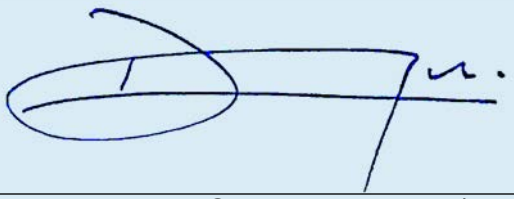
Annex II

Revised Drainage Impact Assessment

PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND, VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

Drainage Impact Assessment

Oct 2025



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MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

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1 Introduction

1.1 Background

1.1.1 The applicant seeks planning permission for a proposed temporary warehouse (excluding dangerous goods godown) with ancillary facilities for a period of three years and associated filling of land at the application site for at various lots in D.D. 89 and adjoining government land, Fu Tei Au, Sheung Shui, New Territories

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 Man Kam To Road. It has an area of approx. 15,724 m^2. The site location is shown in **Figure 1**.

1.2.2 The existing site is fully hard paved with level various from approx. +6.5mPD to + 12.6mPD. The proposed site is intent to maintain fully paved for formation of structures, parking, circulation area with proposed level from +7.3mPD to +12.8mPD.

1.2.3 There are existing watercourses at the west of the application site, which would discharge to existing stream/ pond at northwest and eventually discharge to Ng Tung River. **Figure 2** indicate the existing drainage system of the area. Photos of existing watercourse are shown in **Appendix D**.

2 Development Proposal

2.1 The Proposed Development

2.1.1 The total site area is approximately 15,724 m^2. After the development the site would be fully paved. The catchment plan is shown in **Figure 4-2**.

Proposed Development	
Total Site Area (m^2)	15,724
Paved Area before and after Development (m^2)	15,724

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 10 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 North District Zone. Therefore, for 10 years return period, the following values are adopted.

a	=	454.9
b	=	3.44
c	=	0.412

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

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 existing stream at the west.

4.1.2 The existing site is fully paved, no additional runoff is generated due to the proposed development.

4.1.3 The design calculations of proposed UChannel and checking of capacity of existing watercourse are shown in **Appendix A**. Due to rich in vegetation, not all existing watercourse is identified. One of the watercourses (2m (W) x 1.25m (D)) is used for checking of existing utilization (55.2%). The overall capacity is anticipated to be much larger than the one 2m (W) x 1.25m (D) watercourse.

4.1.4 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3**.

4.1.5 The catchment plan is shown in **Figure 4**.

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

5 Conclusion

5.1.1 Drainage review has been conducted for the Proposed Development.

5.1.2 The existing site is fully paved, no additional runoff is generated due to the proposed development. With implementation of proposed drainage system, no adverse drainage impact is anticipated.

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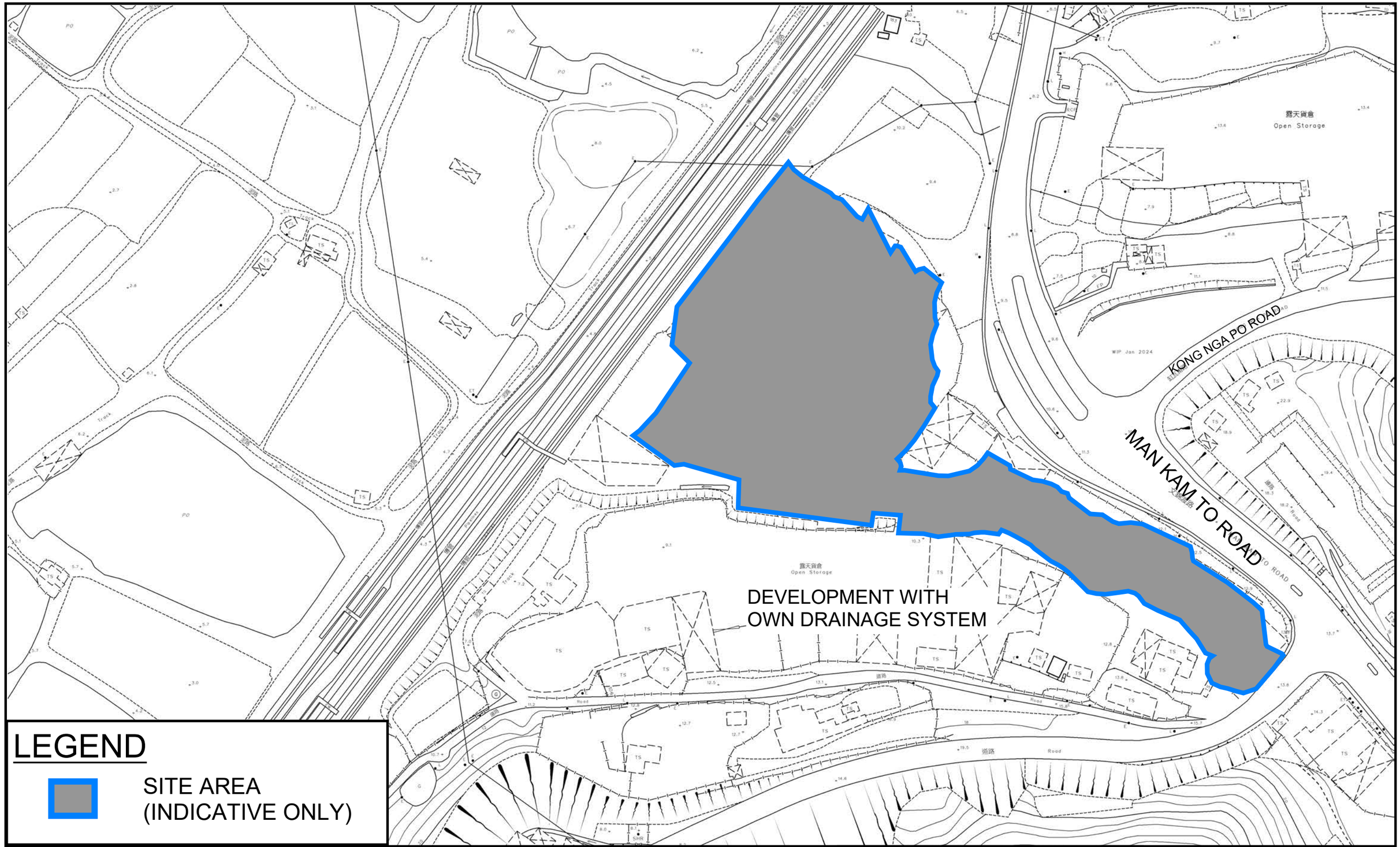
FIGURES



LEGEND

SITE AREA
(INDICATIVE ONLY)

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

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

TITLE
SITE LOCATION PLAN

FIGURE NUMBER
FIGURE 1

MARVELLOUS
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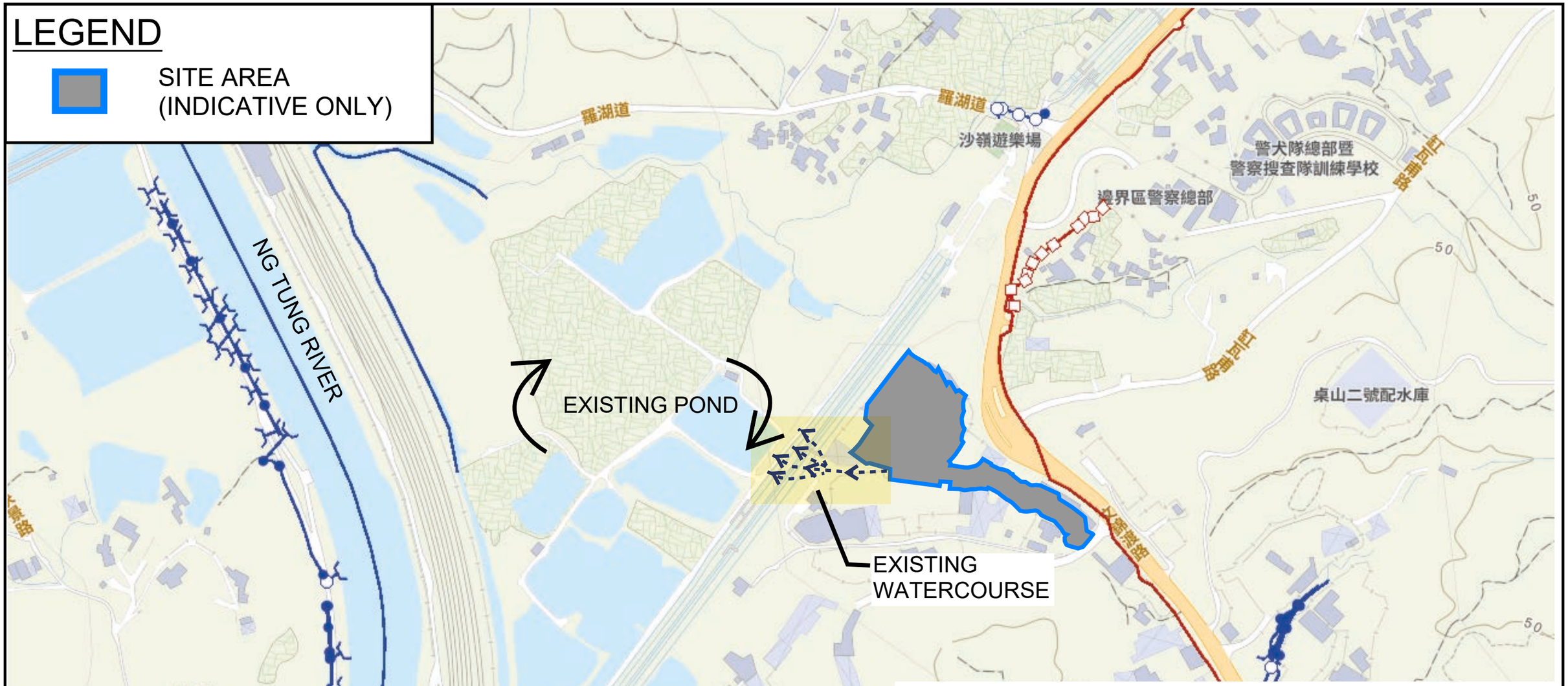
VER	DESCRIPTION	DATE

LEGEND

SITE AREA
(INDICATIVE ONLY)



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	

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

TITLE
EXISTING DRAINAGE PLAN

FIGURE NUMBER
FIGURE 2

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

LEGEND

SITE AREA
(INDICATIVE ONLY)

EXISTING STREAM

PROPOSED CHANNEL

PROPOSED CATCHPIT

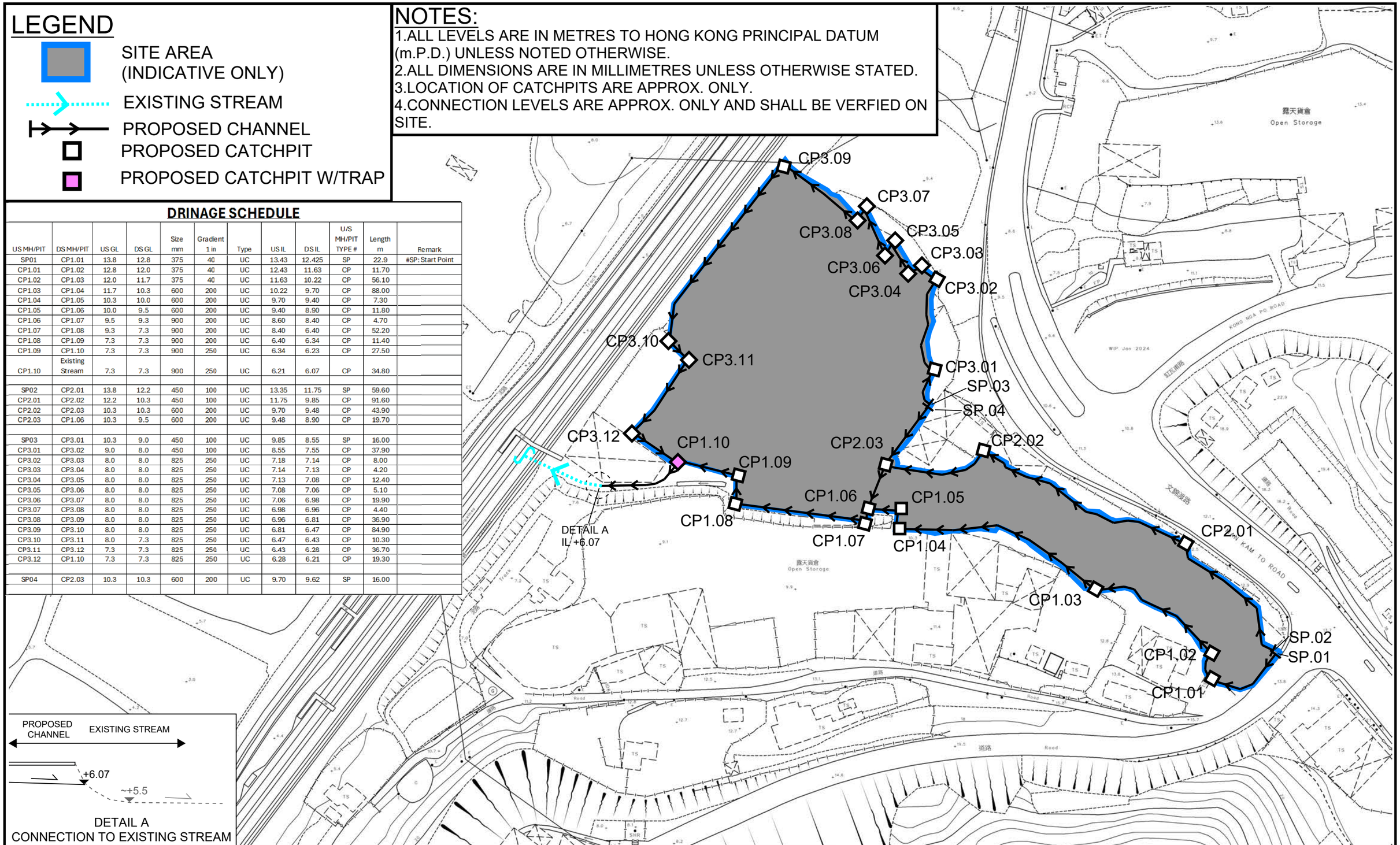
PROPOSED CATCHPIT W/TRAP

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.

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 #	Length m	Remark
SP01	CP1.01	13.8	12.8	375	40	UC	13.43	12.425	SP	22.9	#SP: Start Point
CP1.01	CP1.02	12.8	12.0	375	40	UC	12.43	11.63	CP	11.70	
CP1.02	CP1.03	12.0	11.7	375	40	UC	11.63	10.22	CP	56.10	
CP1.03	CP1.04	11.7	10.3	600	200	UC	10.22	9.70	CP	88.00	
CP1.04	CP1.05	10.3	10.0	600	200	UC	9.70	9.40	CP	7.30	
CP1.05	CP1.06	10.0	9.5	600	200	UC	9.40	8.90	CP	11.80	
CP1.06	CP1.07	9.5	9.3	900	200	UC	8.60	8.40	CP	4.70	
CP1.07	CP1.08	9.3	7.3	900	200	UC	8.40	6.40	CP	52.20	
CP1.08	CP1.09	7.3	7.3	900	200	UC	6.40	6.34	CP	11.40	
CP1.09	CP1.10	7.3	7.3	900	250	UC	6.34	6.23	CP	27.50	
CP1.10	Existing Stream	7.3	7.3	900	250	UC	6.21	6.07	CP	34.80	
SP02	CP2.01	13.8	12.2	450	100	UC	13.35	11.75	SP	59.60	
CP2.01	CP2.02	12.2	10.3	450	100	UC	11.75	9.85	CP	91.60	
CP2.02	CP2.03	10.3	10.3	600	200	UC	9.70	9.48	CP	43.90	
CP2.03	CP1.06	10.3	9.5	600	200	UC	9.48	8.90	CP	19.70	
SP03	CP3.01	10.3	9.0	450	100	UC	9.85	8.55	SP	16.00	
CP3.01	CP3.02	9.0	8.0	450	100	UC	8.55	7.55	CP	37.90	
CP3.02	CP3.03	8.0	8.0	825	250	UC	7.18	7.14	CP	8.00	
CP3.03	CP3.04	8.0	8.0	825	250	UC	7.14	7.13	CP	4.20	
CP3.04	CP3.05	8.0	8.0	825	250	UC	7.13	7.08	CP	12.40	
CP3.05	CP3.06	8.0	8.0	825	250	UC	7.08	7.06	CP	5.10	
CP3.06	CP3.07	8.0	8.0	825	250	UC	7.06	6.98	CP	19.90	
CP3.07	CP3.08	8.0	8.0	825	250	UC	6.98	6.96	CP	4.40	
CP3.08	CP3.09	8.0	8.0	825	250	UC	6.96	6.81	CP	36.90	
CP3.09	CP3.10	8.0	8.0	825	250	UC	6.81	6.47	CP	84.90	
CP3.10	CP3.11	8.0	7.3	825	250	UC	6.47	6.43	CP	10.30	
CP3.11	CP3.12	7.3	7.3	825	250	UC	6.43	6.28	CP	36.70	
CP3.12	CP1.10	7.3	7.3	825	250	UC	6.28	6.21	CP	19.30	
SP04	CP2.03	10.3	10.3	600	200	UC	9.70	9.62	SP	16.00	



PROPOSED CHANNEL — EXISTING STREAM

+6.07

~+5.5

DETAIL A
CONNECTION TO EXISTING STREAM

PROJECT:

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

TITLE
PROPOSED DRAINAGE SYSTEM

FIGURE NUMBER
FIGURE 3

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

LEGEND:

FALL

N

B4: 3,917 m²

+8.0

A4: 11,157 m²

+8.0

B3: 978 m²

+7.3

+10.3

+7.3

A3: 805 m²

B2: 943 m²

B1: 1,119 m²

+10.3

A2: 1,725 m²

+11.5

B7: 997 m²

ASSUME 80% PAVED

B6: 154 m²

A1: 2,037 m²

+12.8

B5: 1,251 m²

露天貨倉

Open Storage

KONG NGA PO ROAD

MAN KAM TO ROAD

PROJECT:

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

TITLE

CATCHMENT PLAN

FIGURE NUMBER

FIGURE 4

LOCATION:

VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

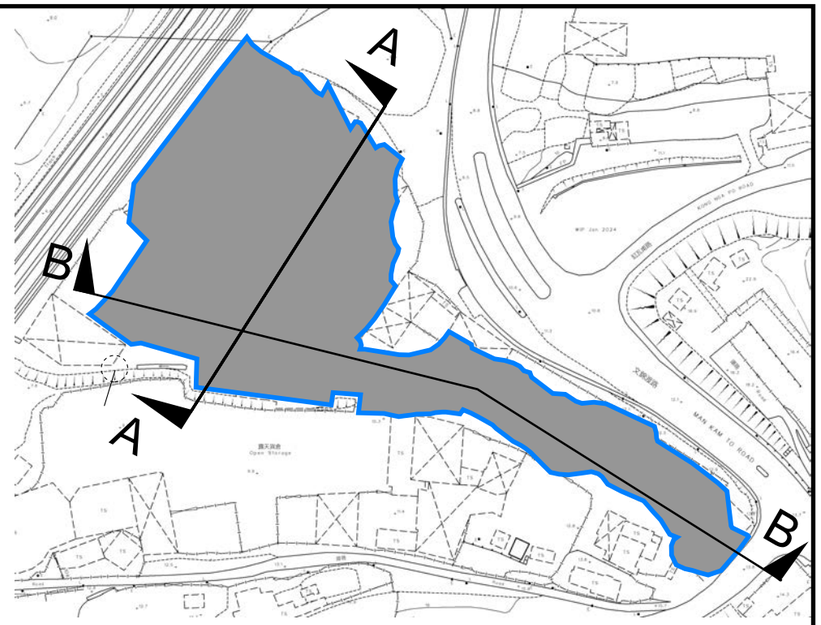
MARVELLOUS

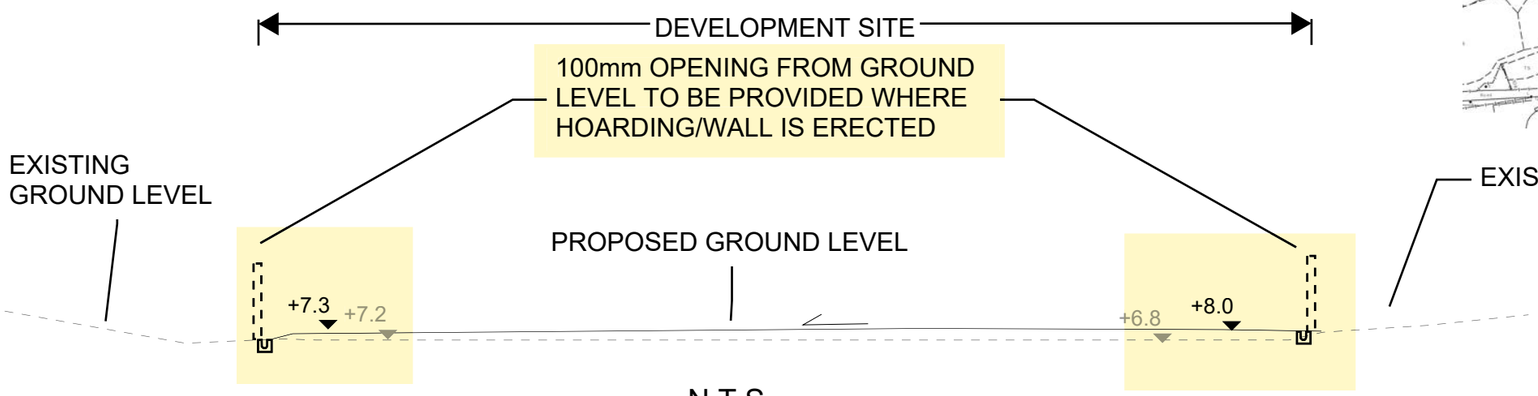
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

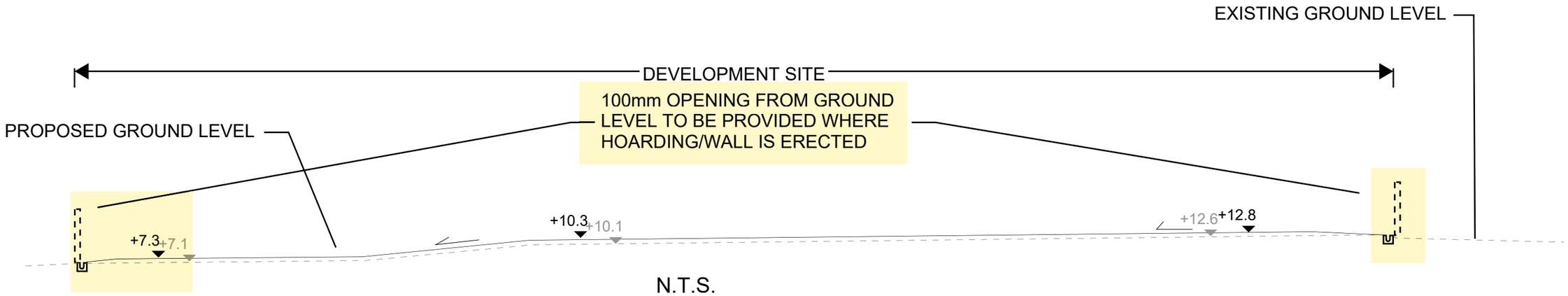
LEGEND

SITE AREA
(INDICATIVE ONLY)





N.T.S.
SECTION A-A



N.T.S.
SECTION B-B

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

TITLE
SECTION

FIGURE NUMBER
FIGURE 5

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

APPENDIX

Appendix A: Design Calculation

Zone

North District

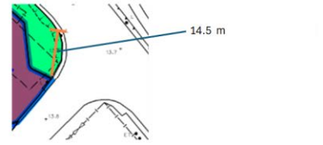
Return Period	1 in	10	years

n	0.014
Ks	0.15
Viscosity	0.000001

Storm Constant		
	North District a	454.9
	North District b	3.44
	North District c	0.412

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)
1119	14.5	13.8	12.8	6.897	0.7	0.7



Catchment Area Table (Area in m^2)

Catchment	A1	A2	A3	A4	B1	B2	B3	B4	B5	B6	B7	Total Site Area (Before Development)	Total Site Area (After Development)		
Total Area	2037	1725	805	11157	1119	943	978	3917	1251	154	997	15724	15724		
Hard Paved Area	2037	1725	805	11157	1119	943	978	3917	1251	154	798	15724	15724		
Unpaved Area	0	0	0	0	0	0	0	0	0	0	199	0	0		
Equival. Area	1935.15	1638.75	764.75	10599.15	1063.05	895.85	929.1	3721.15	1188.45	146.30	827.51	14937.80	14937.80		

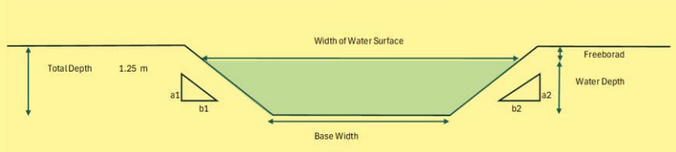
Pavement Type	Hard Paved	Unpaved
Runoff Coefficient	0.95	0.35

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	Catchment ID1	Catchment ID2	Catchment ID3	Catchment ID4	Catchment ID5	Catchment ID6	Catchment ID7	Catchment ID8	Total Equivalent Area m^2	ToC min	Intensity mm/hr	Total Discharge m^3/s	Utilitization	Remark
SP01	CP1.01	13.80	12.80	375	40	UC	13.43	12.43	SP	22.9	2.90	0.36	A1	B5							3123.60	0.70	253	0.22	60.4%	
CP1.01	CP1.02	12.80	12.00	375	40	UC	12.43	11.63	CP	11.7	2.90	0.36	A1	B5							3123.60	0.83	250	0.22	59.6%	
CP1.02	CP1.03	12.00	11.70	375	40	UC	11.63	10.22	CP	56.1	2.90	0.36	A1	B5							3123.60	0.90	248	0.22	59.2%	
CP1.03	CP1.04	11.70	10.30	600	200	UC	10.22	9.70	CP	88	1.78	0.57	A1	A2	A3	B5	B6				5673.40	1.22	241	0.38	66.7%	
CP1.04	CP1.05	10.30	10.00	600	200	UC	9.70	9.40	CP	7.3	1.78	0.57	A1	A2	A3	B5	B6	B7			6500.91	2.05	226	0.41	71.5%	
CP1.05	CP1.06	10.00	9.50	600	200	UC	9.40	8.90	CP	11.8	1.78	0.57	A1	A2	A3	B5	B6	B7			6500.91	2.12	224	0.41	71.1%	
CP1.06	CP1.07	9.50	9.30	900	200	UC	8.60	8.40	CP	4.7	2.33	1.68	Total Site Area (After Development)	B1	B2	B3	B4	B6	B6	B7	22667.06	2.51	218	1.37	81.7%	
CP1.07	CP1.08	9.30	7.30	900	200	UC	8.40	6.40	CP	52.2	2.33	1.68	Total Site Area (After Development)	B1	B2	B3	B4	B6	B6	B7	22667.06	2.55	218	1.37	81.5%	
CP1.08	CP1.09	7.30	7.30	900	200	UC	6.40	6.34	CP	11.4	2.33	1.68	Total Site Area (After Development)	B1	B2	B3	B4	B6	B6	B7	22667.06	2.92	212	1.34	79.5%	
CP1.09	CP1.10	7.30	7.30	900	250	UC	6.34	6.23	CP	27.5	2.08	1.50	Total Site Area (After Development)	B1	B2	B3	B4	B6	B6	B7	22667.06	3.00	211	1.33	88.4%	
CP1.10	Existing Stream	7.30	7.30	900	250	UC	6.21	6.07	CP	34.8	2.08	1.50	Total Site Area (After Development)	B1	B2	B3	B4	B6	B6	B7	22667.06	3.22	208	1.31	87.2%	
SP02	CP2.01	13.80	12.20	450	100	UC	13.35	11.75	SP	59.6	2.07	0.37	A1	B1							2998.20	0.70	253	0.21	56.4%	
CP2.01	CP2.02	12.20	10.30	450	100	UC	11.75	9.85	CP	91.6	2.07	0.37	A1	A2	B1						4636.95	1.18	242	0.31	83.3%	
CP2.02	CP2.03	10.30	10.30	600	200	UC	9.70	9.48	CP	43.9	1.78	0.57	A1	A2	A3	B1	B2				6297.55	1.92	228	0.40	69.9%	
CP2.03	CP1.06	10.30	9.50	600	200	UC	9.48	8.90	CP	19.7	1.78	0.57	A1	A2	A3	B1	B2				6297.55	2.33	221	0.39	67.8%	
SP03	CP3.01	10.30	9.00	450	100	UC	9.85	8.55	SP	16	2.07	0.37	B3	B4							4650.25	0.70	253	0.33	87.4%	
CP3.01	CP3.02	9.00	8.00	450	100	UC	8.55	7.55	CP	37.9	2.07	0.37	B3	B4							4650.25	0.83	250	0.32	86.3%	
CP3.02	CP3.03	8.00	8.00	825	250	UC	7.18	7.14	CP	8	1.96	1.19	A4	B3	B4						15249.40	1.13	243	1.03	86.4%	
CP3.03	CP3.04	8.00	8.00	825	250	UC	7.14	7.13	CP	4.2	1.96	1.19	A4	B3	B4						15249.40	1.20	242	1.02	85.9%	
CP3.04	CP3.05	8.00	8.00	825	250	UC	7.13	7.08	CP	12.4	1.96	1.19	A4	B3	B4						15249.40	1.24	241	1.02	85.6%	
CP3.05	CP3.06	8.00	8.00	825	250	UC	7.08	7.06	CP	5.1	1.96	1.19	A4	B3	B4						15249.40	1.34	239	1.01	84.8%	
CP3.06	CP3.07	8.00	8.00	825	250	UC	7.06	6.98	CP	19.9	1.96	1.19	A4	B3	B4						15249.40	1.39	238	1.01	84.5%	
CP3.07	CP3.08	8.00	8.00	825	250	UC	6.98	6.96	CP	4.4	1.96	1.19	A4	B3	B4						15249.40	1.55	234	0.99	83.3%	
CP3.08	CP3.09	8.00	8.00	825	250	UC	6.96	6.81	CP	36.9	1.96	1.19	A4	B3	B4						15249.40	1.59	234	0.99	83.1%	
CP3.09	CP3.10	8.00	8.00	825	250	UC	6.81	6.47	CP	84.9	1.96	1.19	A4	B3	B4						15249.40	1.91	228	0.97	81.0%	
CP3.10	CP3.11	8.00	7.30	825	250	UC	6.47	6.43	CP	10.3	1.96	1.19	A4	B3	B4						15249.40	2.63	216	0.92	76.9%	
CP3.11	CP3.12	7.30	7.30	825	250	UC	6.43	6.28	CP	36.7	1.96	1.19	A4	B3	B4						15249.40	2.71	215	0.91	76.5%	
CP3.12	CP1.10	7.30	7.30	825	250	UC	6.28	6.21	CP	19.3	1.96	1.19	A4	B3	B4	B7					16076.91	3.02	211	0.94	79.0%	
SP04	CP2.03	10.30	10.30	600	200	UC	9.70	9.62	SP	16	1.78	0.57	B2								895.85	0.70	253	0.06	11.1%	

#SP: Start Point

Capacity Checking of Existing Stream



a1	1	
b1	0	
a2	1	
b2	0	
Total Depth	1.25	m
Base Width	2.00	m
Assumed Water Depth	0.95	m
Freeboard	0.30	m

Assumed Water Depth	Freeboard	Base Width*	Width of Water Surface	Flow Area	Wetted Perimeter	Hydralic Radius	Manning's Roughness	Gradient	Velocity	Capacity
m	m	m	m	m^2	m	m		1 in	m/s	m^3/s
0.95	0.30	2.00	2.00	1.90	3.90	0.49	0.035	200	1.25	2.38

Total Flow from The Application Site = 1.31 m^3/s
Utilization Rate = 55.2%
Total flow from Application Site only occupy 55.2% of the existing stream.

Please kindly note the Existing Application Site is already fully paved. NO additional runoff generated from the proposed development

APPENDIX B - PROPOSED SITE LAYOUT PLAN

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 15,724 m^2	(ABOUT)
COVERED AREA	: 8,624 m^2	(ABOUT)
UNCOVERED AREA	: 7,100 m^2	(ABOUT)
PLOT RATIO	: 1.1	(ABOUT)
SITE COVERAGE	: 55%	(ABOUT)
NO. OF STRUCTURE	: 3	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 17,248 m^2	(ABOUT)
TOTAL GFA	: 17,248 m^2	(ABOUT)
BUILDING HEIGHT	: 7 m - 13 m	(ABOUT)
NO. OF STOREY	: 2	

B1	WAREHOUSE (EXCLUDING D.G.G.) AND FIRE SERVICE INSTALLATIONS	8,408 m^2 (ABOUT)	16,816 m^2 (ABOUT)	13 m (ABOUT)(2-STOREY)
B2	SITE OFFICE AND WASHROOM	108 m^2 (ABOUT)	216 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
B3	SITE OFFICE AND WASHROOM	108 m^2 (ABOUT)	216 m^2 (ABOUT)	7 m (ABOUT)(2-STOREY)
	TOTAL	**8,624 m^2 (ABOUT)**	**17,248 m^2 (ABOUT)**	

**D.G.G. - DANGEROUS GOODS GODOWN*

PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 5
DIMENSION OF PARKING SPACE	: 5 m (L) x 2.5 m (W)
NO. OF L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 2
DIMENSION OF L/UL SPACE	: 11 m (L) x 3.5 m (W)
NO. OF L/UL SPACE FOR CONTAINER VEHICLE	: 2
DIMENSION OF L/UL SPACE	: 16 m (L) x 3.5 m (W)

LEGEND

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

W — E — S

PLANNING CONSULTANT

R-Riches Property Consultants Ltd.

PROJECT

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

SITE LOCATION

VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

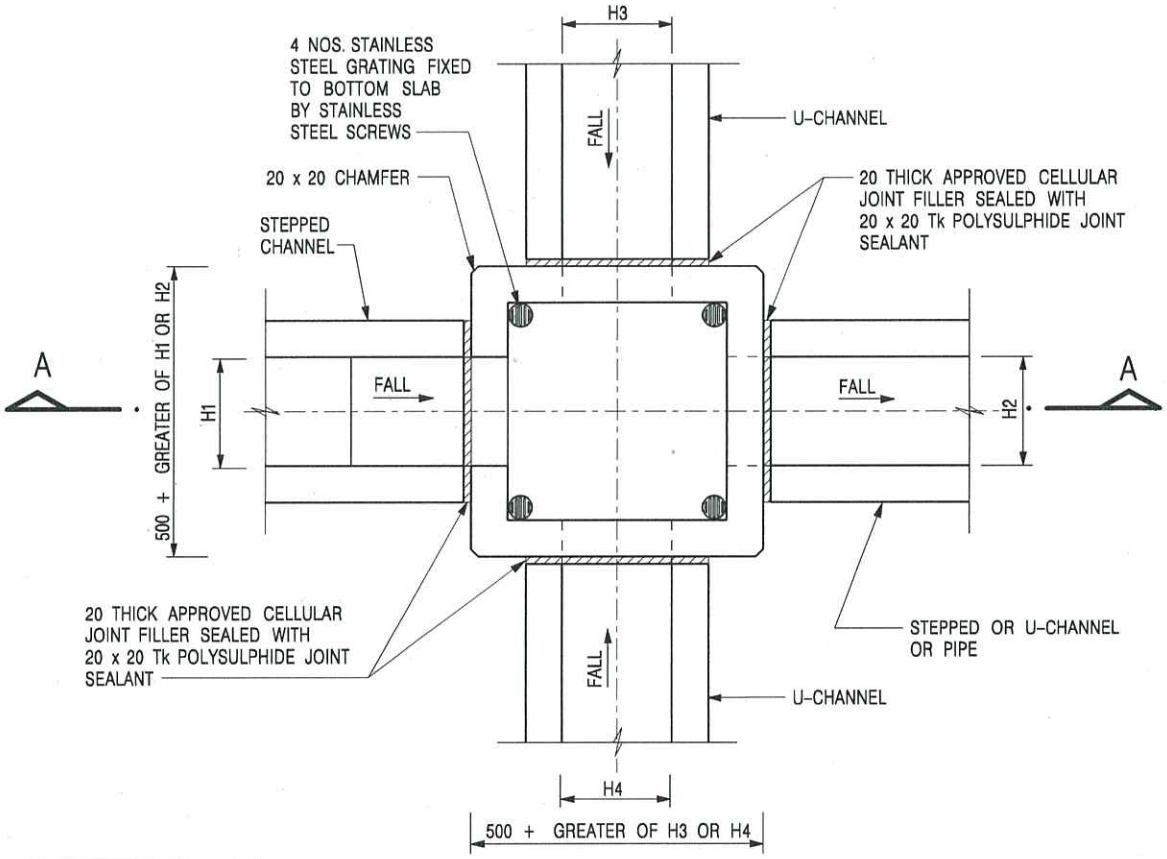
SCALE: 1 : 1500 @ A4

DRAWN BY	DATE
MN	24.11.2023
REVISED BY	DATE
APPROVED BY	DATE

DWG. TITLE: LAYOUT PLAN

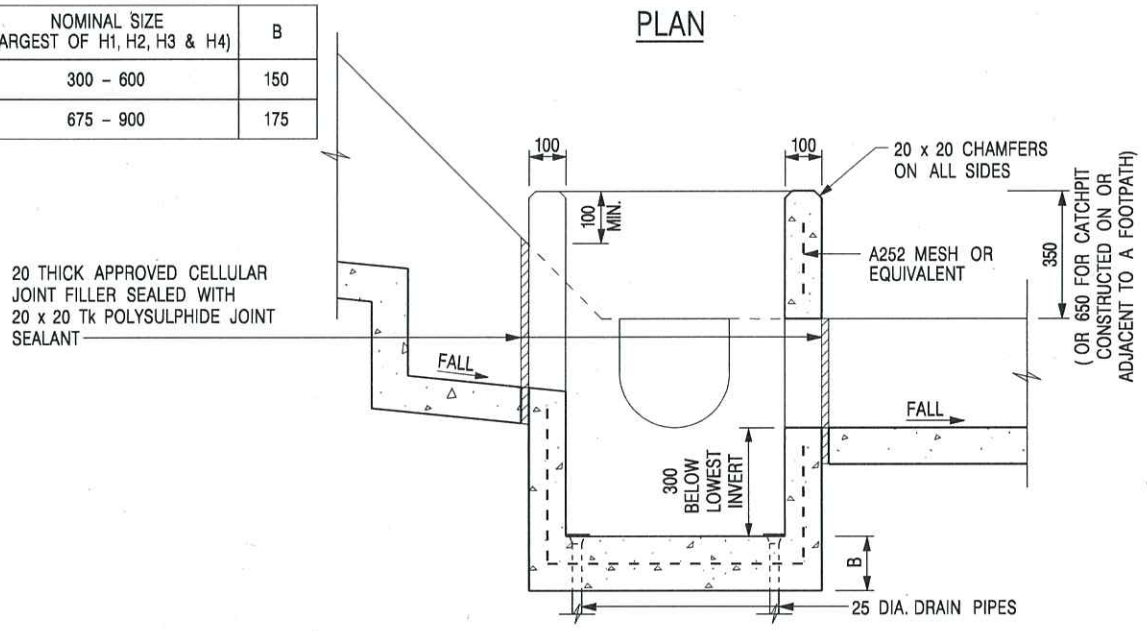
DWG NO.	VER.
PLAN 4	001

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)

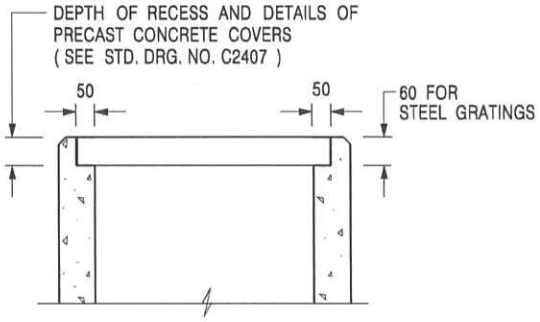
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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

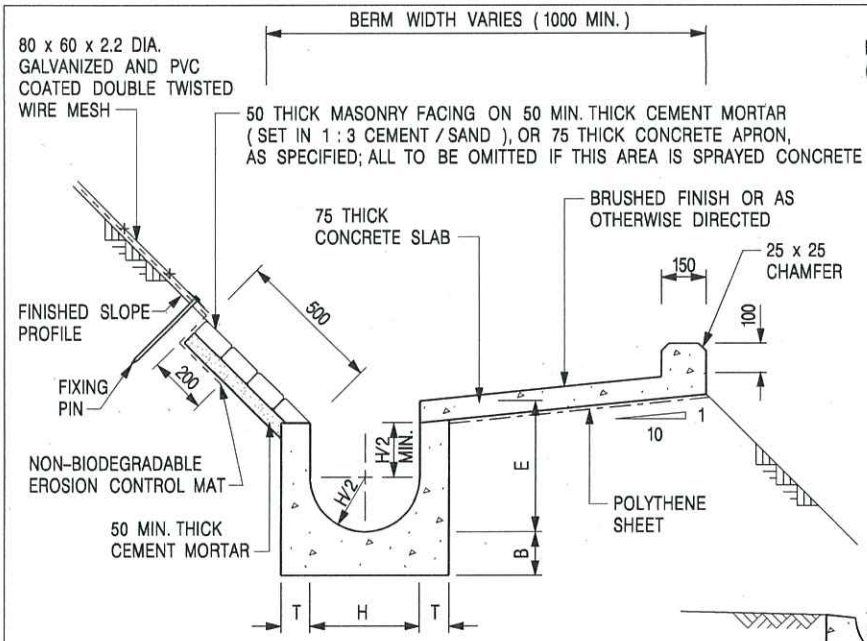
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

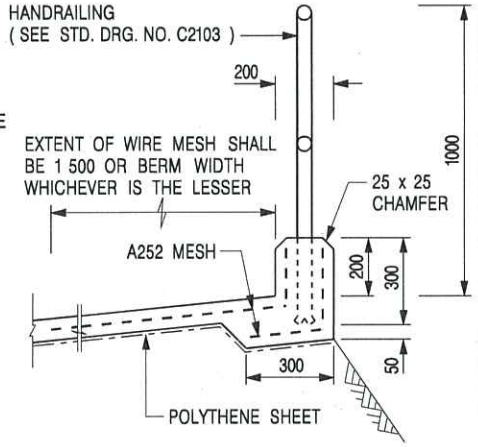
SCALE 1 : 20

DATE JAN 1991

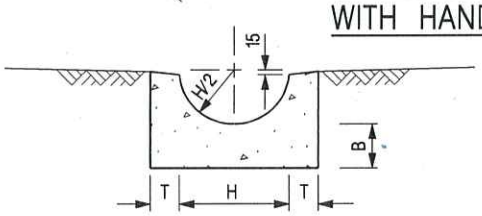
DRAWING NO. C2406 /2A



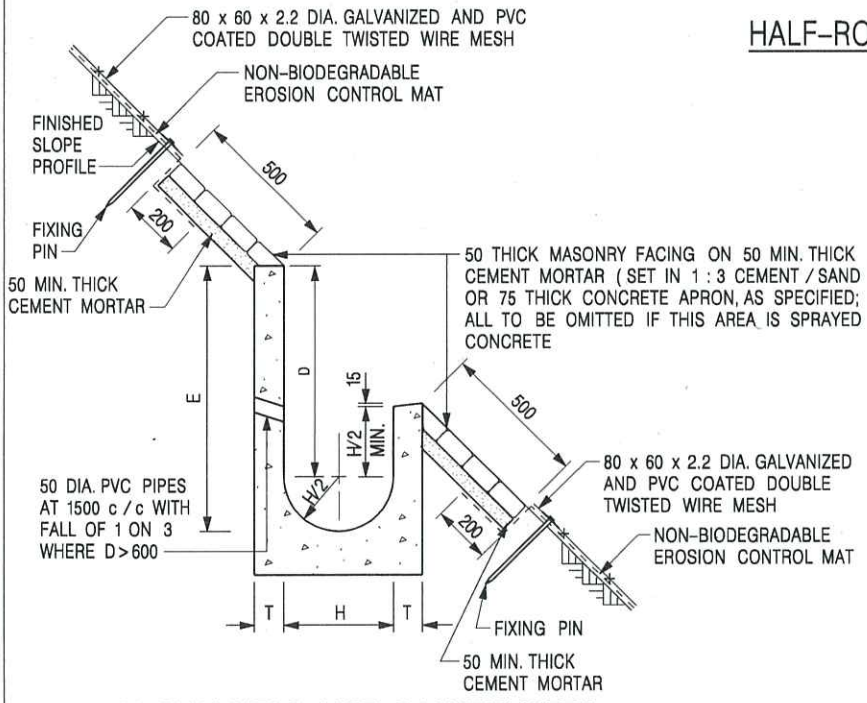
U-CHANNELS CONSTRUCTED ON BERM



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**

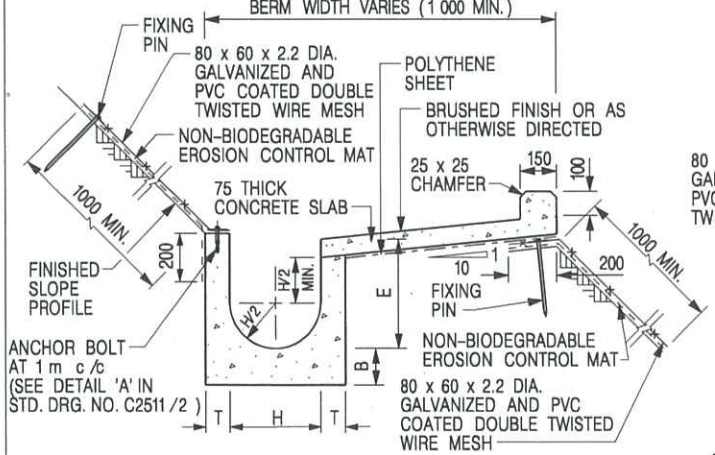
SCALE 1 : 25

DATE JAN 1991

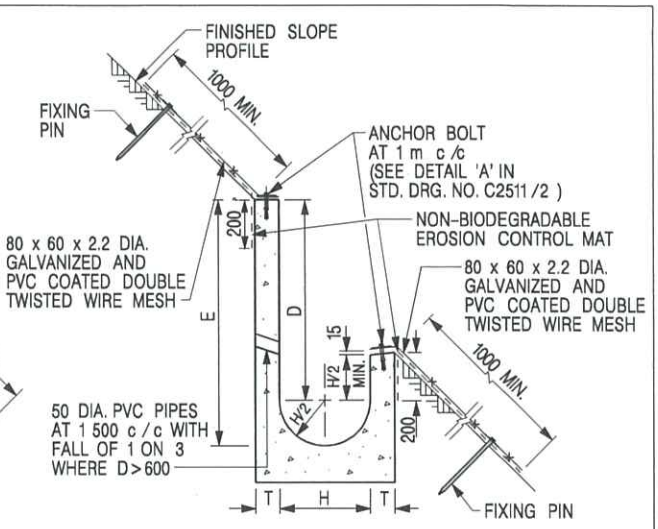
DRAWING NO. C2409I

卓越工程 建設香港

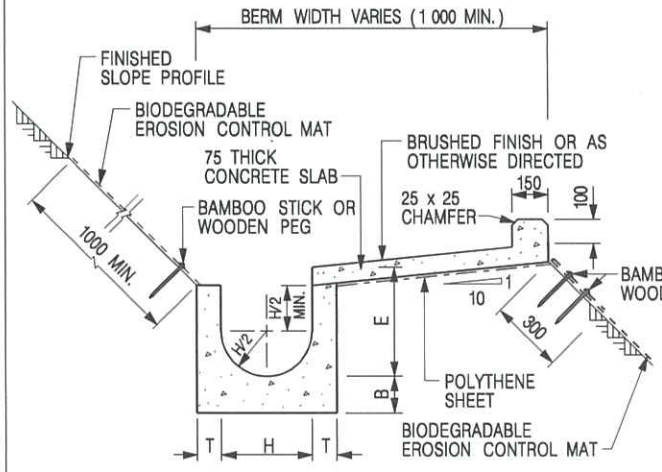
We Engineer Hong Kong's Development



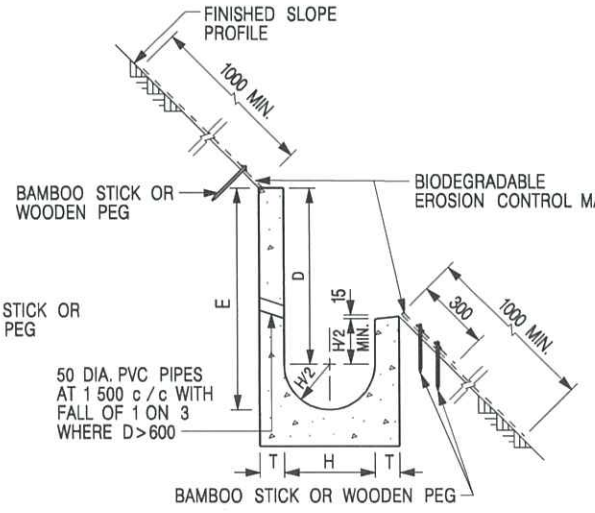
U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT



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**

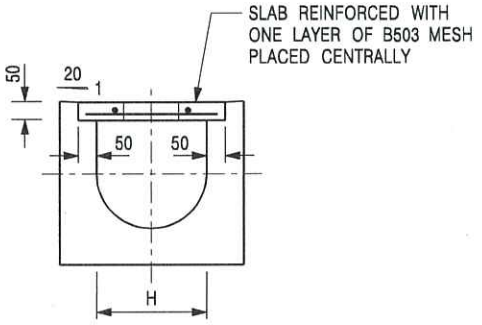
SCALE DIAGRAMMATIC

DATE JAN 1991

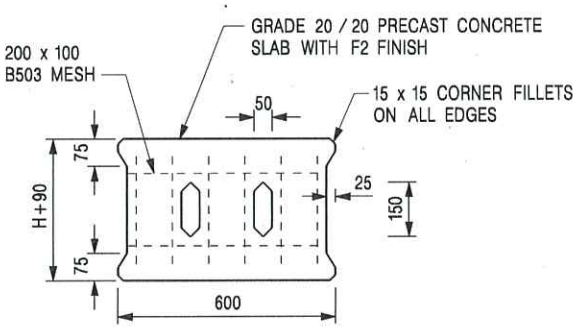
DRAWING NO. C2410I

卓越工程 建設香港

We Engineer Hong Kong's Development



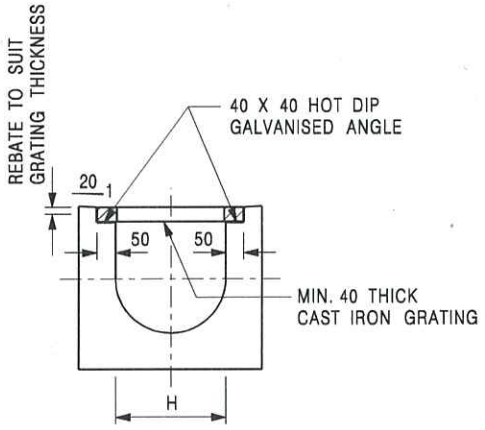
TYPICAL SECTION



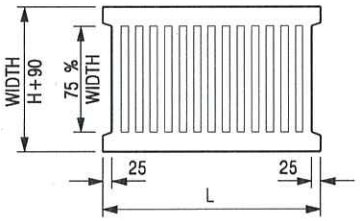
PLAN OF SLAB

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 4

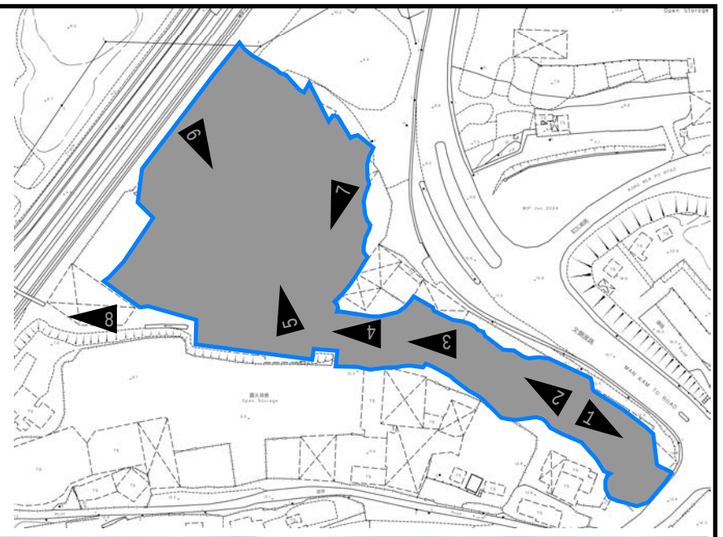


PHOTO 2

PHOTO 5

PHOTO 7

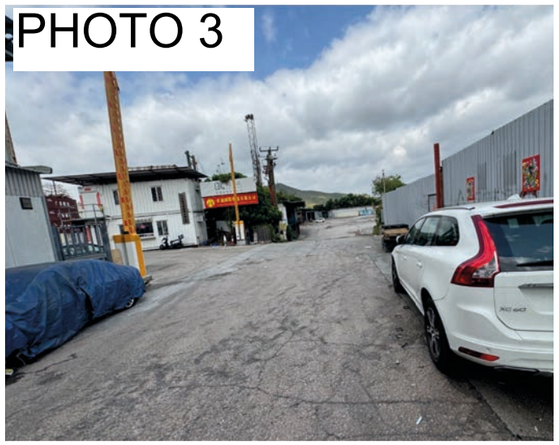


PHOTO 3

PHOTO 6

PHOTO 8
Existing
Stream

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

SITE PHOTOS
Page 1

APPENDIX D

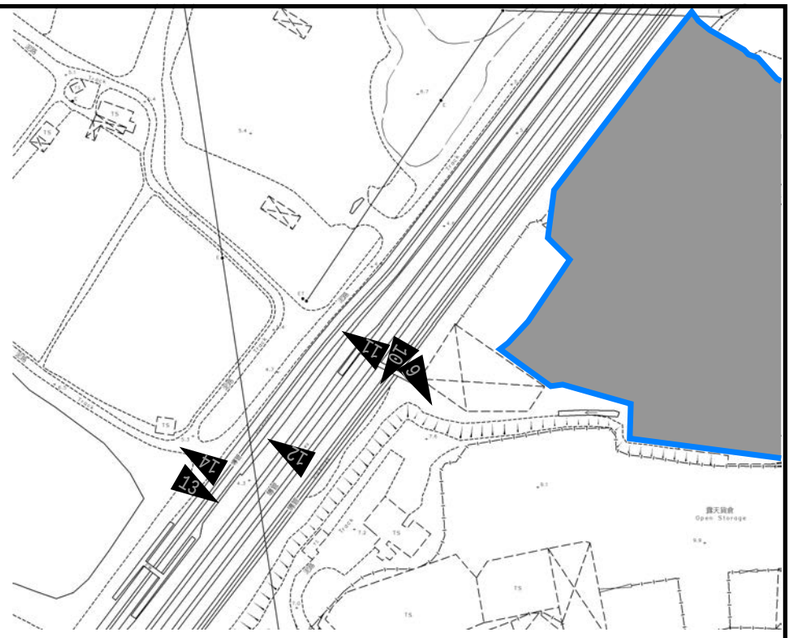
LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

PHOTO 9

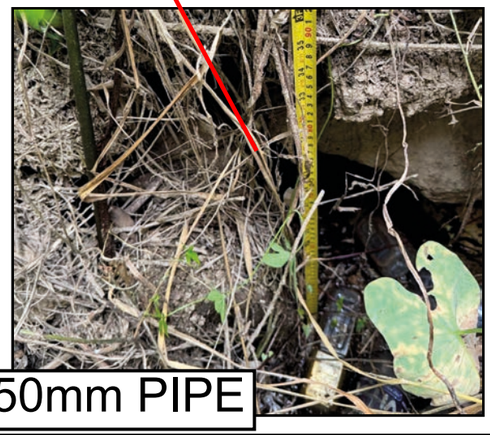
PHOTO 10



EXISTING
750mm PIPE
ACROSS WSD
ROAD

PHOTO 11

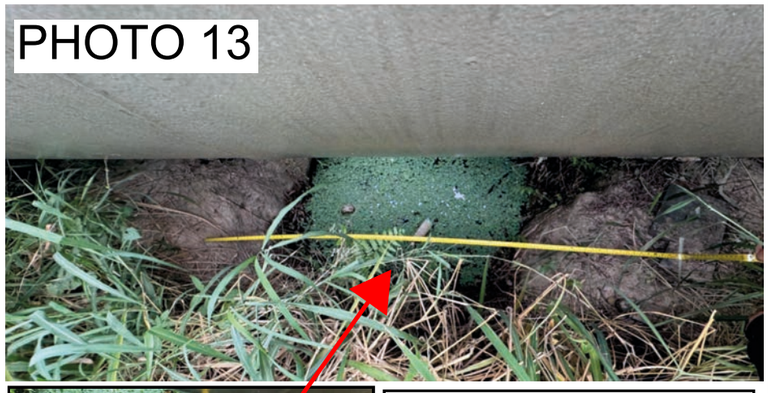
EXISTING
1000 (W) X 1800
(D) CHANNEL



750mm PIPE

PHOTO 12

PHOTO 13



EXISTING
2000 (W) X 1250
(D) STREAM

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

SITE PHOTOS
Page 2

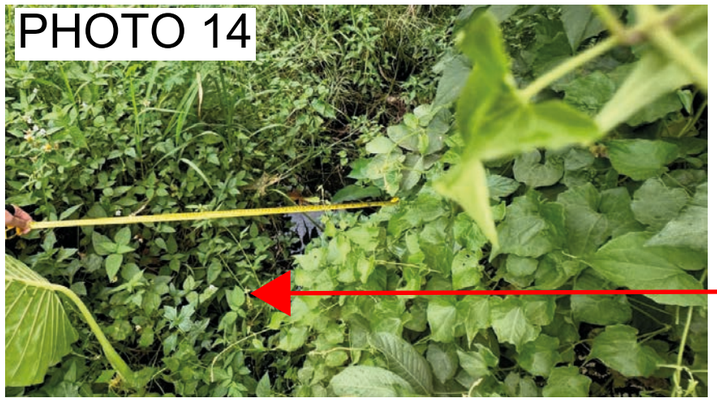
APPENDIX D

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE

PHOTO 14



EXISTING
1500 (W) X 900 (D) STREAM

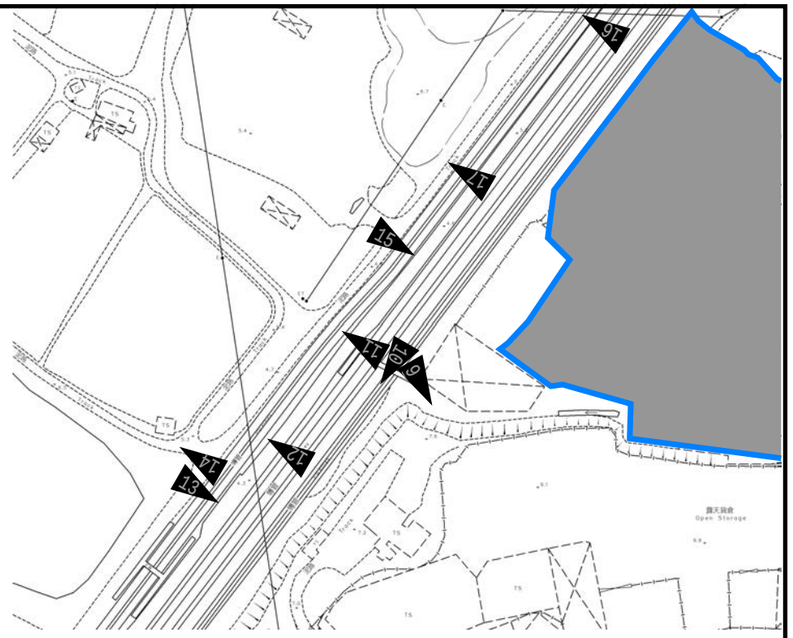
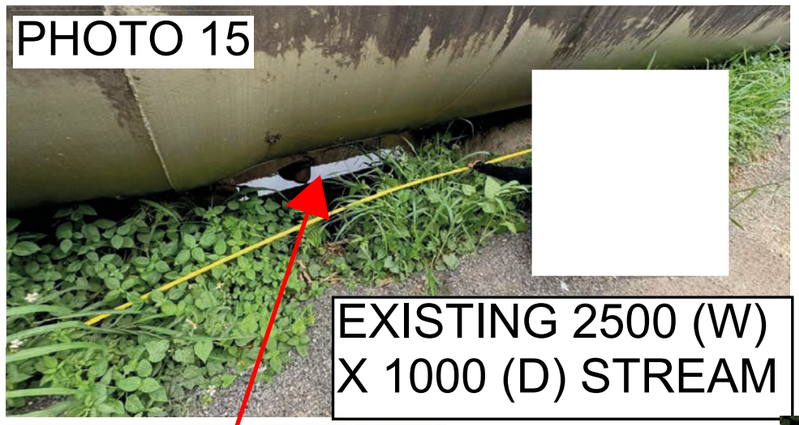


PHOTO 15



EXISTING 2500 (W)
X 1000 (D) STREAM

EXISTING 1800 (W)
X 700 (D) STREAM

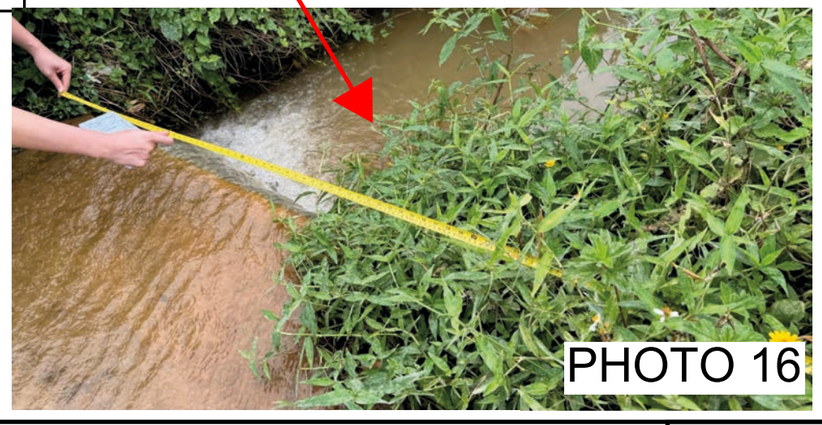


PHOTO 16

PHOTO 17

EXISTING STREAM
(CANNOT ACCESS)

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

SITE PHOTOS
Page 3

APPENDIX D

LOCATION:
VARIOUS LOTS IN D.D. 89 AND ADJOINING GOVERNMENT LAND, FU TEI AU, SHEUNG SHUI, NEW TERRITORIES

MARVELLOUS
CONSTRUCTION & DESIGN COMPANY LIMITED

VER	DESCRIPTION	DATE