R-RICHES PLANNING LIMITED

盈卓規劃有限公司

Our Ref. : DD 106 Lot 136 RP
Your Ref. : TPB/A/YL-KTS/1107

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333 Java Road,
North Point, Hong Kong

By E-mail

27 March 2026

Dear Sir,

3rd Further Information

Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of 3 Years in "Agriculture" Zone, Lots 136 RP (Part) and 2149 (Part) in D.D. 106 and Adjoining Government Land, Kam Tin, Yuen Long, New Territories

(S.16 Planning Application No. A/YL-KTS/1107)

We write to submit further information in response to departmental comments on the captioned application.

Should you require more information regarding the application, please contact our Mr. Danny NG at [redacted] or the undersigned at your convenience. Thank you for your kind attention.

Yours faithfully,

For and on behalf of
R-riches Planning Limited

Christian CHIM
Town Planner

cc DPO/FSYLE, PlanD [redacted]

Response-to-Comment (RtC)

Proposed Temporary Warehouse (excluding Dangerous Goods Godown) with Ancillary Facilities and Associated Filling of Land for a Period of 3 Years in "Agriculture" Zone, Lots 136 RP (Part) and 2149 (Part) in D.D. 106 and Adjoining Government Land, Kam Tin, Yuen Long, New Territories

(S.16 Application No. A/YL-KTS/1107)

(i) An RtC table:

Departmental Comments		Applicant's Responses
1. Comments of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD)		
(a)	In view of the existing topography as shown in Figure 4, please make reference to the latest Technical Note No. 1 issued by DSD and upgrade the size of all drainage facilities accordingly.	Noted. Please note that the proposed channels have been designed with consideration of the existing catchments as indicated on Figure 4. The utilisations are about 20% to 62%, which have provided enough capacity. Please refer to the updated drainage proposal at **Annex 1**.
(b)	According to drainage schedule in Figure 3, please demonstrate that the proposed 600 mm u-channel between CP2.01 and CP1.02 can achieve the proposed gradient with 1:100 in accordance with the proposed invert level.	Noted. The channel gradient is updated to 1 in 70. The IL is dropped by 1 m in about 69.8 m length, which is 1 in 70 gradients.
(c)	Please indicate the ground level at the proposed discharge point in the connection details in Figure 3 for review.	The ground level at discharge point is about +8.40 mPD. Please refer to the revised Figure 3.
(d)	Please indicate the ground level of the proposed peripheral surface channels as shown in sections A-A and B-B for review. Please be reminded that peripheral surface channels shall be provided along and within the site boundary at the existing/original ground level (instead of the revised ground level) to collect the surface runoff accrued on the application site and to intercept the overland flow from the adjacent lands.	Noted. The ground level of proposed peripheral channels is proposed to match with nearby existing ground level.
(e)	Please provide the details for the proposed deck over to the existing 1.7 m channel for review. Please submit relevant assessment certified by	The concerned channels are proposed to be deck over such that the existing flow width and flow depth would not be smaller than the existing

	the authorized person to demonstrate that the proposed deck over works and its support will not cause any adverse structural and drainage impact to the existing 1.7 m channel.	1.7 m channel. The structural checking would be submitted separately.
(f)	The existing 1.7 m channel, to which the applicant proposed to discharge the stormwater from the subject site was not maintained by this office. The applicant(s) shall resolve any conflict/ disagreement arisen for discharging the runoff from the application site(s) to the proposed discharge point(s). In the case that it is a local village drains, DO/YL should be consulted. Moreover, the applicant(s) should ensure that this drainage system and the existing downstream drains/channels/streams have adequate capacity to convey the additional runoff from the application site(s). Regular maintenance should be carried out by the applicant(s) to avoid blockage of the system.	Noted.
(g)	Please provide more site photos at difference locations and views (i.e. the proposed deck over location, etc.) to show the current condition of the existing 1.7 m channel for review.	Noted. Site photos are enclosed at Appendix D for your review.
(h)	Please confirm if any walls or hoarding are/to be erected or laid along the site boundary. If affirmative, adequate opening should be provided to intercept the existing overland flow passing through the site and please provide its details for comments.	Noted. 100 mm opening from ground level along wall/hoarding or equivalent will be provided where it is erected.
(i)	The development should neither obstruct overland flow and nor adversely affect existing natural streams, village drains, ditches and the adjacent areas, etc.	Noted.
(j)	The applicant should resolve any conflict/ disagreement with relevant lot owner(s) and seek permission from DLO/YL 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.

Annex 1

Drainage Proposal

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS, LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

Drainage Proposal

Mar 2026

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

Table of Contents

1 Introduction 1
1.1 Background 1
1.2 Application Site 1
2 Development Proposal 2
2.1 The Proposed Development 2
3 Assessment Criteria 2
4 Proposed Drainage System 5
4.1. Proposed Channels 5
5 Conclusion 5

List of Table

Table 1 - Key Development Parameters 2
Table 2– Design Return Periods under SDM 2

List of Figure

Figure 1 – Site Location Plan

Figure 2 - Existing Drainage Plan

Figure 3 - Proposed Drainage System

Figure 4 – Catchment Plan

Figure 5 - Sections

List of Appendix

Appendix A – Design Calculation

Appendix B - Development Layout Plan

Appendix C – Reference Drawings

Appendix D – Site Photo

1 Introduction

1.1 Background

1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) to use Lots 136 RP (Part) and 2149 in D.D. 106 and adjoining Government Land (GL), Kam Tin, Yuen Long, New Territories (the Site) for 'Proposed Temporary Warehouse (excluding Dangerous Goods Godown (D.G.G.)) with Ancillary Facilities and Associated Filling of Land for a Period of 3 Years'.

1.1.2 This report aims to support the development in drainage aspect.

1.2 Application Site

1.2.1 The application site is situated beside Kam Ho Road near Pat Heung Depot. It has an area of approx. 2,128 m^2. The site location is shown in **Figure 1**.

1.2.2 A existing site was unpaved. The existing site levels are approx. from +8.8mPD to +15 mPD. It is proposed raised the site levels to + 10.2 mPD (or rise with 0.2m concrete if higher than +10.2) to match with the nearby road levels and for formation of structures, parking and L/UL space and circulation area.

1.2.3 There is an existing 1.7m channel which would eventually discharge to 3 cells 7000 (W) x 3600 (H) box culvert at the east. **Figure 2** indicate the existing drainage system of the area.

2 Development Proposal

2.1 The Proposed Development

2.1.1 The total site area is approximately 2,128 m^2. After the development the site would be fully paved. The catchment plan is shown in **Figure 4**.

Proposed Development	
Total Site Area (m^2)	2,128
Paved Area after Development (m^2)	2,128

Table 1 – Site Development Area

3 Assessment Criteria

3.1.1 The Recommended Design Return Period based on Flood Level from SDM (Table 10) is adopted for this report. The recommendation is summarized in **Table 2** below.

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

Table 2– Design Return Periods under SDM

3.1.2 The proposed drainage system intended to collect runoff from internal site and external catchment. 1 in 50 years return period is adopted for the drainage design.

3.1.3 Stormwater drainage design will be carried out in accordance with the criteria set out in the Stormwater Drainage Manual published by DSD. The proposed design criteria to be adopted for design of this stormwater drainage system and factors which have been considered are summarised below.

1. Intensity-Duration-Frequency Relationship – The Recommended Intensity-Duration-Frequency relationship is used to estimate the intensity of rainfall. It can be expressed by the following algebraic equation.

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

The site is located within the HKO Zone. Therefore, for 50 years return period, the following values are adopted.

a	=	505.5
b	=	3.29
c	=	0.355

(Corrigendum No.1/2024)

The development is proposed for temporary use for a period of 3 years. 11.1% rainfall increase due to climate change is considered.

2. The peak runoff is calculated by the Rational Method
i.e. $Q_p = 0.278CiA$

where	Q_p	=	peak runoff in m^3/s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km^2

3. The run-off coefficient (C) of surface runoff are taken as follows:

1. Paved Area: C = 0.95
2. Unpaved Area: C = 0.35

4. Manning's Equation is used for calculation of velocity of flow inside the channels:

Manning's Equation: $v = \frac{R^{\frac{1}{6}}}{n} R^{\frac{1}{2}} S_f^{\frac{1}{2}}$

Where,

V = velocity of the pipe flow (m/s)
S_f = hydraulic gradient
n = manning's coefficient
R = hydraulic radius (m)

5. Colebrook-White Equation is used for calculation of velocity of flow inside the pipes:

Colebrook-White Equation: $\underline{v} = -\sqrt{32gRS}\, log\, (\frac{k_s}{14.8R} + \frac{1.255v}{R\sqrt{32gRS_f}})$

where,

V	=	velocity of the pipe flow (m/s)
S_f	=	hydraulic gradient
k_f	=	roughness value (m)
v	=	kinematics viscosity of fluid
D	=	pipe diameter (m)
R	=	hydraulic radius (m)

4 Proposed Drainage System

4.1. Proposed Channels

4.1.1 Proposed Channels are designed for collection of runoff for internal and external catchment. They are proposed to connect to 3 cells box culvert in the east through 1.7m channel and existing pipe. The utilization of the existing 1.7m channel is 12.6% according to checking in **Appendix A**. It has enough capacity.

4.1.2 The design calculations of proposed UChannel are shown in **Appendix A**.

4.1.3 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3**. The catchment plan is shown in **Figure 4**.

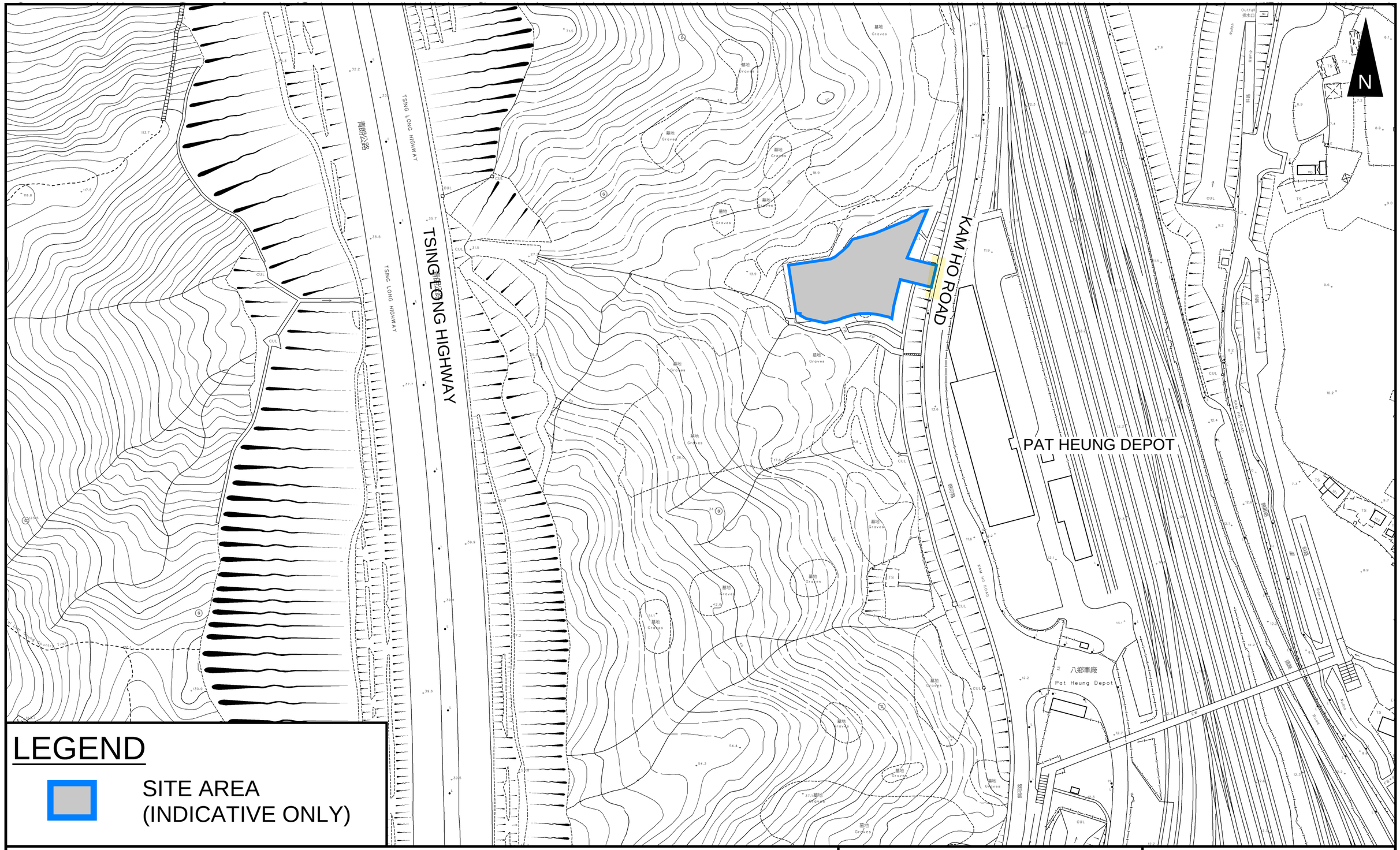
4.1.5 Reference Drawings are shown in **Appendix C** for reference.

5 Conclusion

5.1.1 Drainage review has been conducted for the Proposed Development. The surface runoff will be collected by the proposed drains and discharged to existing drainage system. With implementation of the above drainage system, no unacceptable drainage impact is anticipated.

- End of Text -

FIGURES



LEGEND

SITE AREA
(INDICATIVE ONLY)

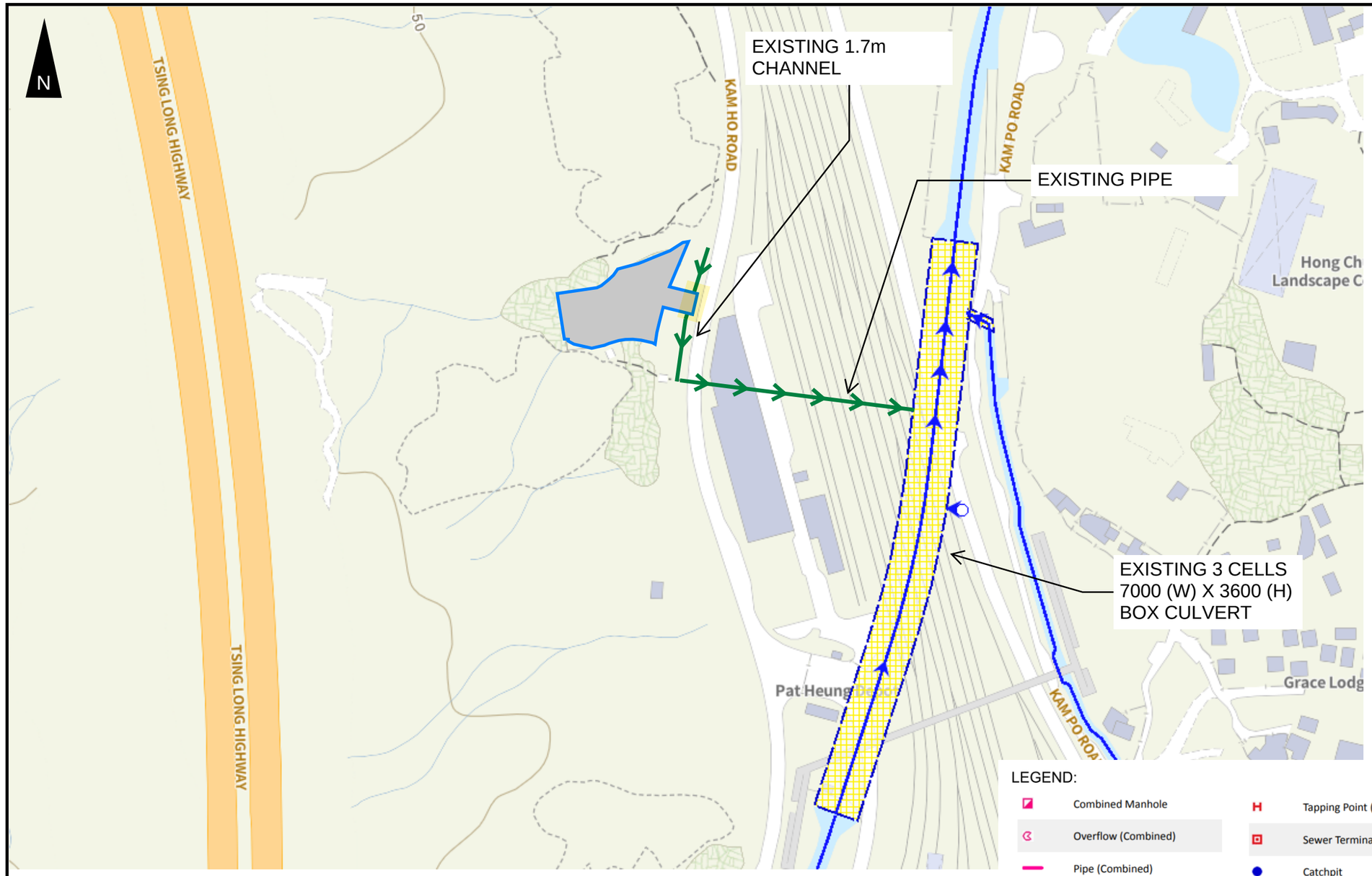
PROJECT:
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS

LOCATION:
LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

TITLE
SITE LOCATION PLAN

FIGURE NUMBER
FIGURE 1

VER	DESCRIPTION	DATE



LEGEND:

Combined Manhole	Tapping Point (Sewer)	Tapping Point (Storm)
Overflow (Combined)	Sewer Terminal Manhole	Storm Water Terminal Manhole
Pipe (Combined)	Catchpit	Tunnel Protection Zone (100m / 200m)
Interface Valve Chamber	Inlet	Tunnel Protection Zone (General Range)
Sewer Manhole	Storm Water Manhole	Tunnel / Box Culvert (Sewer)
Oil / Petrol Interceptor	Outlet	Tunnel / Box Culvert (Storm)
Overflow (Sewer)	Pipe (Storm)	
Pipe (Sewer)	Sand Trap	

LEGEND

SITE AREA
(INDICATIVE ONLY)

PROJECT:
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS

TITLE
EXISTING DRAINAGE PLAN

FIGURE NUMBER
FIGURE 2

LOCATION:
LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

VER	DESCRIPTION	DATE

LEGEND

- SITE AREA (INDICATIVE ONLY)
- PROPOSED CHANNEL
- PROPOSED CATCHPIT
- PROPOSED CATCHPIT w/TRAP
- EXISTING DRAIN

N

CP2.01

SP02

SP01

CP1.02

CP1.01

EXISTING 1.7m CHANNEL

EXISTING CHANNEL APPROX. 12m LENGTH TO BE DECK OVER (DECKED CHANNEL WITH FLOW WIDTH AND DEPTH NOT LESS THAN EXISTING)

EXISTING PIPE

EXISTING 3 CELLS 7000 (W) X 3600 (H) BOX CULVERT

KAM PO ROAD

PROPOSED CP1.02

PROPOSED CHANNEL

+8.40

+7.35

+7.50

+7.39

IL ~+6.7

CONNECTION FROM CP1.02 TO EXISTING CHANNEL

DRINAGE SCHEDULE

US MH/PIT	DS MH/PIT	US GL	DS GL	Size mm	Gradient 1 in	Type	US IL	DS IL	U/S MH/PIT TYPE	Remark
SP01	CP1.01	15	12.5	525	15	UC	13.48	11.98	SP	#SP: Start Point
CP1.01	CP1.02	12.5	8.8	525	15	UC	11.38	8.28	CP	
CP1.02	EXISTING 1700 CHANNEL	8.8	8.4	600	100	UC	7.50	7.39	CP	
SP02	CP2.01	15.0	10.3	525	18	UC	13.88	9.78	SP	
CP2.01	CP1.02	10.3	8.8	600	70	UC	9.10	8.10	CP	

NOTES:

1.ALL LEVELS ARE IN METRES TO HONG KONG PRINCIPAL DATUM (m.P.D.) UNLESS NOTED OTHERWISE.
2.ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
3.LOCATION OF CATCHPITS ARE APPROX. ONLY.
4.CONNECTION LEVELS ARE APPROX. ONLY AND SHALL BE VERFIED ON SITE.

PROJECT:

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS

TITLE
PROPOSED DRAINAGE SYSTEM

FIGURE NUMBER
FIGURE 3

LOCATION:

LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

VER	DESCRIPTION	DATE

LEGEND:

FALL

B1: Unpaved 5,988 m²

B2: Unpaved 8,618 m²

C1: Unpaved 23,829 m²

C2: Unpaved 3,108 m²

A1: Paved 2,128 m²

+15.2 +10.2 +9.1 +10.2 +12.7 +12.5 +11.9

TSING LONG HIGHWAY

青朗公路

KAM TIN ROAD

八鄉車廠 Pat Heung Depot

N

PROJECT:

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS

LOCATION:

LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES

TITLE

CATCHMENT PLAN

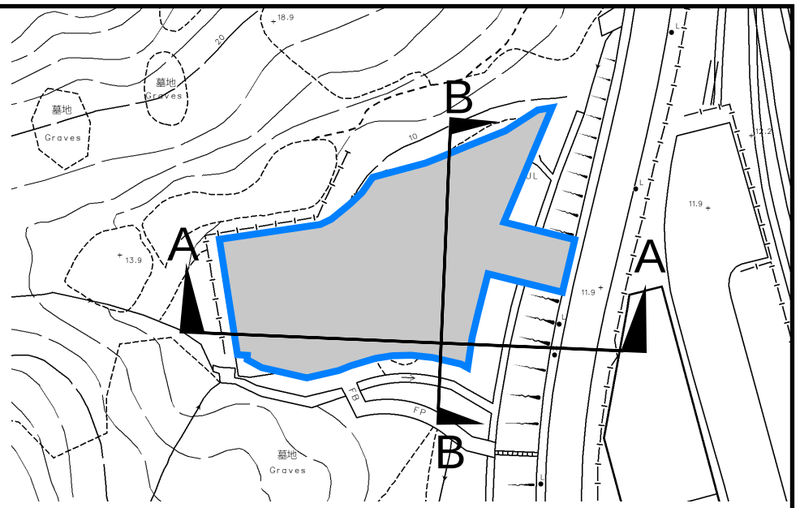
FIGURE NUMBER

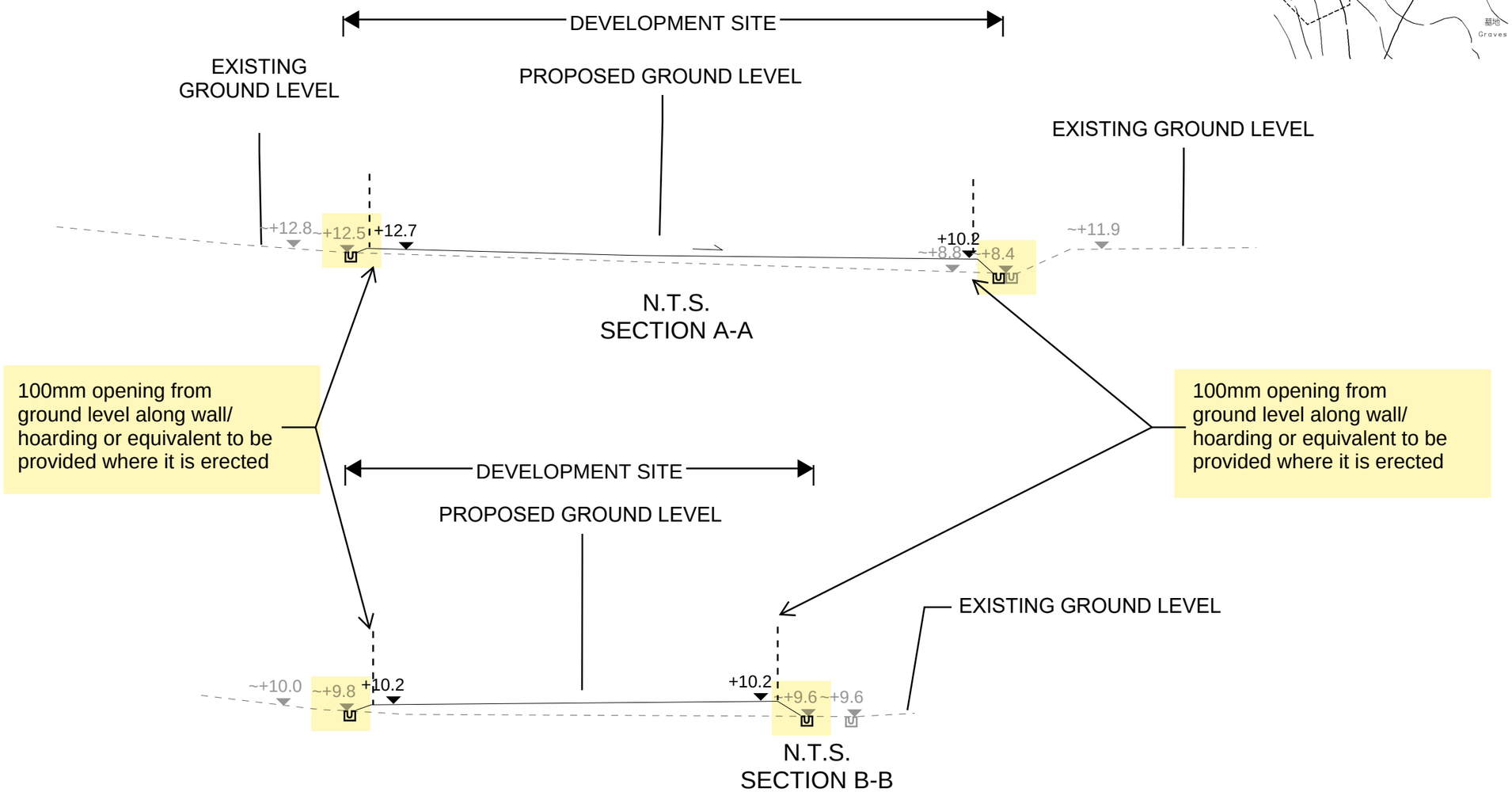
FIGURE 4

VER	DESCRIPTION	DATE

LEGEND

SITE AREA
(INDICATIVE ONLY)





PROJECT: PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS	TITLE SECTIONS	FIGURE NUMBER FIGURE 5
LOCATION: LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES		

VER	DESCRIPTION	DATE

APPENDIX

Appendix A: Design Calculation

Zone

HKO

Return Period	1 in	50	years

n	0.014
Ks	0.15
Viscosity	0.000001

Storm Constant		
	HKO a	505.5
	HKO b	3.29
	HKO c	0.355

Catchment Area Table (Area in m^2)

Catchment	A1	B1	B2	C1	C2													
Total Area	2128	5988	8618	23829	3108													
Hard Paved Area	2128	0	0	0	0													
Unpaved Area	0	5988	8618	23829	3108													
Equival. Area	2021.6	2095.8	3016.3	8340.15	1087.8													

Pavement Type	Hard Paved	Unpaved
Runoff Coefficient	0.95	0.35

Calculation Table of Drainage System

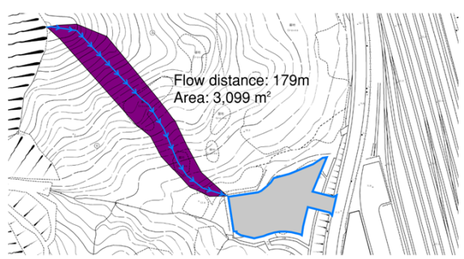
US MH/PIT	DS MH/PIT	US GL	DS GL	Size mm	Gradient 1 in	Type	US IL	DS IL	U/S MH/PIT TYPE	Length m	V m/s##	Capacity m^3/s	Catchments	Total Equivalent Area m^2	ToC min	Intensity mm/hr ##	Total Discharge m^3/s	Utilization	Remark
SP01	CP1.01	15.00	12.50	525	15	UC	13.48	11.98	SP	21.2	5.93	1.46	A1,B1	4117.40	5.80	257	0.29	20.1%	
CP1.01	CP1.02	12.50	8.80	525	15	UC	11.38	8.28	CP	46	5.93	1.46	A1,B1	4117.40	5.86	256	0.29	20.1%	
CP1.02	EXISTING 1700 CHANNEL	8.80	8.40	600	100	UC	7.50	7.39	CP	10.8	2.51	0.81	A1,B1,B2	7133.70	6.41	251	0.50	61.6%	
SP02	CP2.01	15.00	10.30	525	18	UC	13.88	9.78	SP	73.6	5.41	1.33	A1,B2	5037.90	5.80	257	0.36	27.0%	
CP2.01	CP1.02	10.30	8.80	600	70	UC	9.10	8.10	CP	69.8	3.00	0.96	A1,B2	5037.90	6.03	254	0.36	36.9%	
EXISTING 1700 CHANNEL				1700	200	UC					3.55	9.17	A1,B1,B2,C1,C2	16561.65	6.49	250	1.15	12.6%	

#SP: Start Point

: With 11.1% rainfall increase as per Table 28 of SDM Corrigendum No. 1/2022.

Time of Concentration Checking

Catchment	Flow Distance	Highest Level	Lowest Level	Gradient (per 100m) = (H1-H2)/L x 100	to (min) = 0.14465L/ ($H^{0.2}A^{0.1}$)	tc = to + tf
A	L	H1	H2			
(m2)	(m)	(mPD)	(mPD)		(min)	(min)
3099	179	72	15	31.844	5.8	5.8

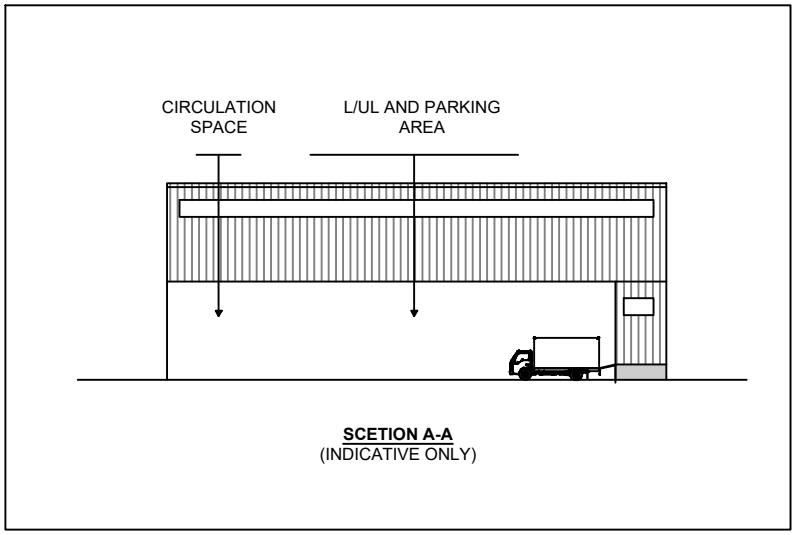


APPENDIX B - PROPOSED SITE LAYOUT PLAN

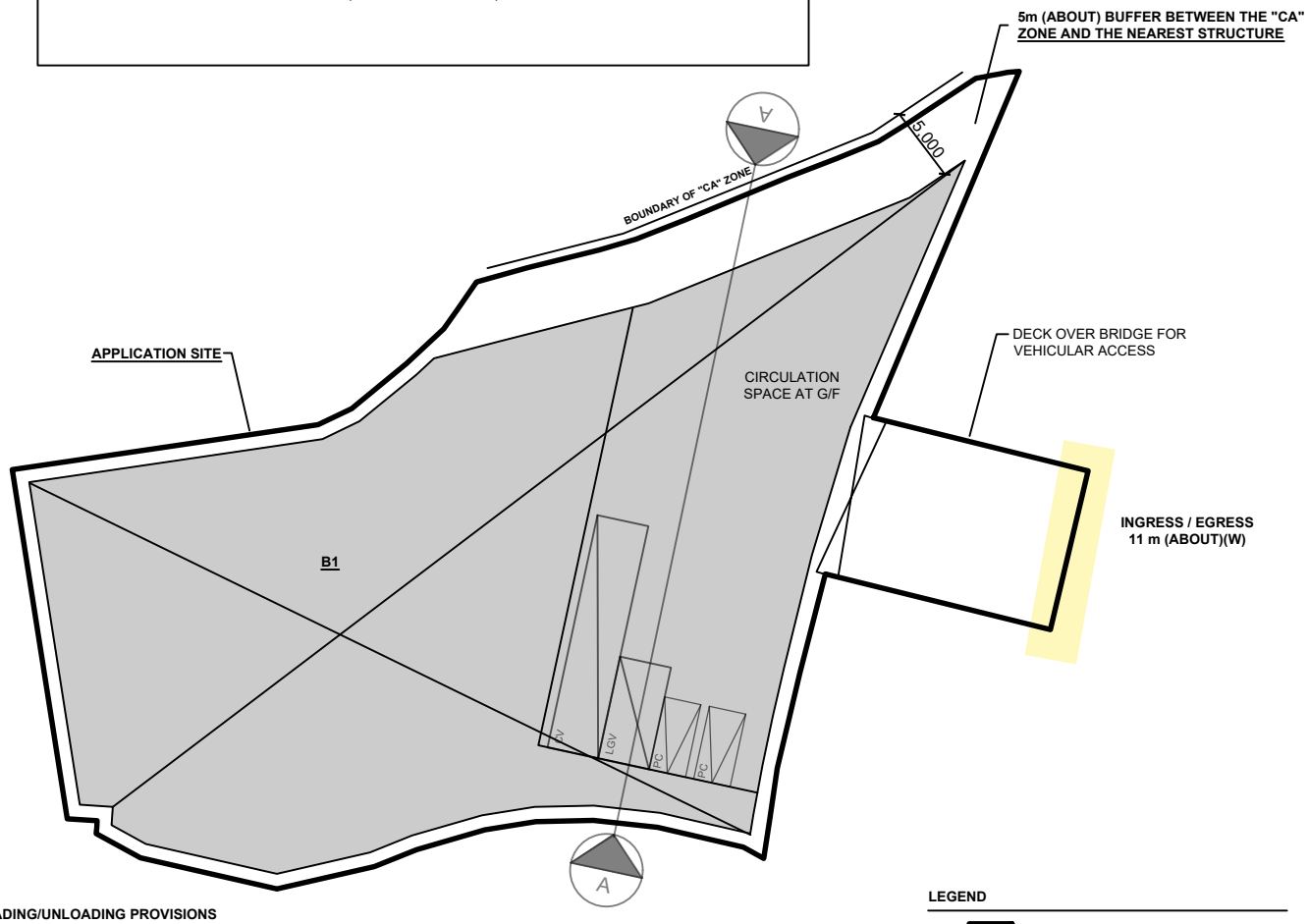
DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 2,128 m^2	(ABOUT)
COVERED AREA	: 1,630 m^2	(ABOUT)
UNCOVERED AREA	: 498 m^2	(ABOUT)
PLOT RATIO	: 1.5	(ABOUT)
SITE COVERAGE	: 77 %	(ABOUT)
NO. OF STRUCTURE	: 1	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 3,260 m^2	(ABOUT)
TOTAL GFA	: 3,260 m^2	(ABOUT)
BUILDING HEIGHT	: 13 m	(ABOUT)
NO. OF STOREY	: 2	

STRUCTURE		USE	COVERED AREA	GROSS FLOOR AREA	BUILDING HEIGHT
B1	(G/F)	WAREHOUSE (EXCLUDING D.G.G.) SITE OFFICE AND WASHROOM	1,630 m^2 (ABOUT)	1,630 m^2 (ABOUT)	13 m (ABOUT)(2-STOREY)
	(1/F)	WAREHOUSE (EXCLUDING D.G.G.)		1,630 m^2 (ABOUT)	
		TOTAL	**1,630 m^2 (ABOUT)**	**3,260 m^2 (ABOUT)**	



SCETION A-A
(INDICATIVE ONLY)



PARKING AND LOADING/UNLOADING PROVISIONS

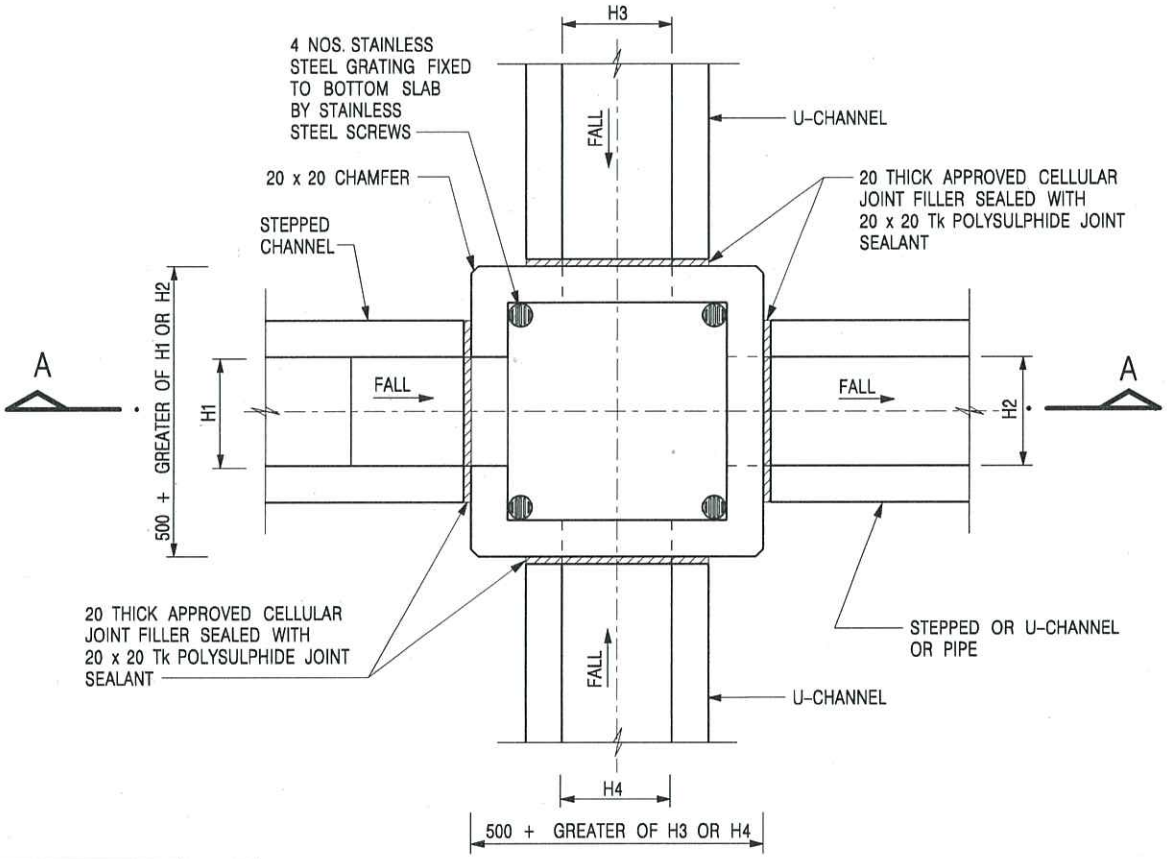
NO. OF PRIVATE CAR PARKING SPACE	: 2
DIMENSION OF PARKING SPACE	: 5 m (L) X 2.5 m (W)
NO. OF L/UL SPACE FOR LIGHT GOODS VEHICLE	: 1
DIMENSION OF L/UL SPACE	: 7 m (L) X 3.5 m (W)
NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 1
DIMENSION OF L/UL SPACE	: 16 m (L) X 3.5 m (W)

LEGEND

- APPLICATION SITE
- STRUCTURE
- PARKING SPACE (PC)
- LOADING/UNLOADING SPACE (LGV)
- LOADING/UNLOADING SPACE (CV)
- INGRESS / EGRESS

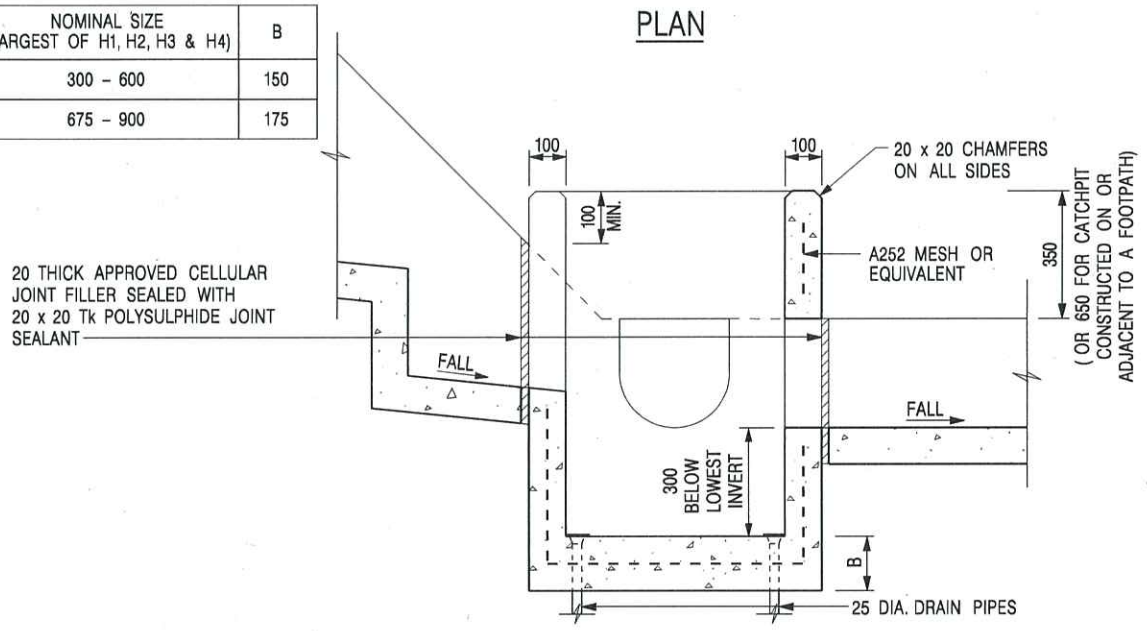
PLANNING CONSULTANT: R-RICHES PLANNING LIMITED	PROJECT: PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS	ADDRESS: LOTS 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES	SCALE: 1 : 500 @ A4	TITLE: LAYOUT PLAN	NORTH
			DRAWN BY: CC / DATE: 4.3.2026		
			REVISED BY / DATE	DWG NO.: FI2 P04 / VER.: 001	

Appendix C - Reference Drawings



PLAN

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



SECTION A – A

NOTES:

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

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

CATCHPIT WITH TRAP

(SHEET 1 OF 2)

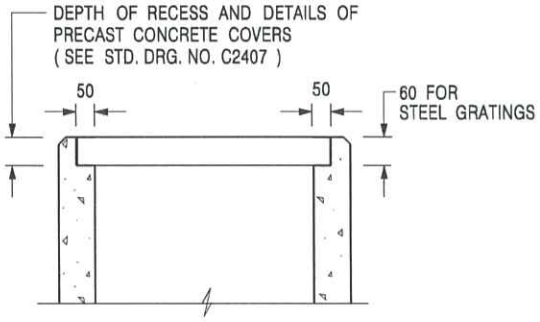
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1

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



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

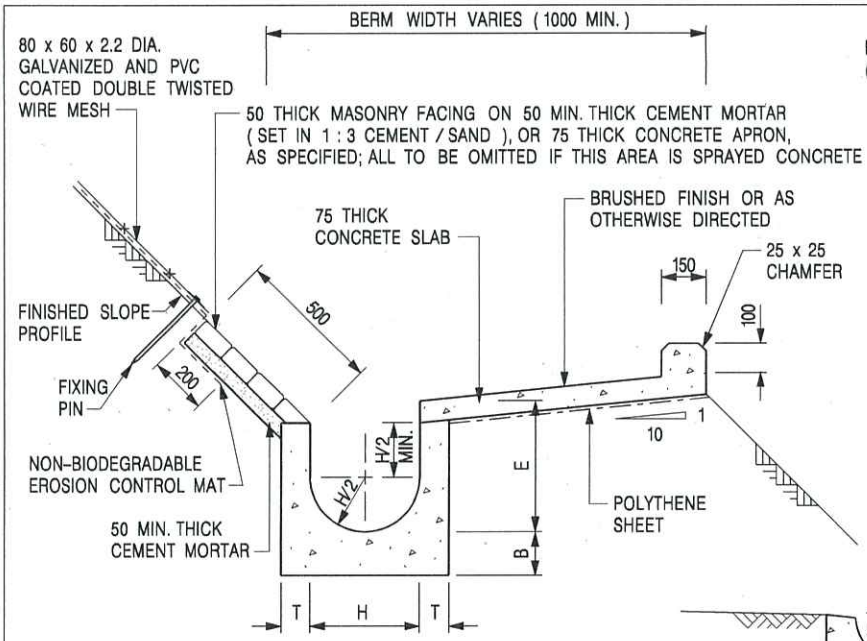
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

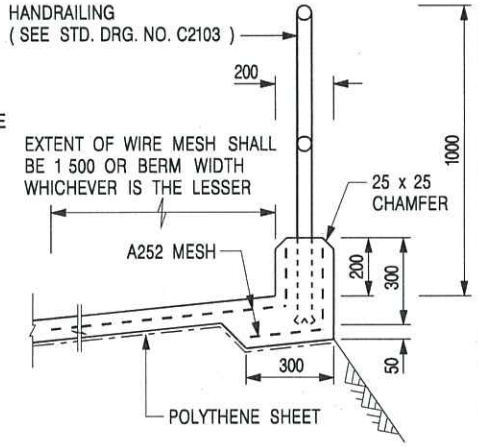
SCALE 1 : 20

DATE JAN 1991

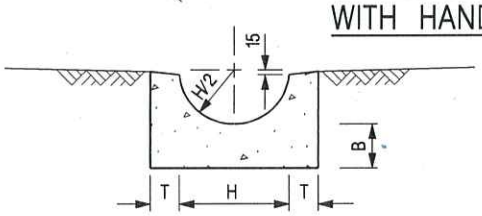
DRAWING NO. C2406 /2A



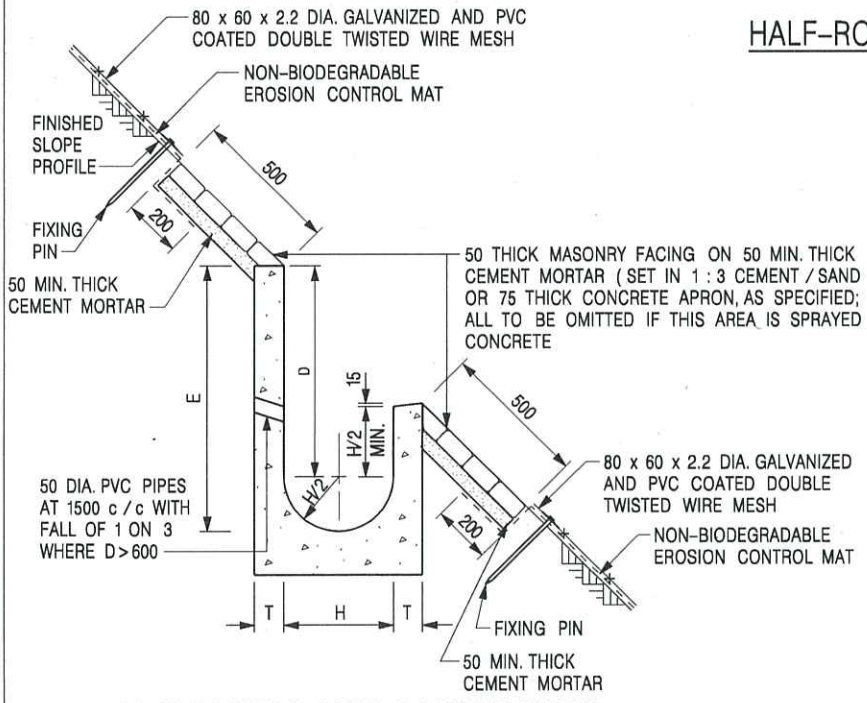
U-CHANNELS CONSTRUCTED ON BERM



DETAILS OF BERM WITH HANDRAILING



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. C2511/1E.
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

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

DATE JAN 1991

DRAWING NO. C2409I

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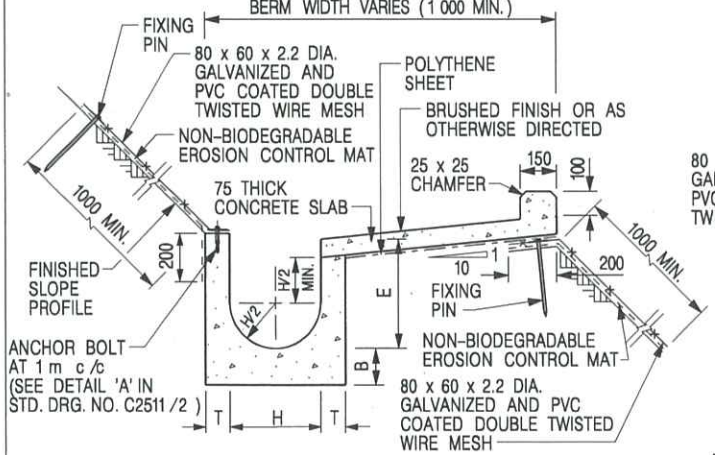
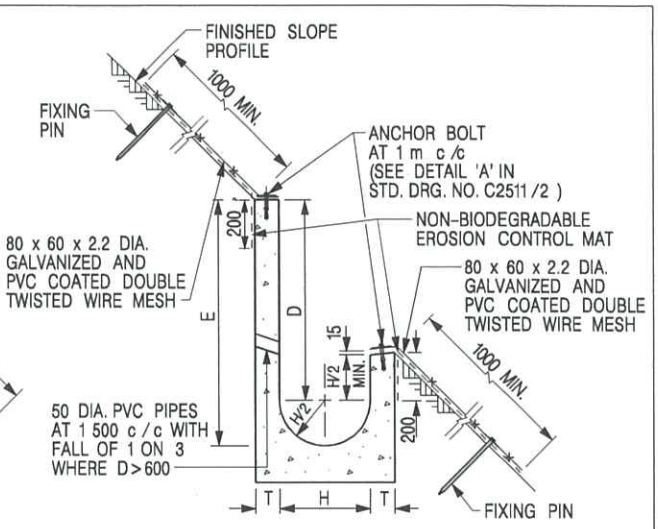
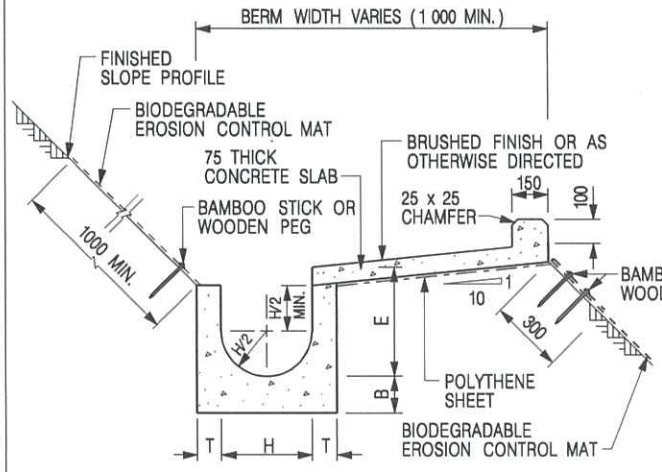


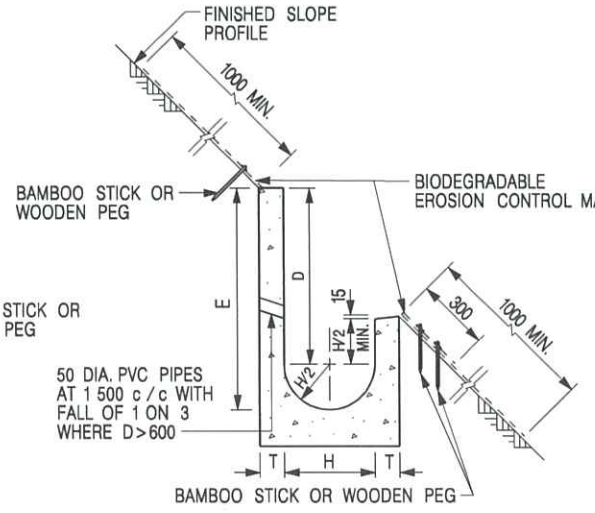
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



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:

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. FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO. C2511/2.
8. MINIMUM SIZE OF 25 x 50 x 300mm SHALL BE PROVIDED FOR WOODEN PEG.
9. MINIMUM SIZE OF 10mm DIAMETER WITH 200mm LONG SHALL BE PROVIDED FOR BAMBOO STICK.
10. 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	A252 MESH PLACED CENTRALLY

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)

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

SCALE DIAGRAMMATIC

DATE JAN 1991

DRAWING NO. C2410I

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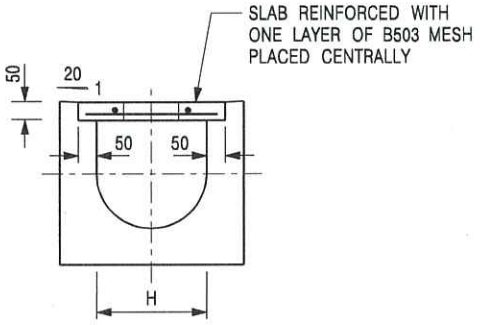
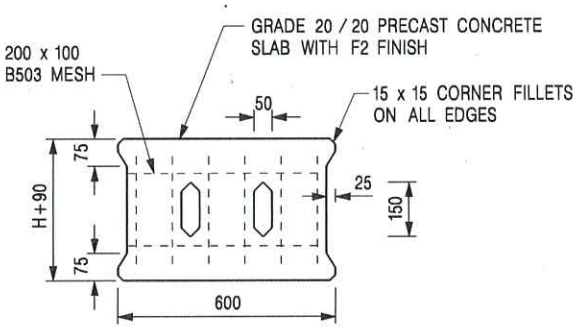


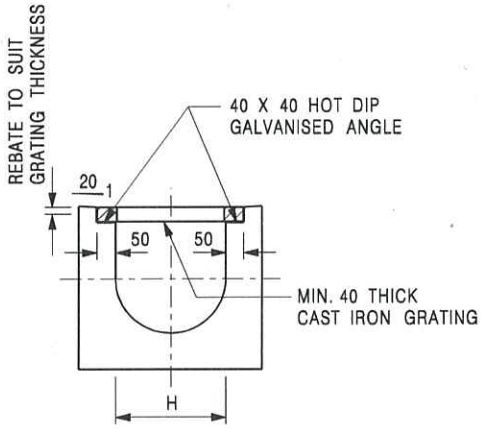
TYPICAL SECTION



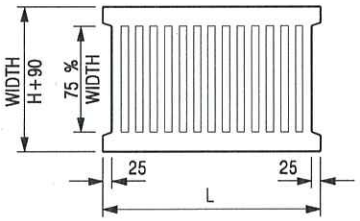
PLAN OF SLAB

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:

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

PHOTO 1

PHOTO 5

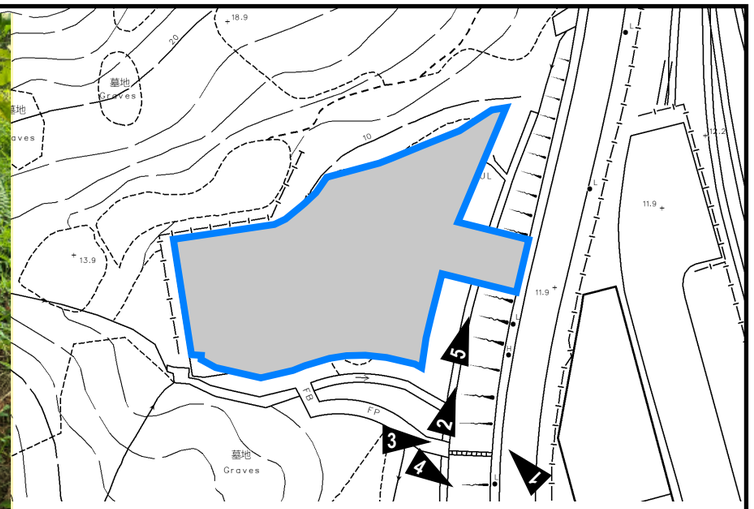


PHOTO 2

PHOTO 3

PHOTO 4

PROJECT: PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES AND ASSOCIATED FILLING OF LAND FOR A PERIOD OF 3 YEARS	SITE PHOTOS	APPENDIX D
LOCATION: LOT 136 RP (PART) AND 2149 (PART) IN D.D. 106 AND ADJOINING GOVERNMENT LAND, KAM TIN, YUEN LONG, NEW TERRITORIES		VER / DESCRIPTION / DATE