Milano

Photo 1

Club House

Park Vista 1A

Club House

Park Yoho
Tower

Existing Surface Channel
Width:750mm

Napoli

Park Yoho Genova
Tower 15A

Park Yoho Napo

Photo 2

MEI FUNG ROAD

Club House

Park Yoho

k Yoho

Park Yoho Genova

Club House

Tower 9B

Park Yoho Napoli
Tower 23A

Tower 9A

Application Site

Park Yoho Genova
Tower 17

Club House

Park Yoho Napoli
Tower 20

SHUI MEI ROAD

Park Yoho Tower 8A

Existing SCP1009605
Width: 6500mm

Park Yoho Tower 8B

0   115 m

OS

Existing SCP1013160
Width:12000mm

Existing SCP1009605
Width: 6500mm

Photo 1 : 750mm Surface Channel

Photo 1 : 750mm Surface Channel

Photo 2 : 750mm Surface Channel

Photo 2 : 750mm Surface Channel

Appendix D1
Proposed Drainage Arrangement

LEGEND

- —— SITE BOUNDARY
- ∙∙∙⊲ FALL DIRECTION
- ▨ CATCHMENT AREA
- → PROPOSED U- CHANNEL (UC)
- ▱ PROPOSED CATCHPIT (CP)
- ■ PROPOSED TERMINAL CATCHPIT WITH SANDTRAP (TCP)
- → PROPOSED DISCHRGE PIPE (DP)
- ● PROPOSED CONNECTION / DISCHRGE POINT
- – – EXISTING DRAINAGE CHANNEL

SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES
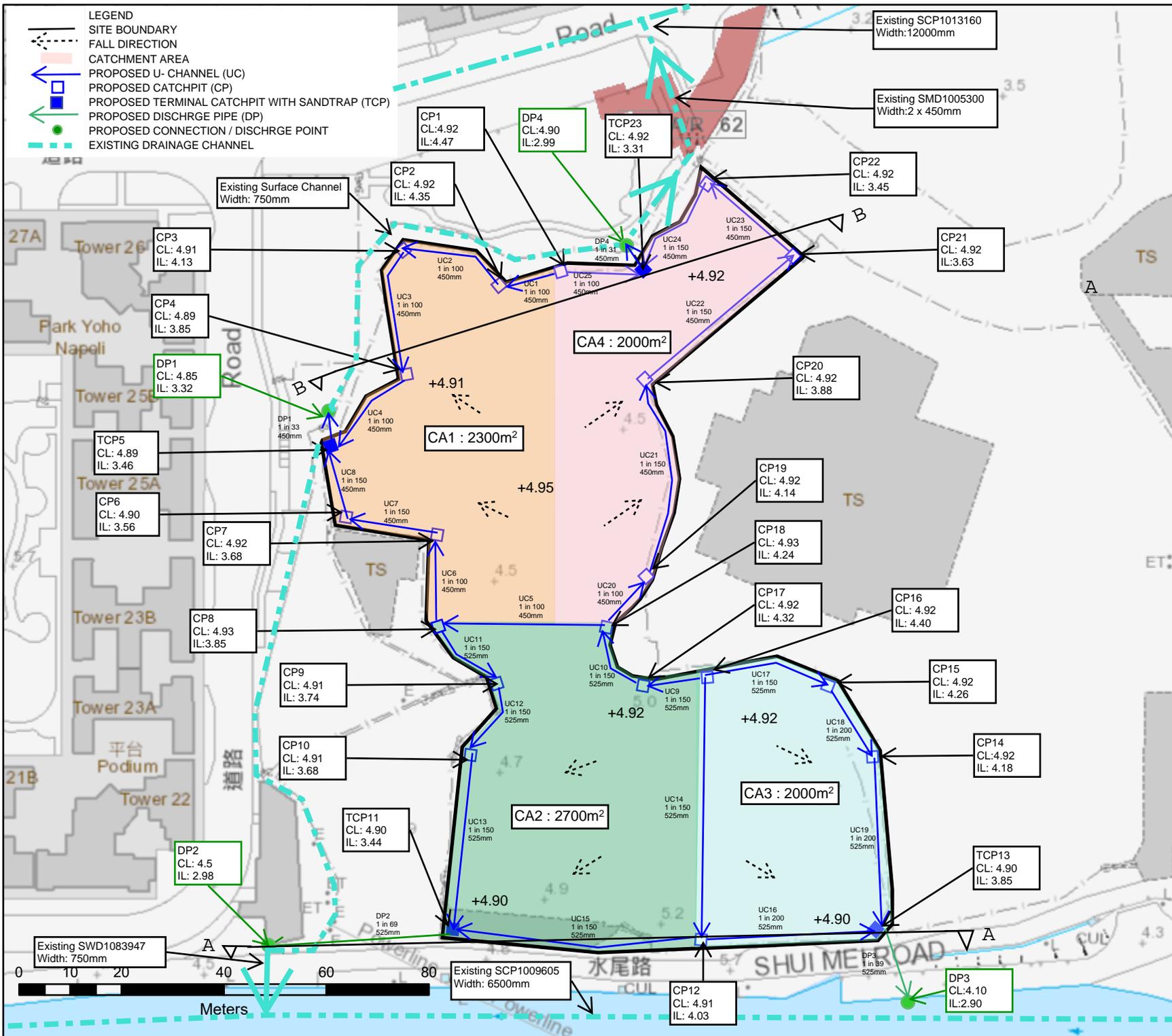A-YL-KTN-1198

DRAWING TITLE:

PROPOSED DRAINAGE WORKS

APPENDIX D1
ISSUE 1

Division	
Scale	1:1000
Date	8/03/2026

Existing SCP1013160
Width:12000mm

Existing SMD1005300
Width:2 x 450mm

CP1
CL:4.92
IL:4.47

DP4
CL:4.90
IL:2.99

TCP23
CL: 4.92
IL: 3.31

CP22
CL: 4.92
IL: 3.45

CP2
CL: 4.92
IL: 4.35

Existing Surface Channel
Width: 750mm

CP3
CL: 4.91
IL: 4.13

CP21
CL: 4.92
IL:3.63

CP4
CL: 4.89
IL: 3.85

DP4
1 in 31
450mm

UC23
1 in 150
450mm

UC24
1 in 150
450mm

UC2
1 in 100
450mm

UC25
1 in 100
450mm

UC1
1 in 100
450mm

+4.92

CA4 : 2000m²

UC3
1 in 100
450mm

UC22
1 in 150
450mm

CP20
CL: 4.92
IL: 3.88

DP1
CL: 4.85
IL: 3.32

DP1
1 in 33
450mm

+4.91

UC4
1 in 100
450mm

CA1 : 2300m²

UC21
1 in 150
450mm

TCP5
CL: 4.89
IL: 3.46

+4.95

CP19
CL: 4.92
IL: 4.14

CP6
CL: 4.90
IL: 3.56

UC8
1 in 150
450mm

UC7
1 in 150
450mm

CP18
CL: 4.93
IL: 4.24

CP7
CL: 4.92
IL: 3.68

CP17
CL: 4.92
IL: 4.32

CP16
CL: 4.92
IL: 4.40

CP8
CL: 4.93
IL:3.85

UC6
1 in 100
450mm

UC5
1 in 100
450mm

UC20
1 in 100
450mm

UC11
1 in 150
525mm

UC10
1 in 150
525mm

UC17
1 in 150
525mm

CP15
CL: 4.92
IL: 4.26

CP9
CL: 4.91
IL: 3.74

UC12
1 in 150
525mm

UC9
1 in 150
525mm

+4.92

+4.92

UC18
1 in 200
525mm

CP14
CL:4.92
IL: 4.18

CA2 : 2700m²

CA3 : 2000m²

CP10
CL: 4.91
IL: 3.68

UC14
1 in 150
525mm

TCP11
CL: 4.90
IL: 3.44

UC13
1 in 150
525mm

UC19
1 in 200
525mm

TCP13
CL: 4.90
IL: 3.85

DP2
CL: 4.5
IL: 2.98

+4.90

DP2
1 in 69
525mm

UC15
1 in 150
525mm

UC16
1 in 200
525mm

+4.90

DP3
1 in 89
525mm

Existing SWD1083947
Width: 750mm

Existing SCP1009605
Width: 6500mm

CP12
CL: 4.91
IL: 4.03

DP3
CL:4.10
IL:2.90

SHUI MEI ROAD

| 0 | 10 | 20 | 40 | 60 | 80 |

Meters

Appendix D2
Proposed Drainage Arrangement-
Cross Sections

SECTION A-A

- Adjacent Area
- Proposed Site Boundary
- A-YL-KTN-1198
- Proposed Site Boundary
- Adjacent Area

No External Catchment Area Were Identified

Fencing with Openings

Fencing with Openings

No External Catchment Area Were Identified

Existing Ground Level

Proposed Ground Level

+4.5
+4.9
+4.1

Exsitin

Proposed DP2
1 in 69
525mm

UC15
1 in 150
525mm

UC16
1 in 200
525mm

DP3
1 in 39
525mm

Existing SWD1083947
Width: 750mm

DP2
CL: 4.5
IL: 2.98

TCP11
CL: 4.90
IL: 3.44

CP12
CL: 4.91
IL: 4.03

TCP13
CL: 4.90
IL: 3.85

DP3
CL:4.10
IL:2.90

Existing SCP1009605
Width: 6500mm

SECTION B-B

- Adjacent Area
- Proposed Site Boundary
- A-YL-KTN-1198
- Proposed Site Boundary
- Adjacent Area

No External Catchment Area Were Identified

Fencing with Openings

Fencing with Openings

No External Catchment Area Were Identified

Existing Ground Level

+4.3
+4.9   Proposed Ground Level
+3.9

UC2
1 in 100
450mm

UC1
1 in 100
450mm

UC35
1 in 100
450mm

UC24
1 in 150
450mm

Existing Surface Channel
Width: 750mm

CP3
CL: 4.91
IL: 4.13

CP2
CL: 4.92
IL: 4.35

CP1
CL:4.92
IL:4.47

TCP23
CL: 4.92
IL: 3.31

CP22
CL: 4.92
IL: 3.45

SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES
A-YL-KTN-1198

DRAWING TITLE:

CROSS SECTION OF PROPOSED DRAINAGE WORKS
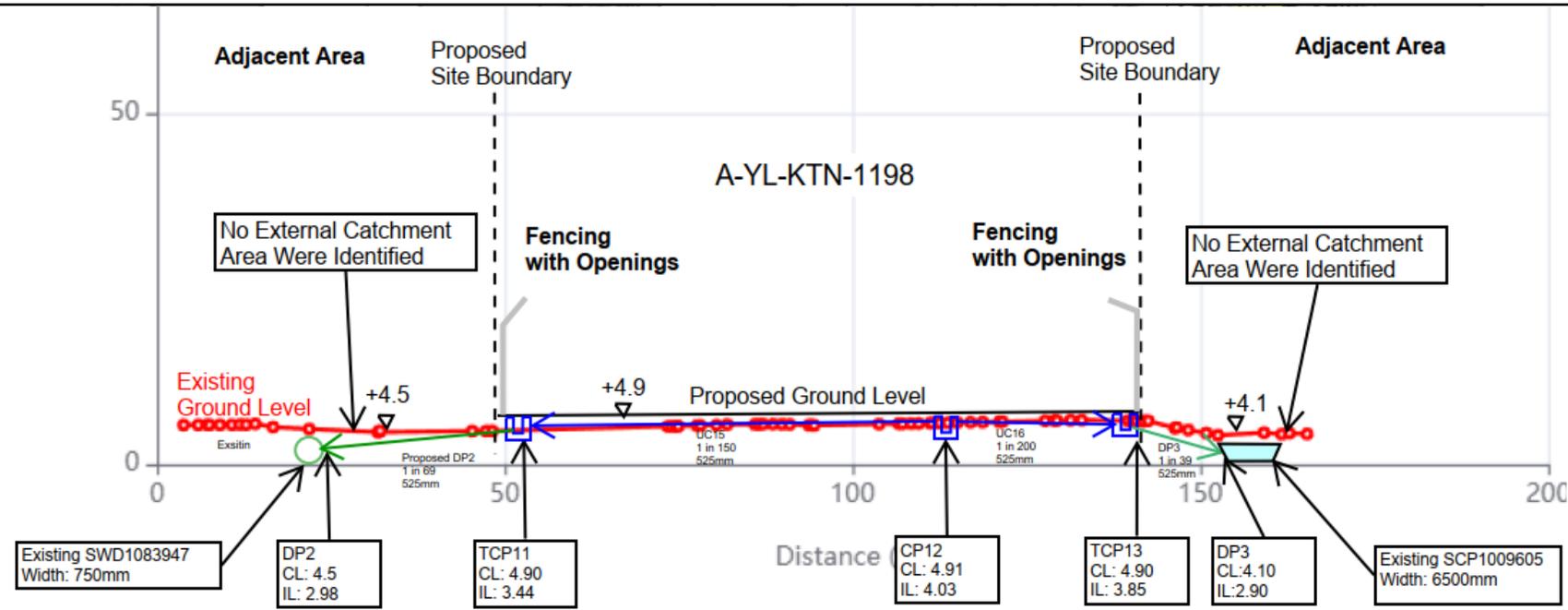
APPENDIX D2
ISSUE 1

Division

Scale

Date   09/03/2026

Appendix E1
Design Checking for Proposed U Channel for Application Site

Calculation Sheet		Date:	2026-03-10
Project Title:		**Project No.:**	**YL-KTN-1198**
TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES		**Designed by:**	**RF**
		Appendix :	**E1**
		Sheet No.:	**1**

Design for Proposed U Channel for Development Area

Catchpit No.		Catchment				Level				U Channel										Manning's Equation						
From (U/S)	To (D/S)	Surface Channel	Catchment Area (m²)	Runoff Coef. C	Ave. Slope / 100m	U/S C.L. (mPD)	D/S C.L. (mPD)	U/S I.L. (mPD)	D/S I.L. (mPD)	Mat- erial	Nominal Width (mm)	Nominal Depth (mm)	Lgth (m)	Grad. (1 in)	Restricted U Channel Area (m2)	Wetted Peri.P (mm)	Hyd. Radius R (mm)	Mng's Coef. n	Vel. V at Full Bore (m/s)	Cap. Q_o (m³/s)	Velocity Check	Time of Conc. t_c (min)	Rainfall Intensity i (mm/hr)	Runoff Q (m³/s)	Capacity % (Q/Q_o)	Capacity Check
CP1	CP2	UC1	2300	1	0.5	4.92	4.92	4.47	4.35	CO	450	450	12.3	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	0.942	302.89	0.19	66.0%	OK
CP2	CP3	UC2	2300	1	0.5	4.92	4.92	4.35	4.13	CO	450	450	21.6	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	1.142	297.97	0.19	65.0%	OK
CP3	CP4	UC3	2300	1	0.5	4.92	4.91	4.13	3.85	CO	450	450	27.8	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	1.399	292.07	0.19	63.7%	OK
CP4	TCP5	UC4	2300	1	0.5	4.91	4.89	3.85	3.66	CO	450	450	19.2	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	1.577	288.24	0.18	62.8%	OK
CP18	CP8	UC5	2300	1	0.5	4.93	4.93	4.24	3.85	CO	450	450	38.4	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	2.942	264.01	0.17	57.6%	OK
CP8	CP7	UC6	2300	1	0.5	4.93	4.92	3.85	3.68	CO	450	450	17.4	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	3.103	261.63	0.17	57.0%	OK
CP7	CP6	UC7	2300	1	0.5	4.92	4.90	3.68	3.56	CO	450	450	18.1	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	3.308	258.72	0.17	69.1%	OK
CP6	TCP5	UC8	2300	1	0.5	4.90	4.89	3.56	3.46	CO	450	450	15.1	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	3.479	256.38	0.16	68.4%	OK
CP16	CP17	UC9	2700	1	0.5	4.92	4.92	4.40	4.32	CO	525	525	11.8	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	0.890	304.24	0.23	63.2%	OK
CP17	CP18	UC10	2700	1	0.5	4.92	4.93	4.32	4.24	CO	525	525	12.1	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	1.013	301.11	0.23	62.6%	OK
CP8	CP9	UC11	2700	1	0.5	4.91	4.91	3.85	3.74	CO	525	525	16.9	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	1.541	288.99	0.22	60.0%	OK
CP9	CP10	UC12	2700	1	0.5	4.91	4.91	3.74	3.68	CO	525	525	8.8	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	1.631	287.11	0.22	59.7%	OK
CP10	TCP11	UC13	2700	1	0.5	4.91	4.90	3.68	3.44	CO	525	525	35.4	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	1.993	279.97	0.21	58.2%	OK
CP16	CP12	UC14	2700	1	0.5	4.92	4.92	4.40	4.03	CO	525	525	54.1	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	4.079	248.76	0.19	51.7%	OK
CP12	TCP11	UC15	2700	1	0.5	4.92	4.10	4.03	3.70	CO	525	525	49.7	150	0.22	1.35	0.16	0.015	1.63	0.36	OK	4.587	242.95	0.18	50.5%	OK
CP12	TCP13	UC16	1900	1	0.5	4.92	4.90	4.03	3.86	CO	525	525	35.4	200	0.22	1.35	0.16	0.015	1.41	0.31	OK	4.643	242.34	0.13	40.9%	OK
CP16	CP15	UC17	1900	1	0.5	4.92	4.92	4.40	4.26	CO	525	525	26.7	200	0.22	1.35	0.16	0.015	1.41	0.31	OK	2.085	278.25	0.15	47.0%	OK
CP15	CP14	UC18	1900	1	0.5	4.92	4.92	4.26	4.18	CO	525	525	16.3	200	0.22	1.35	0.16	0.015	1.41	0.31	OK	2.278	274.80	0.15	46.4%	OK
CP14	TCP13	UC19	1900	1	0.5	4.92	4.90	4.18	4.01	CO	525	525	34.8	200	0.22	1.35	0.16	0.015	1.41	0.31	OK	2.688	267.94	0.14	45.2%	OK
CP18	CP19	UC20	2000	1	0.5	4.93	4.93	4.24	4.14	CO	450	450	9.5	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	0.738	308.25	0.17	58.4%	OK
CP19	CP20	UC21	2000	1	0.5	4.93	4.92	4.14	3.88	CO	450	450	38.9	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	1.179	297.11	0.17	69.0%	OK
CP20	CP21	UC22	2000	1	0.5	4.92	4.92	3.88	3.63	CO	450	450	38.4	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	1.613	287.47	0.16	66.7%	OK
CP21	CP22	UC23	2000	1	0.5	4.92	4.92	3.63	3.45	CO	450	450	26.1	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	1.909	281.56	0.16	65.4%	OK
CP22	TCP23	UC24	2000	1	0.5	4.92	4.92	3.45	3.31	CO	450	450	21.1	150	0.16	1.16	0.14	0.015	1.47	0.24	OK	2.148	277.11	0.15	64.3%	OK
CP1	TCP23	UC25	2000	1	0.5	4.92	4.92	4.47	4.33	CO	450	450	14.3	100	0.16	1.16	0.14	0.015	1.80	0.29	OK	1.111	298.71	0.17	56.6%	OK

Formulae:

t_c = Time of Concentration = $t_o + t_f$

where t_o = Inlet Time = $0.14465L/(H^{0.5} A^{0.1})$

t_f = Flow Time = â (Pipe Length / Flow Velocity)

V = Pipe Flow Velocity

= $(R)^{2/3}s^{1/2}/n$ for Manning's Equation

where g = Gravitational Acceleartion = 9.81 m/s²

R = Hydraulic Radius

s = Frictional Slope

k_s = Surface Roughness = 3.3 mm for concrete CO   Ref. DSD SDM Table 14

= 0.06 mm for cast iron CI

= 0.6 mm for ductile iro DI

n = Kine. Viscosity = 1.141E-06 m²/s

n = Manning's Coef. = 0.015 for concrete CO   Ref. DSD SDM Table 13

0.015 for cast iron CI

0.015 for ductile iron DI

Q_o = Pipe Flow Capacity = $(\pi D^2/4)V$

i = Rainfall Intensity   HKO Headquarters

= $a / (t_c + b)^c$ where a = 505.5 for a return period of 50 years   Ref. DSD Corrigendum No. 1/2024 SDM Table 3a

b = 3.29

c = 0.355

Q = Runoff = 0.278*CiA

where C = Runoff Coefficient

A = Catchment Area

Appendix E2
Design Checking for Proposed Connection Pipe/ Drainage Pipe
for Application Site

Project Title:

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

Project No.:	YL-KTN-1198
Designed by:	RF
Appendix :	E2
Sheet No.:	1

Design for Proposed Drainage Pipe for Development Area

		Catchment					Pipe				Colebrook-White Equation							Manning's Equation							
												Pipe Flow								Pipe Flow					
From (U/S)	To (D/S)	Incre. Area (m²)	Accum. Area (m²)	Runoff Coef. C	U/S I.L. (mPD)	D/S I.L. (mPD)	Mat-erial	Dia. (mm)	Lgth (m)	Grad. (1 in)	Rough-ness k_s (mm)	Vel. V (m/s)	Cap. Q_o (m³/s)	Time of Conc. t_c (min)	Rainfall Inten-sity i (mm/hr)	Runoff Q (m³/s)	Velocity Check	Mng's Coef. n	Vel. V (m/s)	Cap. Q_o (m³/s)	Capacity Check	Time of Conc. t_c (min)	Rainfall Inten-sity i (mm/hr)	Runoff Q (m³/s)	Runoff / Cap. (Q/Q_o)	Capacity Check
TCP5	DP1	2300	2300	1	3.46	3.32	CO	450	7.9	56	3.30	2.136	0.340	1.004	301	0.193	OK	0.015	2.068	0.329	OK	0.942	303	0.194	59%	OK
TCP11	DP2	2700	2700	1	3.44	2.98	CO	525	31.9	69	3.30	2.132	0.462	1.253	295	0.222	OK	0.015	2.068	0.448	OK	1.200	297	0.222	50%	OK
TCP13	DP3	2000	2000	1	3.29	2.90	CO	525	15.2	39	3.30	2.845	0.616	1.342	293	0.163	OK	0.015	2.758	0.597	OK	1.291	294	0.164	27%	OK
TCP23	DP4	2000	2000	1	3.31	2.99	CO	450	9.8	31	3.30	2.900	0.461	1.399	292	0.162	OK	0.015	2.807	0.446	OK	1.350	293	0.163	36%	OK

Formulae:

t_c = Time of Concentration = $t_o + t_f$

where t_o = Inlet Time = $0.14465L/(H^{0.5} A^{0.1})$

t_f = Flow Time = å (Pipe Length / Flow Velocity)

V = Pipe Flow Velocity

= $(R)^{2/3} s^{1/2}/n$ for Manning's Equation

where g = Gravitational Acceleartion = 9.81 m/s²

R = Hydraulic Radius

s = Frictional Slope

k_s = Surface Roughness = 3.3 mm for concrete CO   Ref. DSD SDM Table 14

= 0.06 mm for cast iron CI

= 0.6 mm for ductile iron DI

n = Kine. Viscosity = 1.141E-06 m²/s

n = Manning's Coef. = 0.015 for concrete CO   Ref. DSD SDM Table 13

0.015 for cast iron CI

0.015 for ductile iron DI

Q_o = Pipe Flow Capacity = $(\pi D^2/4)V$

i = Rainfall Intensity   HKO Headquarters

= $a / (t_c + b)^c$ where a = 505.5 for a return period of 50 years   Ref. DSD Corrigendum No. 1/2024 SDM Table 3a
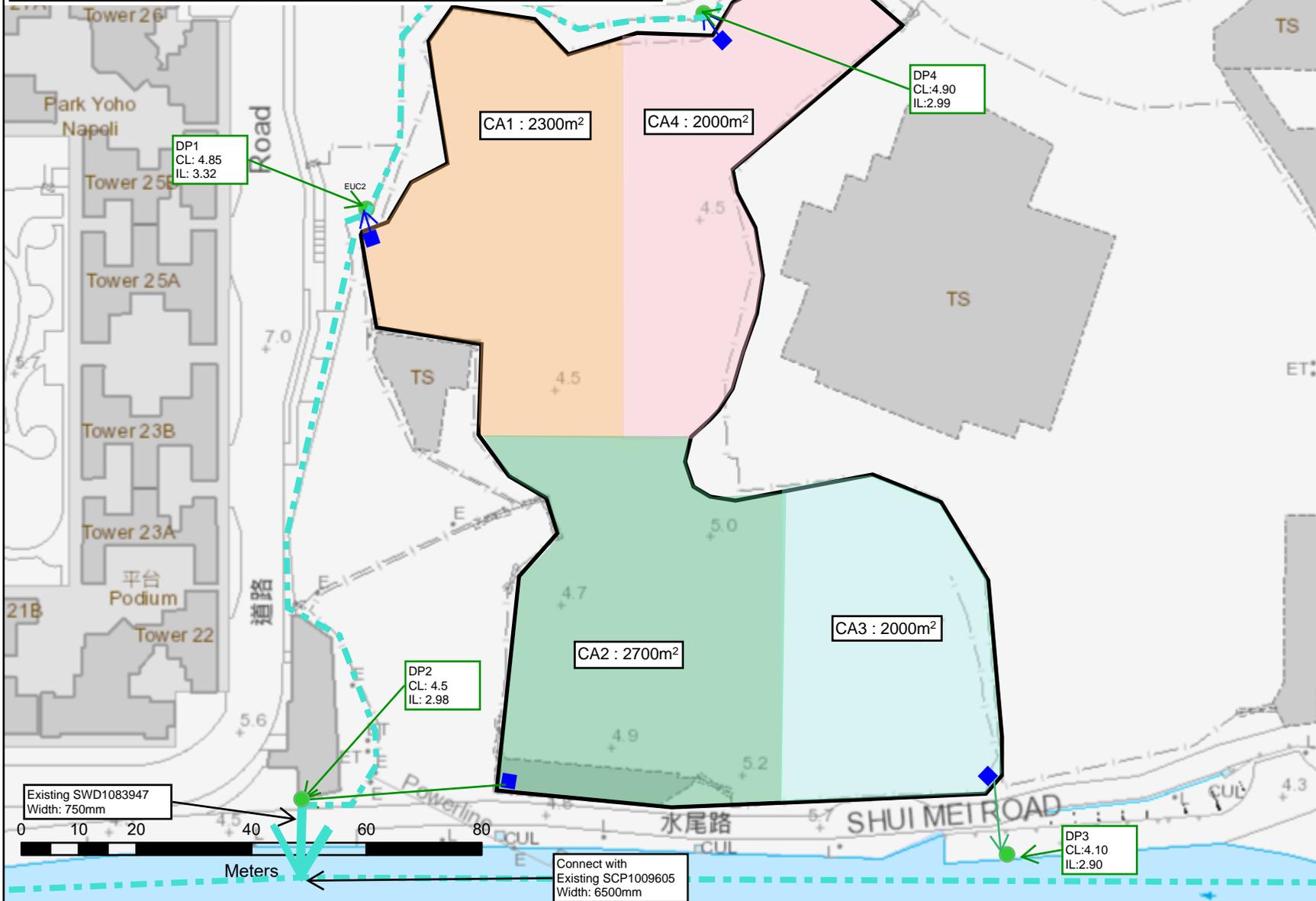
b = 3.29

c = 0.355

Q = Runoff = 0.278*CiA

where C = Runoff Coefficient

A = Catchment Area

Appendix F
Design Checking for Existing Drainage System

Design Checking for Existing Channel for Development Area

Catchpit No.		Catchment			Capacity Check						
From (U/S)	To (D/S)	Catchment Area (m^2)	Runoff Coef. C	Width (mm)	Mng's Coef. n	Cap. Q_o (m^3/s)	Rainfall Intensity i (mm/hr)	Runoff Q (m^3/s)	Capacity % (Q/Q_o)	Capacity Check	
DP1	Existing UC	2300	1	750	0.016	0.83	223.53	0.14	17.2%	OK	
DP2	Existing UC	2700	1	750	0.016	0.76	197.48	0.15	19.5%	OK	
DP3	SCP1009605	2000	1	6500	0.016	32.28	87.79	0.05	0.2%	OK	
DP4	Existing UC	2000	1	750	0.016	0.57	165.45	0.09	16.1%	OK	

LEGEND
— SITE BOUNDARY
···· FALL DIRECTION
▨ CATCHMENT AREA
← PROPOSED U- CHANNEL (UC)
□ PROPOSED CATCHPIT (CP)
■ PROPOSED TERMINAL CATCHPIT WITH SANDTRAP (TCP)
● PROPOSED DISCHRGE POINT (DP)
--- EXISTING 750mm SURFACE CHANNEL

Connect with Existing SCP1013160 Width:12000mm

6NE-A/R 62

DP4 CL:4.90 IL:2.99

CA1 : 2300m²

CA4 : 2000m²

TS

DP1 CL: 4.85 IL: 3.32

EUC2

Park Yoho Napoli

Tower 26

Tower 25B

Tower 25A

Tower 23B

Tower 23A

平台 Podium

Tower 22

TS

CA2 : 2700m²

CA3 : 2000m²

DP2 CL: 4.5 IL: 2.98

Existing SWD1083947 Width: 750mm

0 10 20 40 60 80

Meters

Powerline

水尾路 SHUI MEI ROAD

CUL CUL CUL

DP3 CL:4.10 IL:2.90

Connect with Existing SCP1009605 Width: 6500mm

SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES A-YL-KTN-1198
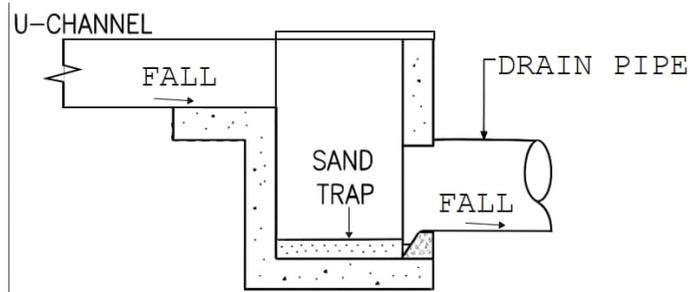
DRAWING TITLE:
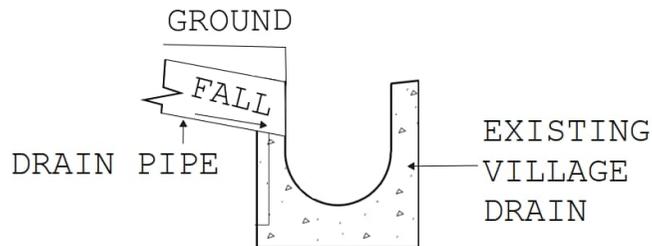
EXISTING DRAINAGE FACILITIES

APPENDIX F ISSUE 1

Division

Scale 1:1000

Date 8/03/2026

Appendix G
Construction Details and
Typical designs of the U-channels and Catchpits

CONNECTION TO PROPOSED CATCHPIT
WITH SAND TRAP TO STORMWATER PIPE
(FOR INDICATIVE ONLY)

CONNECTION TO STORMWATER PIPE TO
EXISTING VILLAGE DRAIN
(FOR INDICATIVE ONLY)

SITE PLAN

PROJECT :

TEMPORARY DRAINAGE PROPOSAL FOR THE PROPOSED TEMPORARY PLACE OF RECREATION, SPORT OR CULTURE (PADEL TENNIS) WITH ANCILLARY EATING PLACE AND SHOP AND SERVICES FOR A PERIOD OF 3 YEARS AT LOT 1560 (PART) IN D.D.107 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES
A-YL-KTN-1198

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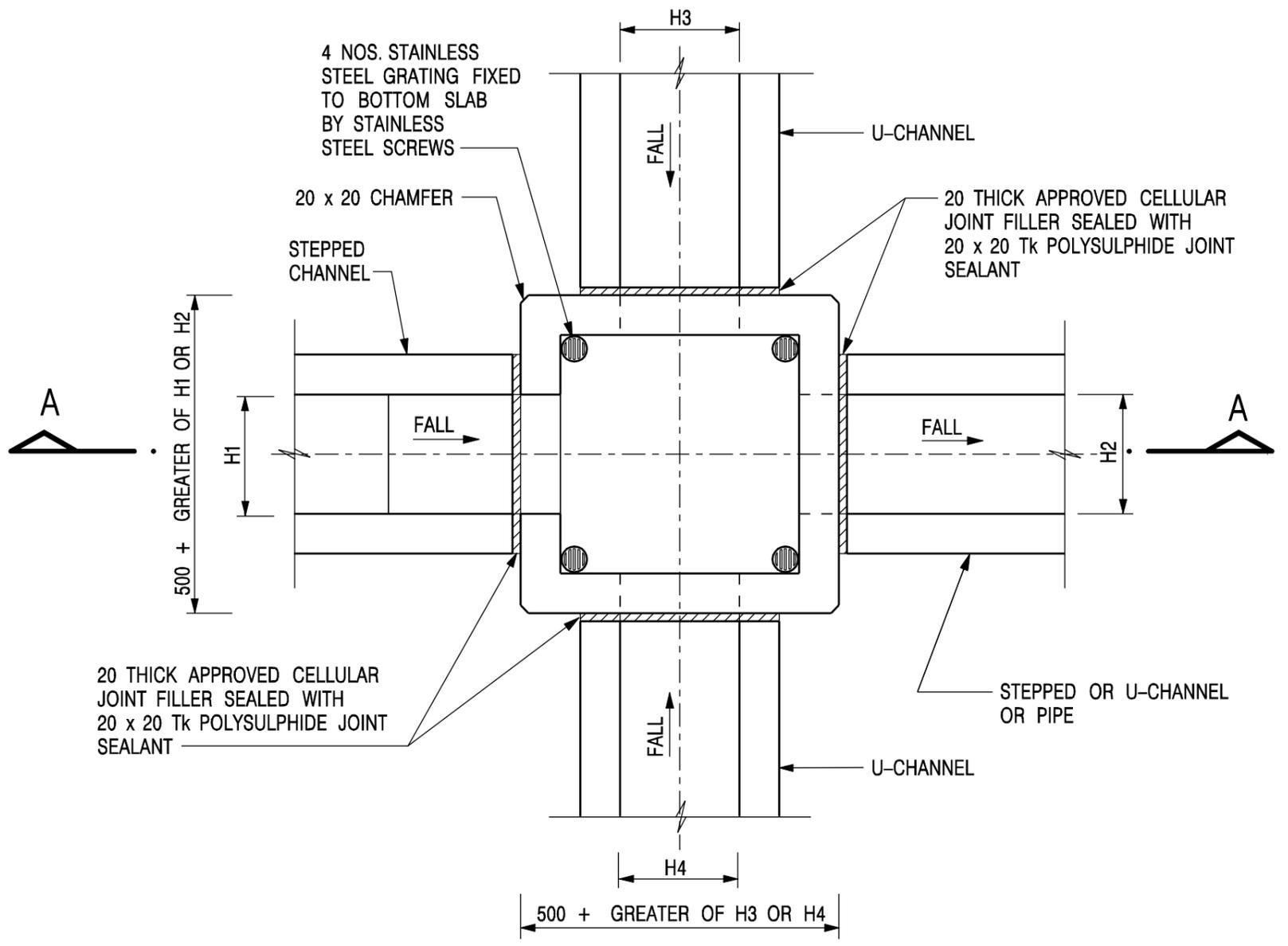
CONSTRUCTION DETAILS OF PROPOSED DRAINAGE WORKS

APPENDIX G
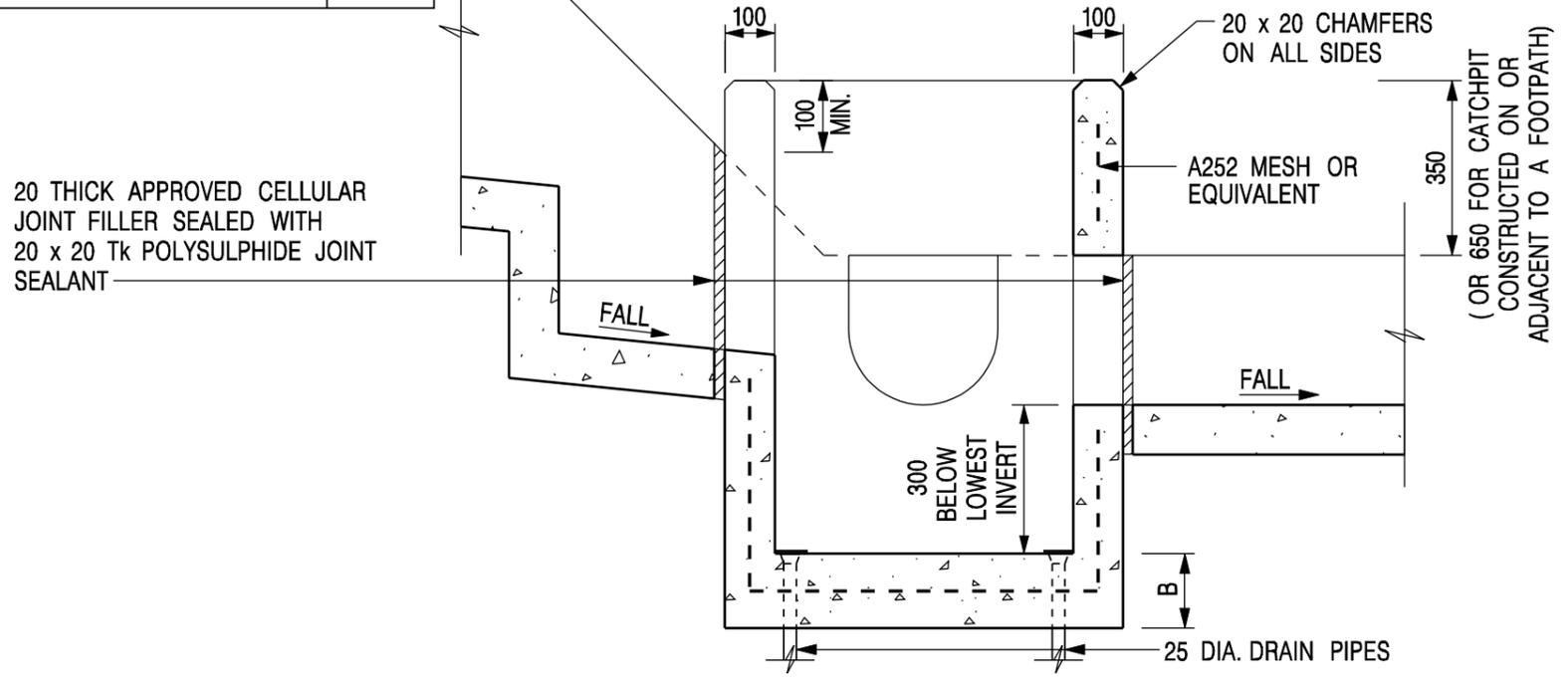ISSUE 1

Division

Scale NOT TO SCALE

Date 01/03/2026

APPENDIX G

PLAN

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

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT

20 x 20 CHAMFERS ON ALL SIDES

A252 MESH OR EQUIVALENT

(OR 650 FOR CATCHPIT CONSTRUCTED ON OR ADJACENT TO A FOOTPATH)

350

100 MIN.

FALL

300 BELOW LOWEST INVERT

FALL

B

25 DIA. DRAIN PIPES

SECTION A – A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. REFER TO SHEET 2 FOR OTHER NOTES.

4 NOS. STAINLESS STEEL GRATING FIXED TO BOTTOM SLAB BY STAINLESS STEEL SCREWS

20 x 20 CHAMFER

STEPPED CHANNEL

500 + GREATER OF H1 OR H2

H1

FALL

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT

H3

FALL

U-CHANNEL

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT

FALL

H2

STEPPED OR U-CHANNEL OR PIPE

U-CHANNEL

FALL

H4

500 + GREATER OF H3 OR H4

REF.	FORMER DRG. NO. C2406J.	Original Signed	03.2015
	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

卓越工程 建設香港   We Engineer Hong Kong's Development

DEPTH OF RECESS AND DETAILS OF
PRECAST CONCRETE COVERS
(SEE STD. DRG. NO. C2407)

50   50   60 FOR
                  STEEL GRATINGS
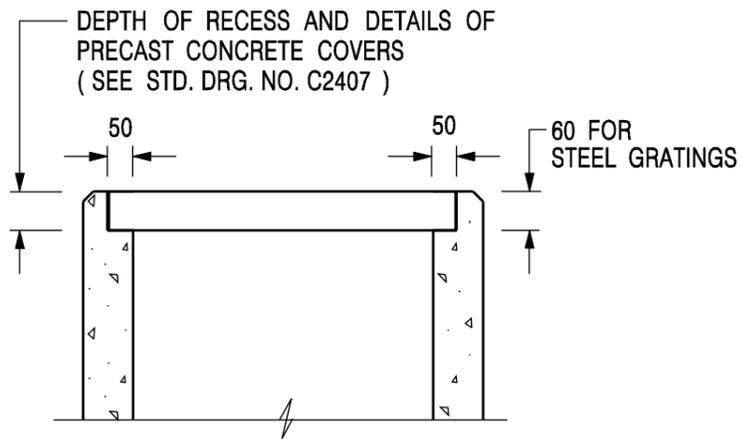
ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS

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.

REF.	REVISION	SIGNATURE	DATE
A	MINOR AMENDMENT.	Original Signed	04.2016
–	FORMER DRG. NO. C2406J.	Original Signed	03.2015

CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD

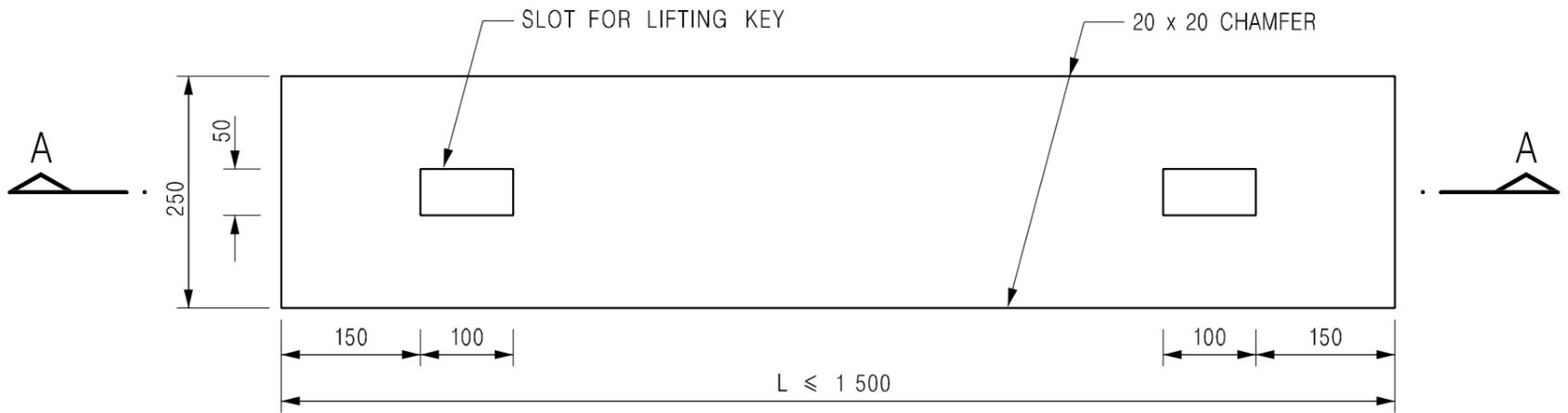**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE   1 : 20

DATE   JAN 1991

DRAWING NO.
C2406 /2A

GRADE 20 / 20 CONCRETE WITH ONE LAYER OF A252 MESH
REINFORCEMENT PLACED CENTRALLY. F2 AND U2 FINISH

100

A252 MESH

SECTION   A – A

SLOT FOR LIFTING KEY

20 x 20 CHAMFER

A

A

50

250

150   100

100   150

L ⩽ 1 500
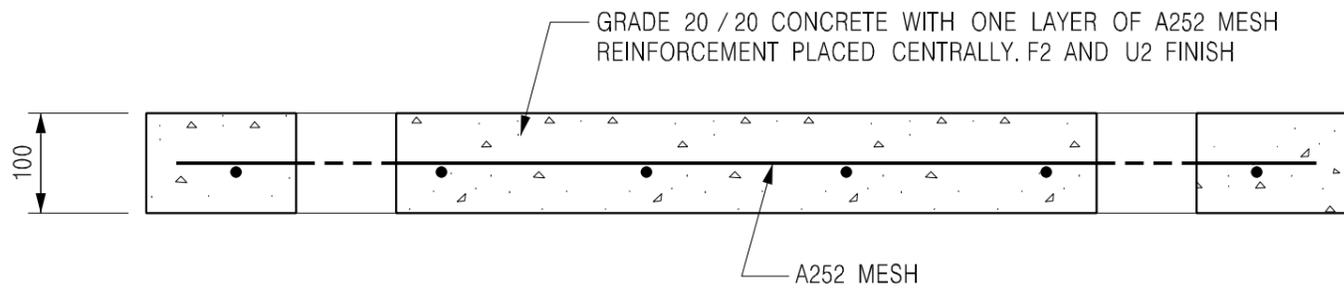
PLAN
TYPE 1 – FOR SPAN UP TO 1.5 m

A393 MESH

GRADE 20 / 20 CONCRETE WITH TWO LAYERS OF
A393 MESH REINFORCEMENT EACH WITH
40 CONCRETE COVER. F2 AND U2 FINISH

130

SECTION B – B

SLOT FOR LIFTING KEY

20 x 20 CHAMFER

B

B

50

250

150   100

100   150

1 500 < L ⩽ 2 500
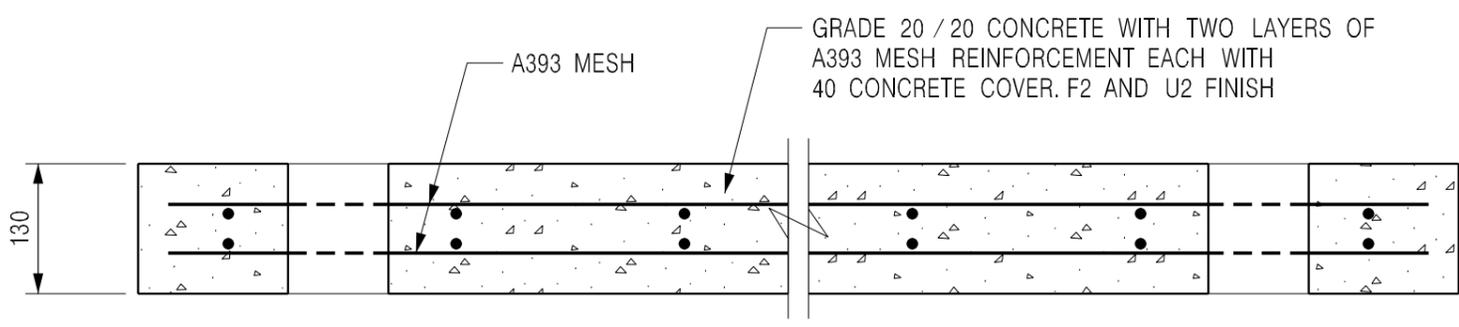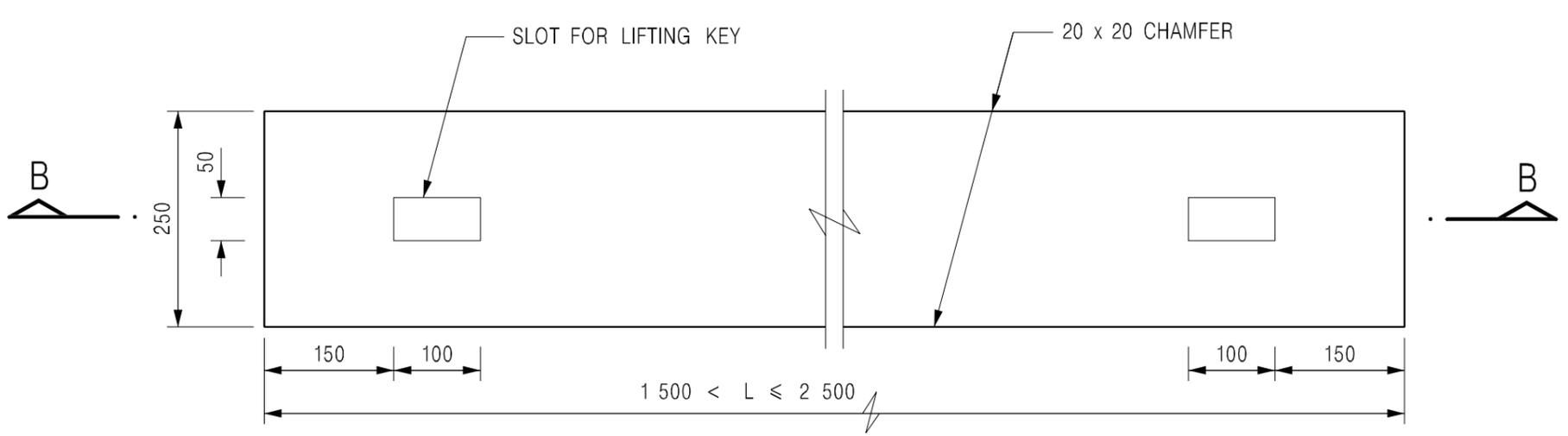
PLAN
TYPE 2 – FOR SPANS 1.5 m TO 2.5 m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

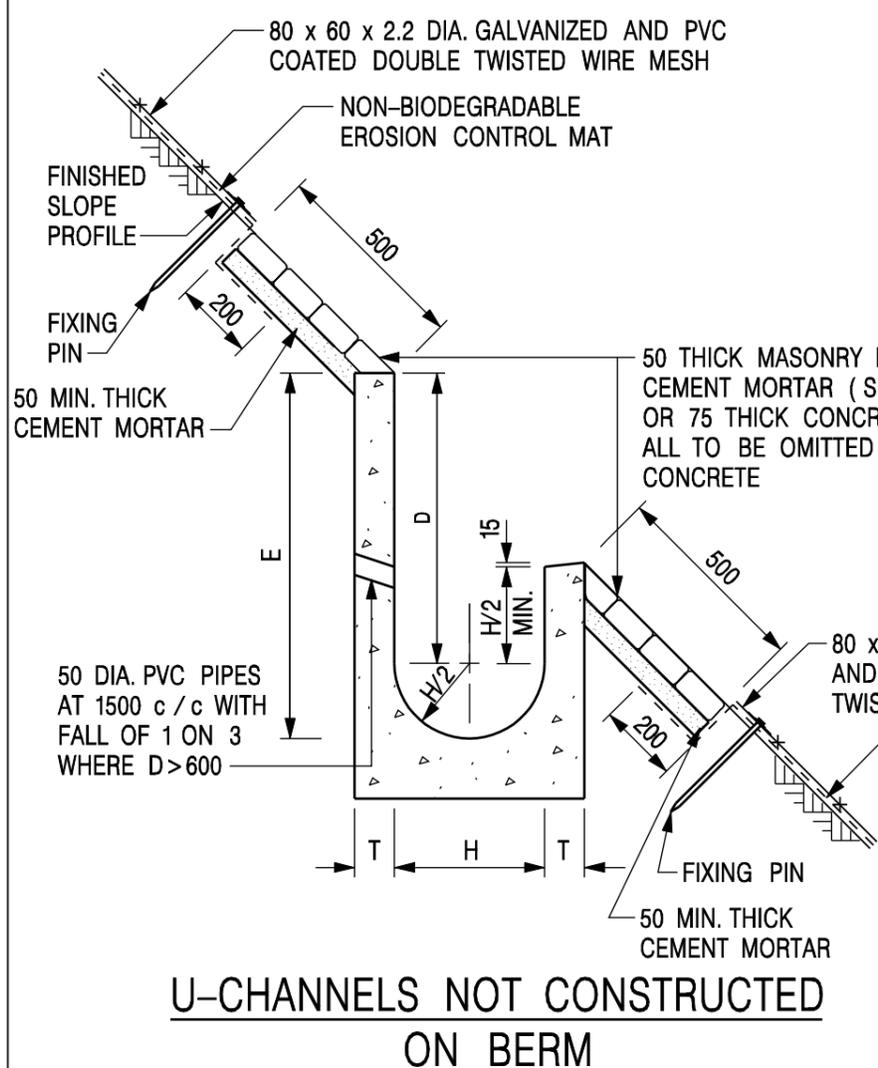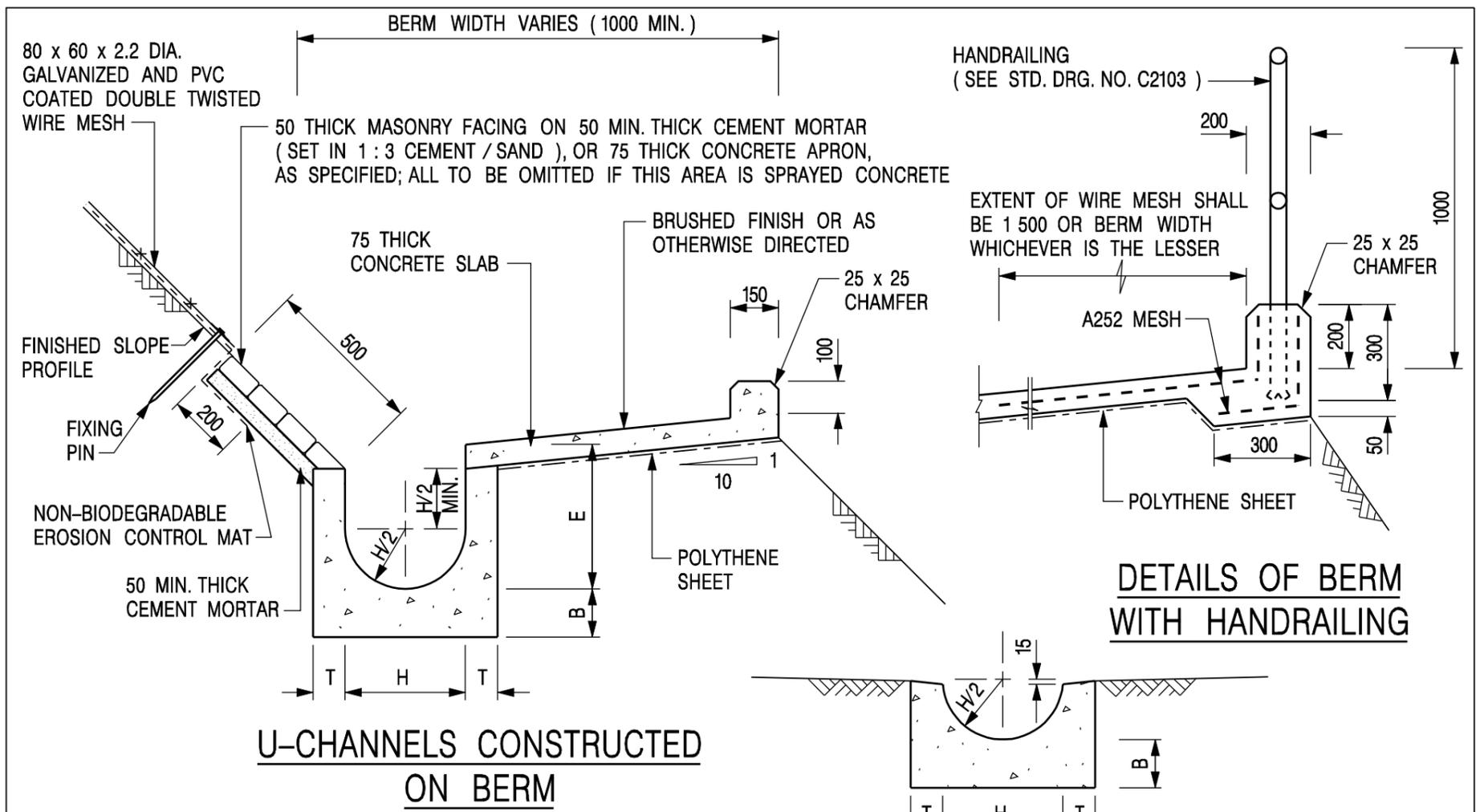2. ALL EXTERNAL EDGES OF THE COVERS
   SHALL BE 20mm CHAMFERED.

REF.	REVISION	SIGNATURE	DATE
B	NAME OF DEPARTMENT AMENDED.	Original Signed	01.2005
A	GENERAL REVISION	Original Signed	12.2002

PRECAST CONCRETE COVERS
FOR CATCHPIT AND SAND TRAP

CEDD

**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE	1 : 10	DRAWING NO.
DATE	JAN 1991	C2407B

興土木 利民生 齊拓展 創明天   We bring the best engineering to life

BERM WIDTH VARIES (1000 MIN.)

80 x 60 x 2.2 DIA. GALVANIZED AND PVC COATED DOUBLE TWISTED WIRE MESH

50 THICK MASONRY FACING ON 50 MIN. THICK CEMENT MORTAR (SET IN 1 : 3 CEMENT / SAND), OR 75 THICK CONCRETE APRON, AS SPECIFIED; ALL TO BE OMITTED IF THIS AREA IS SPRAYED CONCRETE

75 THICK CONCRETE SLAB

BRUSHED FINISH OR AS OTHERWISE DIRECTED

150

25 x 25 CHAMFER

100

FINISHED SLOPE PROFILE

FIXING PIN

500

200

NON-BIODEGRADABLE EROSION CONTROL MAT

H/2 MIN.

H/2

E

10   1

B

POLYTHENE SHEET

50 MIN. THICK CEMENT MORTAR

T   H   T

U-CHANNELS CONSTRUCTED ON BERM

HANDRAILING (SEE STD. DRG. NO. C2103)

200

1000

EXTENT OF WIRE MESH SHALL BE 1 500 OR BERM WIDTH WHICHEVER IS THE LESSER

25 x 25 CHAMFER

A252 MESH

200   300

300   50

POLYTHENE SHEET

DETAILS OF BERM WITH HANDRAILING

15

H/2

B

T   H   T

HALF-ROUND CHANNEL

80 x 60 x 2.2 DIA. GALVANIZED AND PVC COATED DOUBLE TWISTED WIRE MESH

NON-BIODEGRADABLE EROSION CONTROL MAT

FINISHED SLOPE PROFILE

500

200

FIXING PIN

50 MIN. THICK CEMENT MORTAR

50 THICK MASONRY FACING ON 50 MIN. THICK CEMENT MORTAR (SET IN 1 : 3 CEMENT / SAND), OR 75 THICK CONCRETE APRON, AS SPECIFIED; ALL TO BE OMITTED IF THIS AREA IS SPRAYED CONCRETE

E

D

15

H/2 MIN.

H/2

500

200

80 x 60 x 2.2 DIA. GALVANIZED AND PVC COATED DOUBLE TWISTED WIRE MESH

50 DIA. PVC PIPES AT 1500 c / c WITH FALL OF 1 ON 3 WHERE D > 600

NON-BIODEGRADABLE EROSION CONTROL MAT

T   H   T

FIXING PIN

50 MIN. THICK CEMENT MORTAR

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. C2511/1E.

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. C2511/1E)

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

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
REF.	REVISION	SIGNATURE	DATE

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

CEDD

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 25

DATE JAN 1991

DRAWING NO. C2409I

卓越工程　建設香港　　　We Engineer Hong Kong's Development

SLAB REINFORCED WITH
ONE LAYER OF B503 MESH
PLACED CENTRALLY

GRADE 20 / 20 PRECAST CONCRETE
SLAB WITH F2 FINISH

200 x 100
B503 MESH

15 x 15 CORNER FILLETS
ON ALL EDGES

50

20
1

50   50

H

75

H+90

75

50

25

150

600
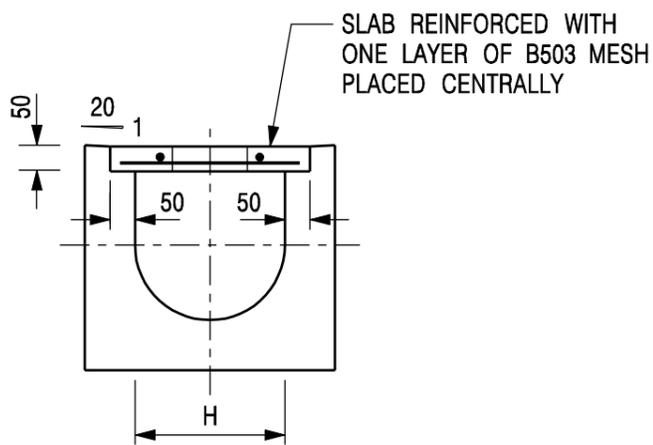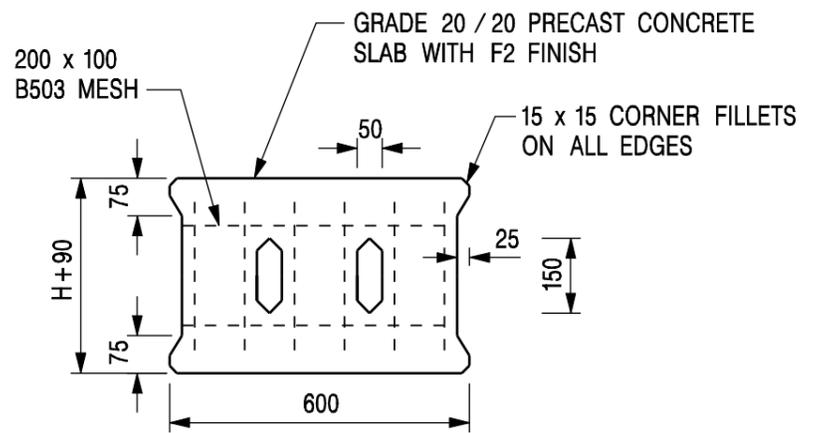
TYPICAL SECTION

PLAN OF SLAB

U–CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)

REBATE TO SUIT
GRATING THICKNESS

40 X 40 HOT DIP
GALVANISED ANGLE

20   1

50   50

MIN. 40 THICK
CAST IRON GRATING

H

WIDTH   H+90   75 %   WIDTH

25   25

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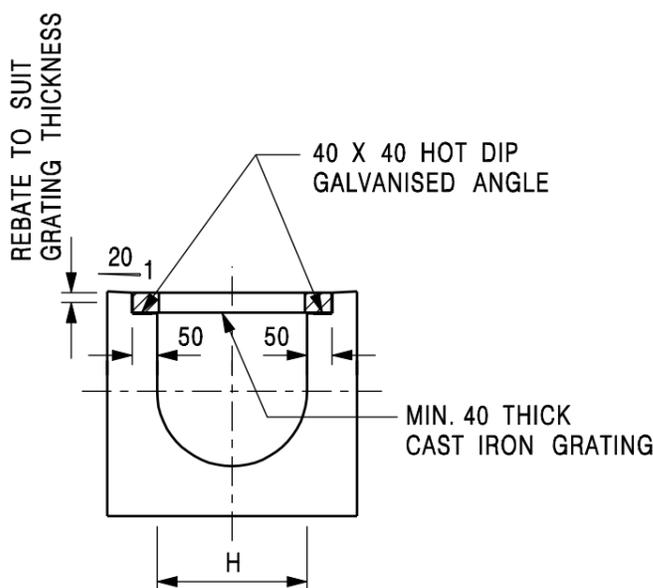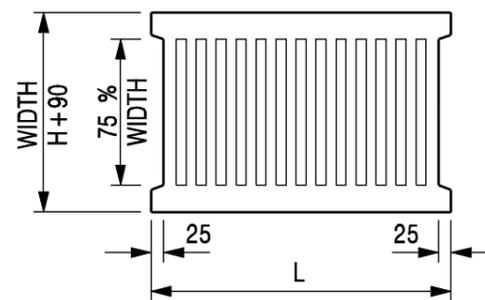
L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

TYPICAL SECTION

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:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. H = NOMINAL CHANNEL SIZE.

3. ALL CAST IRON FOR GRATINGS SHALL BE
   GRADE EN–GJL–150 COMPLYING WITH BS EN 1561.

4. 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.

REF.	REVISION	SIGNATURE	DATE
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

COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD

**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.
C2412E

卓越工程 建設香港

We Engineer Hong Kong's Development

Responses on DSD's Requirements / Reminders

Planning Application No.: ___A/YL-KTN/1198___

Location: Lot No. 1560 (Part)

_____

in   D.D.107 and Adjoining Government Land

Area: _____9,000_____ m2

(A) DSD's Requirements	Fulfilled in the submission? (Yes / No)
(1) The proposed development should neither obstruct overland flow nor adversely affect any existing natural streams, village drains, ditches and the adjacent areas, etc.	YES
(2) The applicant shall be required to place all the proposed works 3m away from the top of the bank of any existing watercourses. All the proposed works in the vicinity of the watercourses should not create any adverse drainage impacts, both during and after construction. Adequate measures should be provided at the resources of the applicant to our satisfaction in order to avoid the subject site from being eroded and flooded and to ensure capacity of watercourses and flooding susceptibility of the adjoining areas would not be adversely affected by the proposed development. The applicant should be reminded to minimize the possible adverse environmental impacts on any existing watercourses in his design and during construction. DEP and DAFC should be consulted on possible environmental and/or ecological impacts of the proposed development which is in the vicinity of any existing watercourses.	YES
(3) Peripheral surface channels shall be provided along the site boundary to collect the surface runoff accrued on the application site and to intercept the overland flow from the adjacent lands. Proper surface channels should be provided at the lower level and wall toe to collect the overland flow to/ from adjacent areas.	YES
(4) The applicant should indicate the proposed and existing ground levels of the application site and ground levels of adjacent areas on the drainage plan.	YES
(5) Cross sections showing the proposed drainage facilities and existing and proposed ground levels of the captioned site with respect to the adjacent areas should be given.	YES
(6) The proposal should indicate how the runoff (the flow direction) within the site and from the adjacent areas would be discharged to the proposed drainage system.	YES
(7) Sand trap or provision alike should be clearly indicated on the proposed drainage plan and provided before the collected runoff is discharged to the existing drainage facilities.	YES
(8) The applicant should clearly indicate the full alignment of the discharge path from the application site all the way down to the ultimate discharge point (e.g. a well-established stream course/public drainage system).	YES
(9) The applicant should clearly indicate the existing drainage facilities on the proposed drainage plan. Site photos of existing drainage facilities including the discharge point (e.g. existing local village drain and its downstream drainage facilities) should be provided in order to demonstrate the presence and reflect condition of the existing drainage system. Also, the applicant should provide site photo(s) to demonstrate size of the existing drainage facilities.	YES
(10) Cover levels and invert levels of the proposed and existing drainage facilities should be shown on the drainage plan. Invert levels of drainage facilities at the upstream should be higher than that at the downstream. Also, gradients and sizes of the proposed and existing drainage facilities should be shown on the drainage plan.	YES

(11) The applicant should demonstrate with hydraulic calculation that the proposed drainage facilities are adequate to collect, convey and discharge the surface runoff accrued on the application site and the overland flow intercepted from the adjacent lands.	YES
(12) The applicant should demonstrate with hydraulic calculation that the existing facilities to be discharged to have sufficient capacity to cater for any additional flow generated due to the subject application.	YES
(13) When the ground adjacent to the application site is generally/significantly higher, the overland flow from the adjacent lands shall be probably intercepted. External catchment shall be considered in the hydraulic calculation. Also, the catchment area shall not be less than area of the application site. The applicant should demonstrate catchment area considered in the proposal is adequate.	YES
(14) Stormwater Drainage Manual (SDM) and the newly promulgated SDM - Corrigendum published by DSD shall be considered in the hydraulic calculation. Also, storm constants of HKO Headquarters shall be adopted in the hydraulic calculation.	YES
(15) The applicant should provide evidence to support the adoption of any design assumptions (e.g. time of concentration, catchment area, rainfall intensity, runoff coefficient, information of the existing stream and etc.) in the hydraulic calculation.	YES
(16) Deposition of sediment in stormwater drainage system should be considered in the hydraulic calculation as per the requirement in Stormwater Drainage Manual (Section 9.3).	YES
(17) The applicant should check flow velocity of the proposed drainage facilities. The flow velocity is suggested to be within a range, i.e. 0.75 m/s to 3.0 m/s.	YES
(18) Catchpit should be provided at where a proposed surface channel changes direction / gradient.	YES
(19) The applicant should provide construction details of the proposed drainage facilities.	YES
(20) The applicant should provide details for connection of the proposed and existing drainage facilities.	YES
(B) DSD's Reminders	Fulfilled in the submission? (Yes / No)
(1) Any existing drainage facilities within/outside the application site should not be disturbed or interfered with until any necessary diversion works, which have been accepted by the owner of the existing drainage facilities, have been satisfactorily completed. Such diversion works should be carried out by the applicant at his/her own cost. Moreover, sufficient allowance for future maintenance of the existing drainage facilities should be provided.	YES
(2) Where walls or hoarding are erected are laid along the site boundary, adequate openings should be provided to intercept the existing overland flow passing through the site.	YES
(3) The applicant is required to rectify/modify the drainage system if they are found to be inadequate or ineffective during operation. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system.	YES
(4) For the construction details of the proposed drainage facilities, reference should be made to current CEDD's standard drawings.	YES
(5) Precast concrete pipe should generally be used for stormwater connection.	YES
(6) Consideration should be given to provide grating for the surface channels.	YES

(7) For any proposed connection to DSD's drainage facilities, the applicant should submit form HBP1 to this Division for application of technical audit. Upon our acceptance of the connection application, the applicant shall carry out the proposed connection works in accordance with DSD's Standard Drawings at the resources of the applicant.	YES
(8) If the existing drainage facilities, to which the applicant proposed to discharge the stormwater from the application site was not maintained by this office, the applicant should identify the owner of the existing drainage facilities and seek agreement from the owner prior to commencement of the proposed works. In the case that it is a local village drains, DO/YL should be consulted.	Noted
(9) Connection to existing drainage facilities should be designed and constructed to prevent back flows at the drainage outlet when water level at the existing drainage facilities is high.	YES
(10) Connection of the proposed and existing drainage facilities shall be designed and constructed such that there is no water leakage at the proposed connection.	YES
(11) The applicant should consult DLO/YL and seek consent from the relevant owners for any drainage works to be carried out outside his lot boundary before commencement of the drainage works.	Noted
(12) Comments from HyD, TD and RMO shall be sought if drainage works are proposed to be carried out within highway polygon or on carriageway.	Noted