

Appendix I

Updated Fire Service Installations Proposal

FIRE SERVICES NOTES:

1. HOSE REEL SYSTEM

- 1.1 HR SYSTEM TO BE PROVIDED AND INSTALLED FOR THE STRUCTURE B1 IN ACCORDANCE WITH THE CODE OF PRACTICE FOR MINIMUM FIRE SERVICE INSTALLATIONS AND EQUIPMENT 2022.
- 1.2 HOSE REELS SHALL BE PROVIDED AT THE POSITIONS INDICATED ON PLAN.
- 1.3 SUFFICIENT HOSE REELS TO BE PROVIDED TO ENSURE THAT EVERY PART OF THE AREA CAN BE REACHED BY A LENGTH OF NOT MORE THAN 30m OF HOSE REEL TUBING.
- 1.4 AN MODIFIED HOSE REEL SYSTEM WITH 2000L F.S. WATER TANK TO BE PROVIDED AND TO BE SINGLE END FEED FROM TOWN MAIN. THE LOCATION OF THE FS WATER TANK AND FS PUMP ROOM ARE CLEARLY MARKED ON PLANS.
- 1.5 TWO FIXED FIRE PUMPS (DUTY & STANDBY) TO BE PROVIDED IN THE PUMP ROOM.
- 1.6 NO FIRE SERVICES INLET TO BE PROVIDED FOR THE MODIFIED HOSE REEL SYSTEM.
- 1.7 AN INSTRUCTION PLATE SHALL BE PROVIDED NEXT TO THE BREAK GLASS UNIT FOR OPERATION OF HOSE REEL

2. AUTOMATIC SPRINKLER SYSTEM

- 2.1 AN AUTOMATIC SPRINKLER SYSTEM TO BE PROVIDED TO THE ENTIRE STRUCTURE B1 IN ACCORDANCE WITH LPC RULES INCORPORATING BS EN12845 : 2015 AND FSD CIRCULAR LETTER 5/2020. THE SPRINKLER TANK, SPRINKLER PUMP ROOM, SPRINKLER INLET AND SPRINKLER CONTROL VALVE GROUP SHALL BE CLEARLY MARKED ON PLANS.
- 2.2 THE CLASSIFICATION OF THE AUTOMATIC SPRINKLER INSTALLATION TO BE ORDINARY HAZARD GROUP 3.
- 2.3 A 135,000 LITERS SPRINKLER WATER TANK TO BE PROVIDED AS INDICATED ON PLAN.
- 2.4 SPRINKLER CONTROL VALVE SET AND SPRINKLER INLET TO BE PROVIDE AT GROUND FLOOR AND THE LOCATION AS INDICATED ON PLAN.
- 2.5 TWO SPRINKLER PUMPS (DUTY & STANDBY) AND ONE SPRINKLER JOCKEY PUMP TO BE PROVIDED FOR SERVING THE STRUCTURE AND LOCATED IN PUMP ROOM.
- 2.6 ALL SPRINKLER PIPE SIZE SHOULD BE ø32mm UNLESS SPECIFY.
- 2.7 TYPE OF STORAGE METHOD FOR THE BUILDING IS AS FOLLOWS:
(A) STORAGE CATEGORY : CATEGORY (I)
(B) STORAGE HEIGHT : NOT EXCEEDING 4M
(C) STORAGE : ST1
- 2.8 STORAGE BLOCK SHOULD BE SEPARATED BY AISLES NO LESS THAN 2.4 WIDE.
- 2.9 STORAGE SHOULD BE CONFINED TO BLOCKS NOT EXCEEDING 50M² IN PLAN AREA FOR CATEGORY I.
- 2.10 ALL INSTALLED SPRINKLER SHOULD BE PENDENT TYPE AND THE TEMPERATURE RATING OF SPRINKLER HEAD SHALL BE 68°C UNLESS OTHERWISE SPECIFIED.

3. FIRE ALARM SYSTEM

- 3.1 FIRE ALARM SYSTEM SHALL BE PROVIDED THROUGHOUT THE STRUCTURE B1 IN ACCORDANCE WITH BS 5839-1 : 2017 AND FSD CIRCULAR LETTER NO.6/2021. ONE ACTUATING POINT AND ONE AUDIO WARNING DEVICE SHOULD BE LOCATED AT EACH HOSE REEL POINT. THE ACTUATION POINT SHOULD INCLUDE FACILITIES FOR FIRE PUMP START AND AUDIO / VISUAL WARNING DEVICE INITIATION. MANUAL CALL POINT SHOULD BE PROVIDED ADJACENT TO ALL EXITS TO OPEN AIR ON G/F.
- 3.2 AN ADDRESSABLE TYPE FIRE ALARM PANEL TO BE PROVIDED AND LOCATED INSIDE PUMP ROOM.

4. EMERGENCY LIGHTING

- 4.1 SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDINGS/STRUCTURES IN ACCORDANCE WITH BS 5266-1:2016, BS EN 1838:2013 AND FSD CIRCULAR LETTER 4/2021.

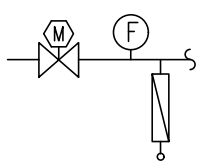
5. EXIT SIGN

- 5.1 SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS 5266-1:2016 AND FSD CIRCULAR LETTER 5/2008.

6. MISCELLANEOUS F.S. INSTALLATION

- 6.1 PORTABLE FIRE EXTINGUISHERS WITH SPECIFIED TYPE AND CAPACITY TO BE PROVIDED AT LOCATION AS INDICATED ON PLANS.
- 6.2 NO EMERGENCY GENERATOR TO BE PROVIDED FOR SERVING THE EMERGENCY POWER. DUPLICATED POWER SUPPLIES FOR ALL FIRE SERVICES INSTALLATIONS COMPRISING A CABLE CONNECTED FROM ELECTRICITY MAINS DIRECTLY BEFORE THE MAIN SWITCH.
- 6.2 WHEN A VENTILATION / AIR CONDITIONING CONTROL SYSTEM TO A BUILDING IS PROVIDED, IT SHALL STOP MECHANICALLY INDUCED AIR MOVEMENT WITHIN A DESIGNATED FIRE COMPARTMENT.
- 6.3 NO DYNAMIC SMOKE EXTRACTION SYSTEM SHALL BE PROVIDED SINCE EITHER THERE BE NO FIRE COMPARTMENT EXCEEDING 7000 CUBIC METRES OR THE AGGREGATE AREA OF OPENABLE WINDOWS OF THE RESPECTIVE COMPARTMENT EXCEEDS 6.25% OF THE FLOOR AREA OF THAT COMPARTMENT.
- 6.4 NO AUDIO/VISUAL ADVISORY SYSTEM SHALL BE PROVIDED SINCE FIRE COMPARTMENT OF STRUCTURE B1 NOT EXCEEDING 2000 SQUARE METERS.
- 6.5 NO DANGEROUS GOODS WILL BE STORED AT ALL STRUCTURES.
- 6.6 THE AGGREGATE AREA OF OPENABLE WINDOWS ABOUT 468 SQUARE METRES EXCEEDING 6.25% OF THE FLOOR AREA OF THE STRUCTURE B1.

LEGEND (FOR LAYOUT PLAN)

	HOSE REEL W/ LOCKABLE GLASS FRONTED NOZZLE BOX, STRIKER, C/W FIRE ALARM BELL & BREAK GLASS UNIT
	150mm FIRE ALARM BELL
	BREAK GLASS UNIT
	SPRINKLER HEAD
	FLOW SWITCH
	MONITORED GATE VALVE
	SPRINKLER ZONE SUBSIDIARY CONTROL VALVE ASSEMBLY INCLUDES ZONE SUBSIDIARY CONTROL VALVE, FLOW SWITCH, TEST GATE VALVE AND DRAIN VALVE
	GATE VALVE
	NON RETURN VALVE
	VORTEX INHIBITOR
	BALL FLOAT VALVE
	PRESSURE SWITCH
	SPRINKLER / HOSE REEL PIPE
	SPRINKLER CONTROL VALVE SET
	CHECK METER POSITION
	SPRINKLER / F.S. INLET
	5Kg CO2 TYPE FIRE EXTINGUISHER
	4Kg DRY POWDER TYPE FIRE EXTINGUISHER
	PUMP
	150mm WATER ALARM GONG
	ADDRESSABLE TYPE FIRE ALARM PANEL
	PUMP CONTROL PANEL
	EMERGENCY LIGHT
	EXIT SIGN
	DIRECTIONAL SIGN

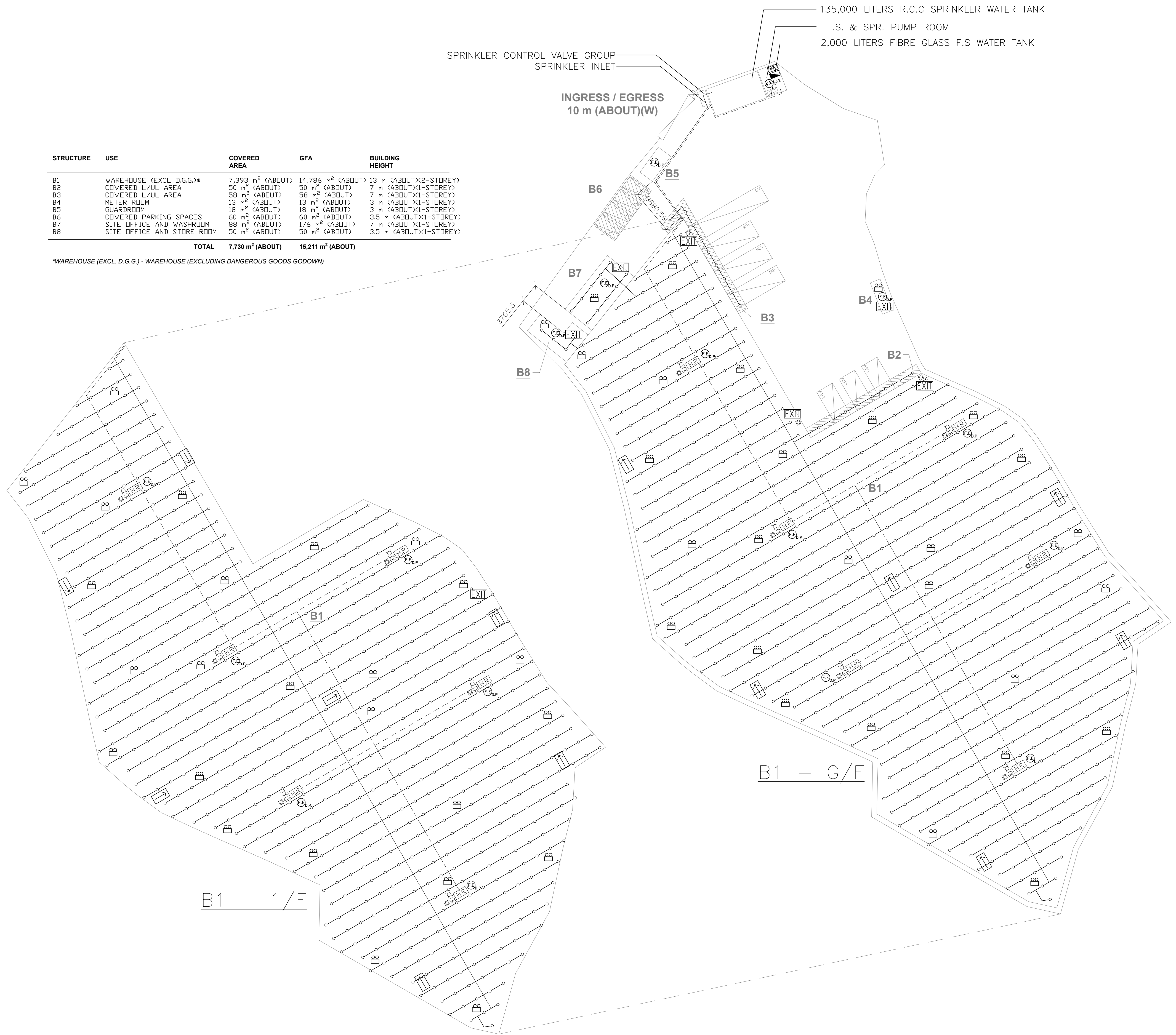
ABBREVIATION

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

C	P.D SUBMISSION	25-06-2026	WC
B	P.D SUBMISSION	28-03-2026	WC
A	P.D SUBMISSION	22-01-2024	WC
REV	DESCRIPTION	DATE	BY
FSI CONTRACTOR			
East Power Engineering Limited  Flat A, 7/F., Hop Shing Commercial Building, 41 Chi Kiang Street, Tseukwan, Kowloon Fax. : 2394-3772 Tel. : 2397-3238			
PROJECT PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN) WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS FIRE SERVICES INSTALLATION WORK AT IN D.D. 117 AND ADJOINING GOVERNMENT LAND, TAI TONG, YUEN LONG, NEW TERRITORIES			
DRAWING TITLE F.S. NOTES, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE			
	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	27-2-2022
DESIGN BY	WINKLE	SENG	27-2-2022
CHECK BY	OM	PM	27-2-2022
APPROVED BY	-	-	-
PROJECT NO.	-		
PAPER SIZE	A1	PLOT SCALE	1 : 1
DRAWING NO. EP-21002-FS01			
SCALE	N. T. S.	REVISION	C

DRAWING LIST:

DRAWING NO.	REVISION	DRAWING TITLE
FS-01	A	F.S. NOTES., BLOCK PLAN, LEGEND, ABBREVIATION, DRAWING LIST, PIPE MATERIAL SCHEDULE
FS-02	A	FIRE SERVICES INSTALLATION LAYOUT PLAN
FS-03	A	FIRE SERVICES INSTALLATION LAYOUT PLAN 6.25% WINDOWS



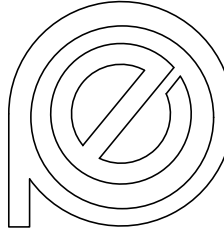
STRUCTURE	USE	COVERED AREA	GFA	BUILDING HEIGHT
B1	WAREHOUSE (EXCL. D.G.G.)*	7,393 m ² (ABOUT)	14,786 m ² (ABOUT)	13 m (ABOUT)(2-STOREY)
B2	COVERED L/U/L AREA	50 m ² (ABOUT)	50 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B3	COVERED L/U/L AREA	58 m ² (ABOUT)	58 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B4	METER ROOM	13 m ² (ABOUT)	13 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B5	GUARDROOM	18 m ² (ABOUT)	18 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B6	COVERED PARKING SPACES	60 m ² (ABOUT)	60 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)
B7	SITE OFFICE AND WASHROOM	88 m ² (ABOUT)	176 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B8	SITE OFFICE AND STORE ROOM	50 m ² (ABOUT)	50 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)
TOTAL		7,730 m ² (ABOUT)	15,211 m ² (ABOUT)	

*WAREHOUSE (EXCL. D.G.G.) - WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)

D	P.D SUBMISSION	25-06-2026	WC
C	P.D SUBMISSION	26-04-2026	WC
B	P.D SUBMISSION	28-03-2026	WC
A	P.D SUBMISSION	22-01-2024	WC
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR

East Power Engineering Limited



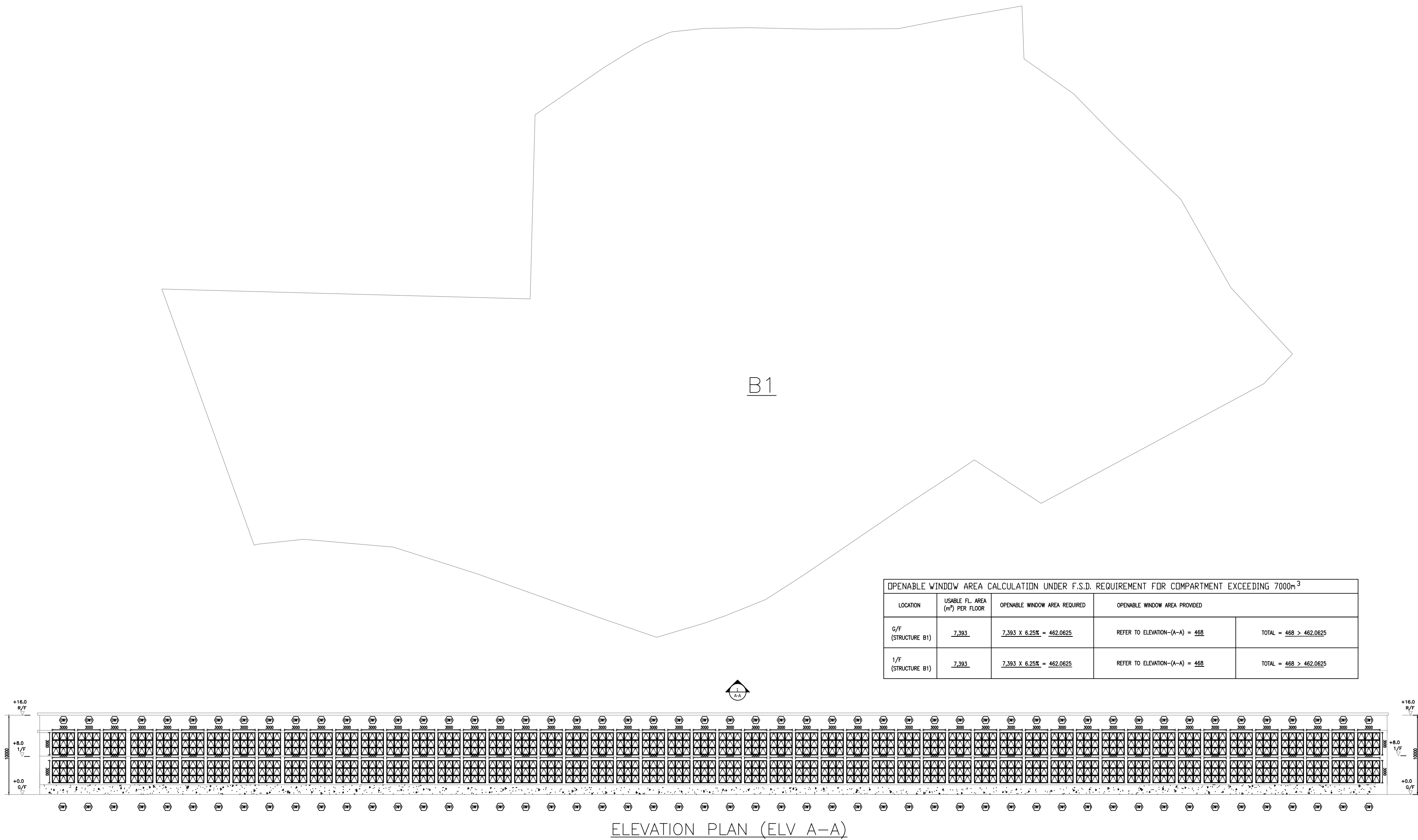
Flat A, 7/F., Hop Shing Commercial Building
41 Chi Kiang Street, Takwawan, Kowloon
Fax. : 2394-3772 Tel. : 2397-3238

PROJECT

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

FIRE SERVICES INSTALLATION WORK AT IN D.D. 117 AND ADJOINING GOVERNMENT LAND, TAI TONG, YUEN LONG, NEW TERRITORIES

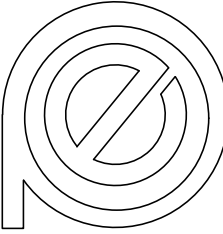
DRAWING TITLE			
FIRE SERVICE INSTALLATION LAYOUT PLAN			
	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	07-12-2020
DESIGNED BY	JACKIE	S.ENG	07-12-2020
CHECKED BY	CM	PM	08-12-2020
APPROVED BY	-	-	-
PROJECT NO.	-		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO. EP-21002-FS02			
SCALE	1 : 800	REVISION	D



A	P.D SUBMISSION	28-03-2026	WC
REV	DESCRIPTION	DATE	BY

FSI CONTRACTOR

East Power Engineering Limited



Flat A, 7/F., Hop Shing Commercial Building
41 Chi Kiang Street, Tokwawan, Kowloon
Fax. : 2394-3772 Tel. : 2397-3238

PROJECT

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

FIRE SERVICES INSTALLATION WORK AT IN D.D. 117 AND ADJOINING GOVERNMENT LAND, TAI TONG, YUEN LONG, NEW TERRITORIES

DRAWING TITLE

FIRE SERVICES INSTALLATION LAYOUT PLAN
6.25% WINDOWS

	INITIAL	DESIGNATION	DATE
DRAWN BY	CAD	CAD	07-12-2020
DESIGNED BY	JACKIE	S.ENG	07-12-2020
CHECKED BY	CM	PM	08-12-2020
APPROVED BY	-	-	-
PROJECT NO.	-		
PAPER SIZE	A3	PLOT SCALE	1 : 1
DRAWING NO.	EP-21002-FS03		
SCALE	1 : 800	REVISION	A

Appendix II

Revised Drainage Impact Assessment

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/683)

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years

At Various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

Drainage Assessment Report

Consultant:

C&H Consulting Engineering Co., Ltd

July 2026

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

DRAINAGE IMPACT ASSESSMENT

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3. Drainage Assessment	P2
4. Conclusion	P3

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Appendix B: Outside Catchment Area Plan

Appendix C: Drainage Layout Plan

Appendix D: Overall Catchment Area for the existing channel and Stream

Appendix E: Calculation

Appendix F: Site Photo

Appendix G: Standard Drawing

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

1. Introduction

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/683), is applied for planning permission. This report is a Drainage Assessment Report to support the submission.

2. Site Description

The site is located on the left on the western side of Tai Tong Shan Road. The site has a higher level on the northern side and lower level on the southern side. The site has partly developed, and the open storage has been constructed at the site. The topography level of the site is lower than the eastern side of site and higher than the western side of the site. Site Area is about 10,313 sq. m (Includes Government Land of about 1,794 sq. m) (Appendix A shows the Location Plan) The ground profile in the further west is sloping downward towards the west direction.

There are some existing drainage facilities that existing Stream (3m width x 2 m depth) along northern side of the site connected to existing open channel with critical size 13m width x 6m depth along western side of the site. Existing Stream is natural-stream channels (conservatively take Manning Coefficient $n=0.04$). and the open channel is made of concrete (conservatively take Manning Coefficient $n=0.018$). The final discharge is managed by DSD.

3. Drainage Assessment

Peripheral channel is designed to collect the runoff generated from and passed through the site (Appendix B shows the Outside Catchment Area Plan). The final discharge point is the existing 13m width x 6m depth open channel in the western side of the site. The runoff intensity is 280mm/hr. The runoff coefficient of the site to be 0.95, while that of the part of outside catchment area is 0.95 and part of area is 0.40. (Appendix C shows the Drainage Layout Plan of the site).

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

The overall catchment area for the existing 1.8m(W)x1.5m(D) open channel is presented in Appendix D. The total area including the site is 516,735sq.m The runoff intensity is 280mm/hr. Based on the actual site condition, the ratio of hard – paved to soil-paved is 1:2.5.

For the site itself, the runoff including the site and the outside catchment area is collected by proposed channel and finally discharge to the existing 5m(W)x5m(D) open channel via the proposed 1000mm box culvert. For checking the existing 1.8m(W)x1.5m(D) open channel, since the site is currently full of vegetation, in drainage point of view, the runoff coefficient is changed from 0.35 to 0.95. It is found that the 3m(W)x2m(D) open channel is adequate to cater for the extra runoff due the proposed development. Detailed calculation is presented in Appendix E,

Mitigation Measures and Recommendation for adverse drainage impact
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Issue / Potential Impact	Proposed Mitigation Measure	Expected Outcome
Increased Surface Runoff	Installation of On-site Stormwater Detention (OSD) tanks.	Regulated discharge rate to match pre-development levels.
Flood Risk to Neighbors	Strategic site grading and perimeter swales.	Directs water away from adjacent boundaries to the main drainage network.
Soil Saturation / Infiltration	Use of permeable paving and rain gardens.	Reduces peak flow by increasing natural ground absorption.
Existing Pipe Capacity	Upgrading site-specific drainage connections.	Prevents system surcharge and potential backflow during heavy rain.
Debris & Sedimentation	Installation of gross pollutant traps (GPTs).	Ensures clean water discharge and prevents downstream blockage.

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories

Appendix A: Site Location Plan



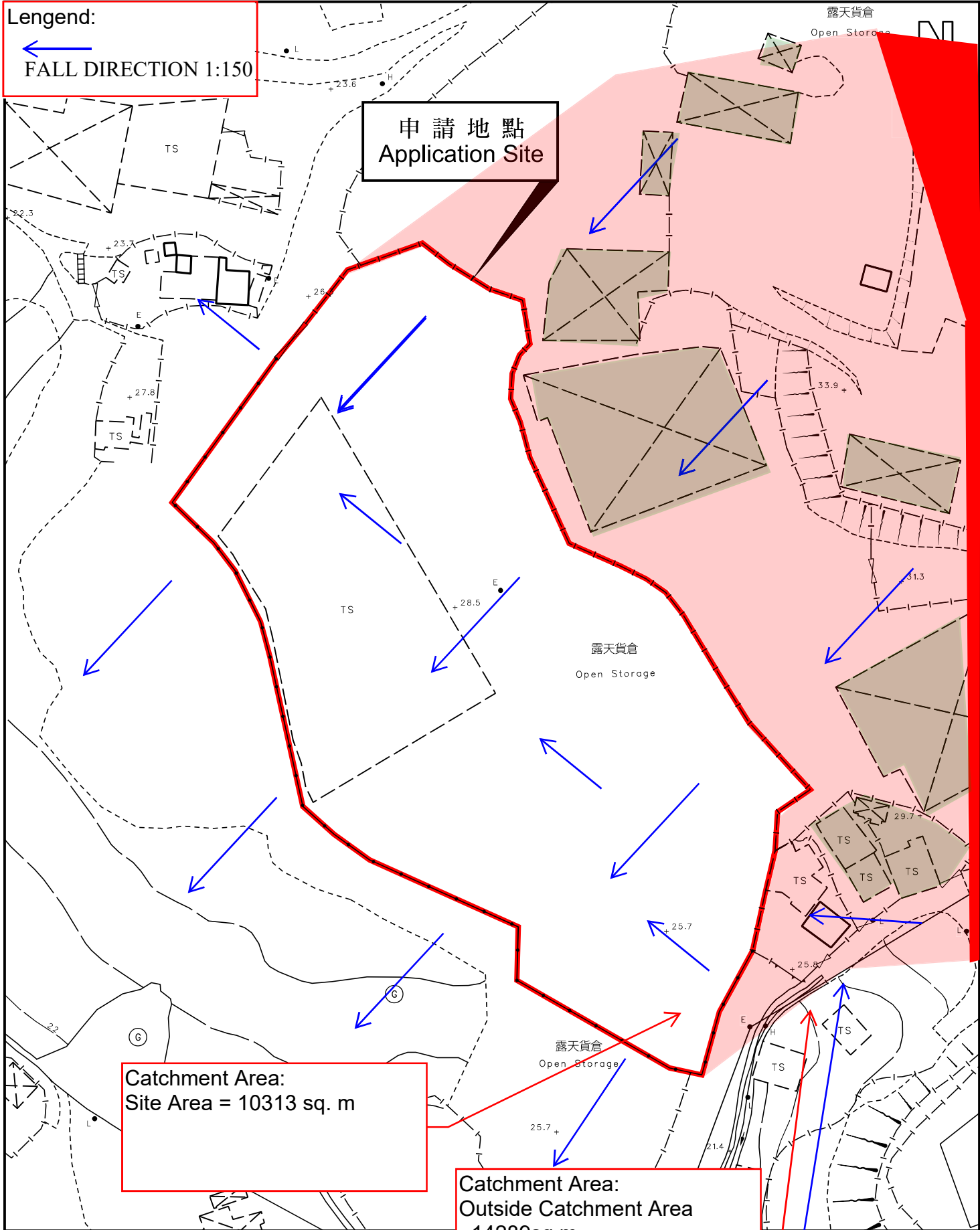


Site Area

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix B: Outside Catchment Plan

Lengend:
← FALL DIRECTION 1:150



Catchment Area:
Site Area = 10313 sq. m

Catchment Area:
Outside Catchment Area = 14289sq.m
Hard-paved area=4083sqm
Soil-paved area=10206sqm

本摘要圖於2024年2月6日擬備，
所根據的資料為測量圖編號
6-NW-24D
EXTRACT PLAN PREPARED ON 6.2.2024
BASED ON SURVEY SHEET No.
6-NW-24D

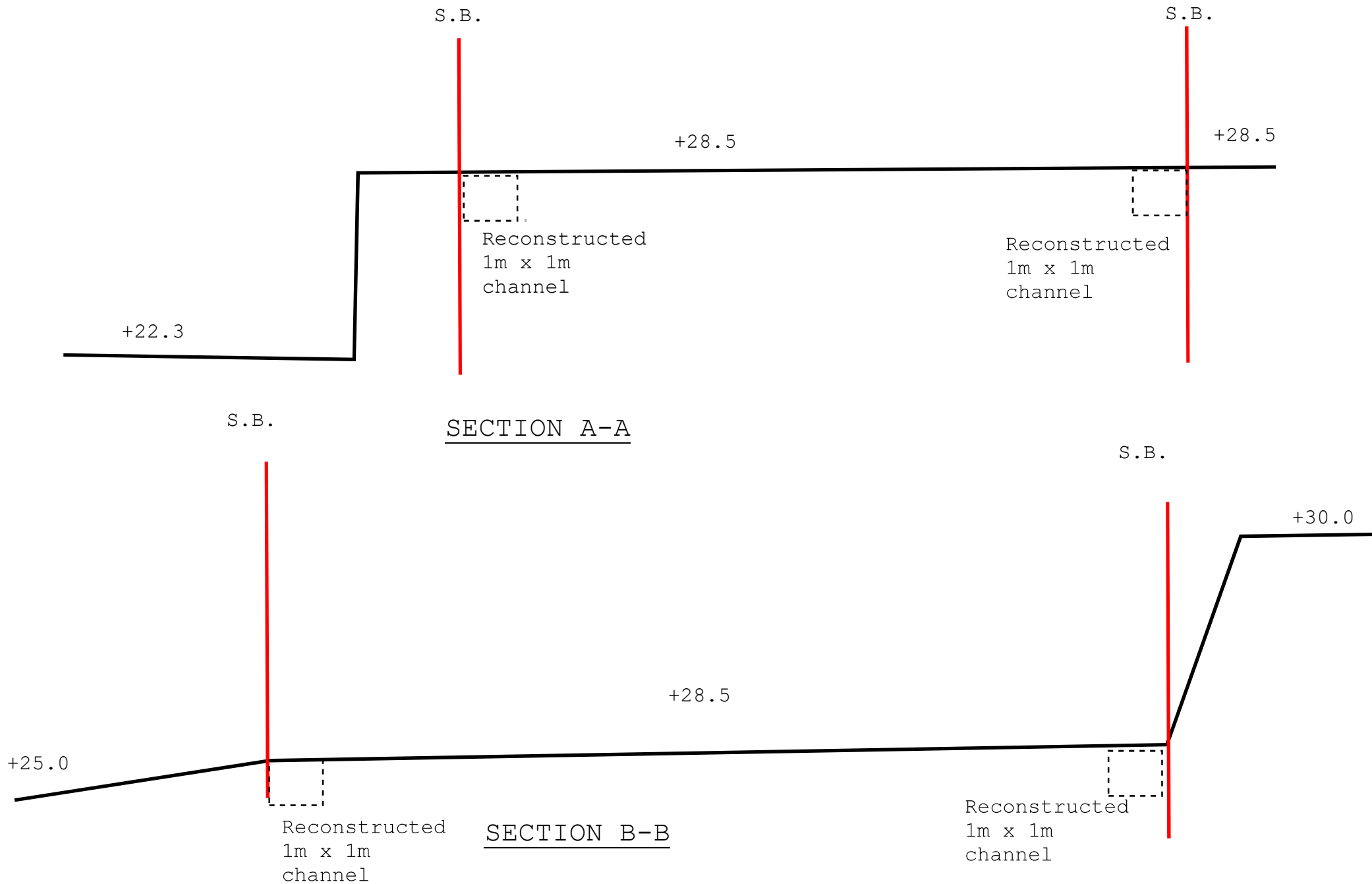
平面圖 SITE PLAN

Coefficient of surface
runoff = 0.52

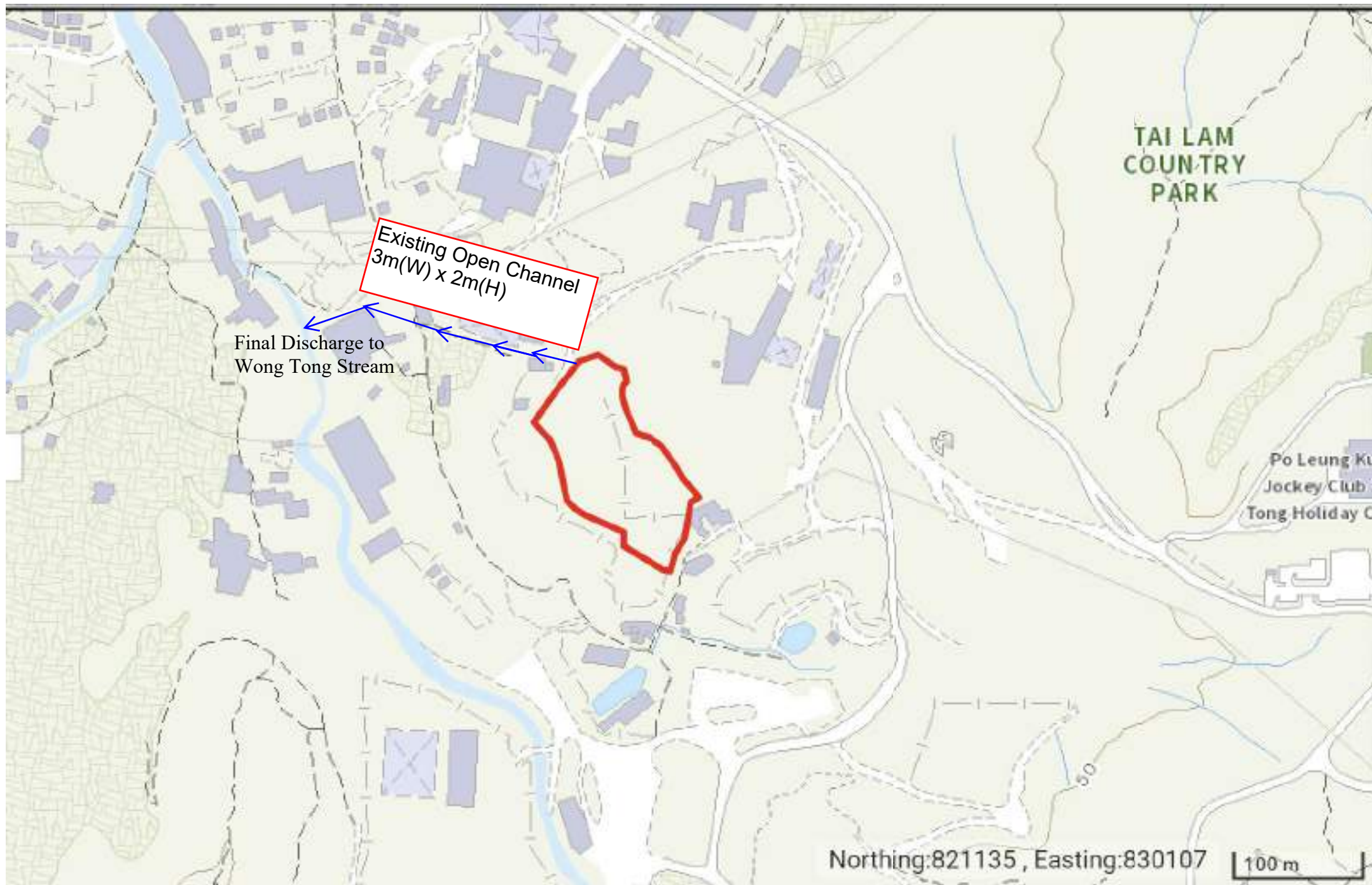
參考編號
REFERENCE No.
L-TT/635

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

APPENDIX C: DRAINAGE LAYOUT PLAN



Remark: All Ground Levels are existing level and final level marked on cross-section

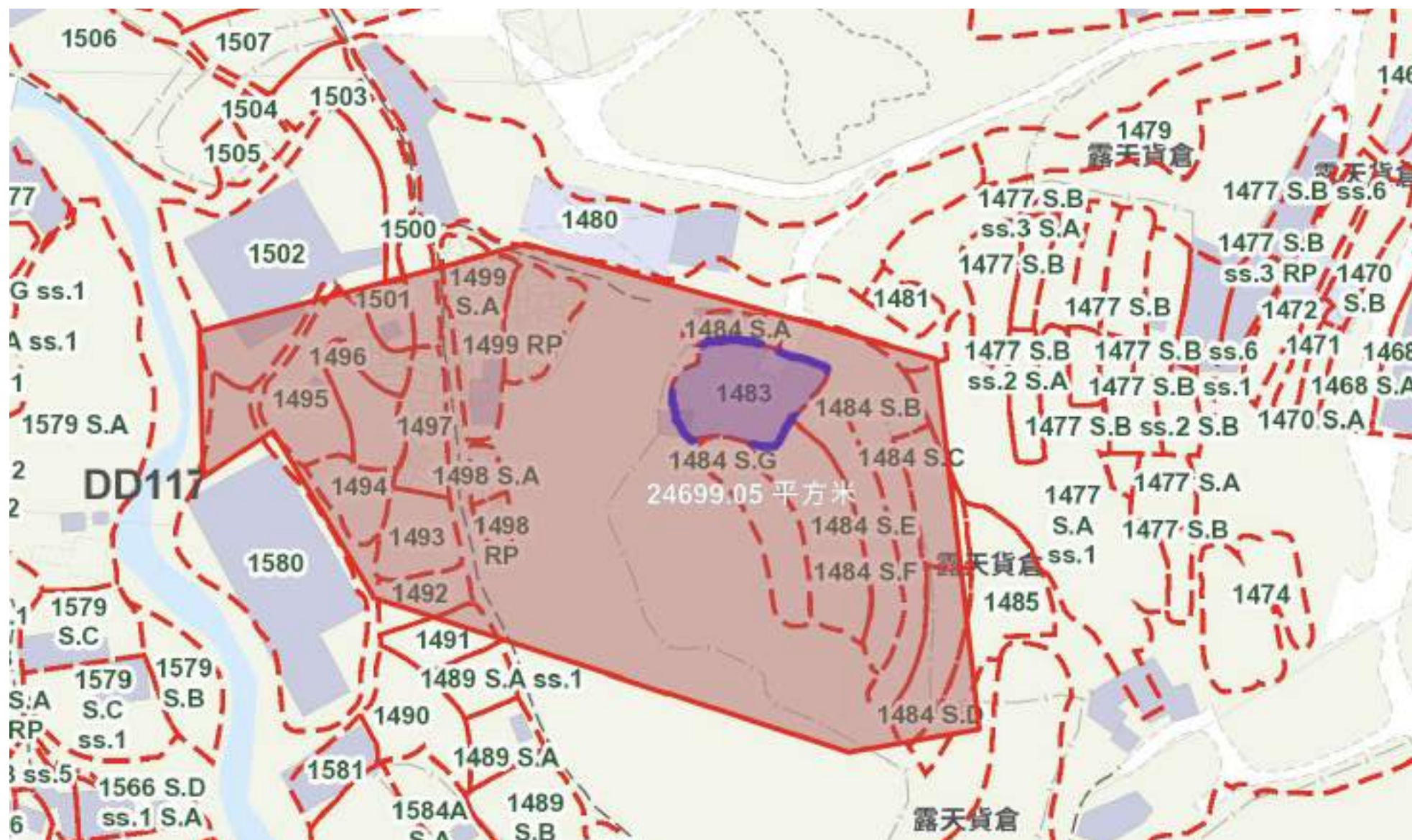


Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix D: Overall Catchment Area for Existing Channel

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

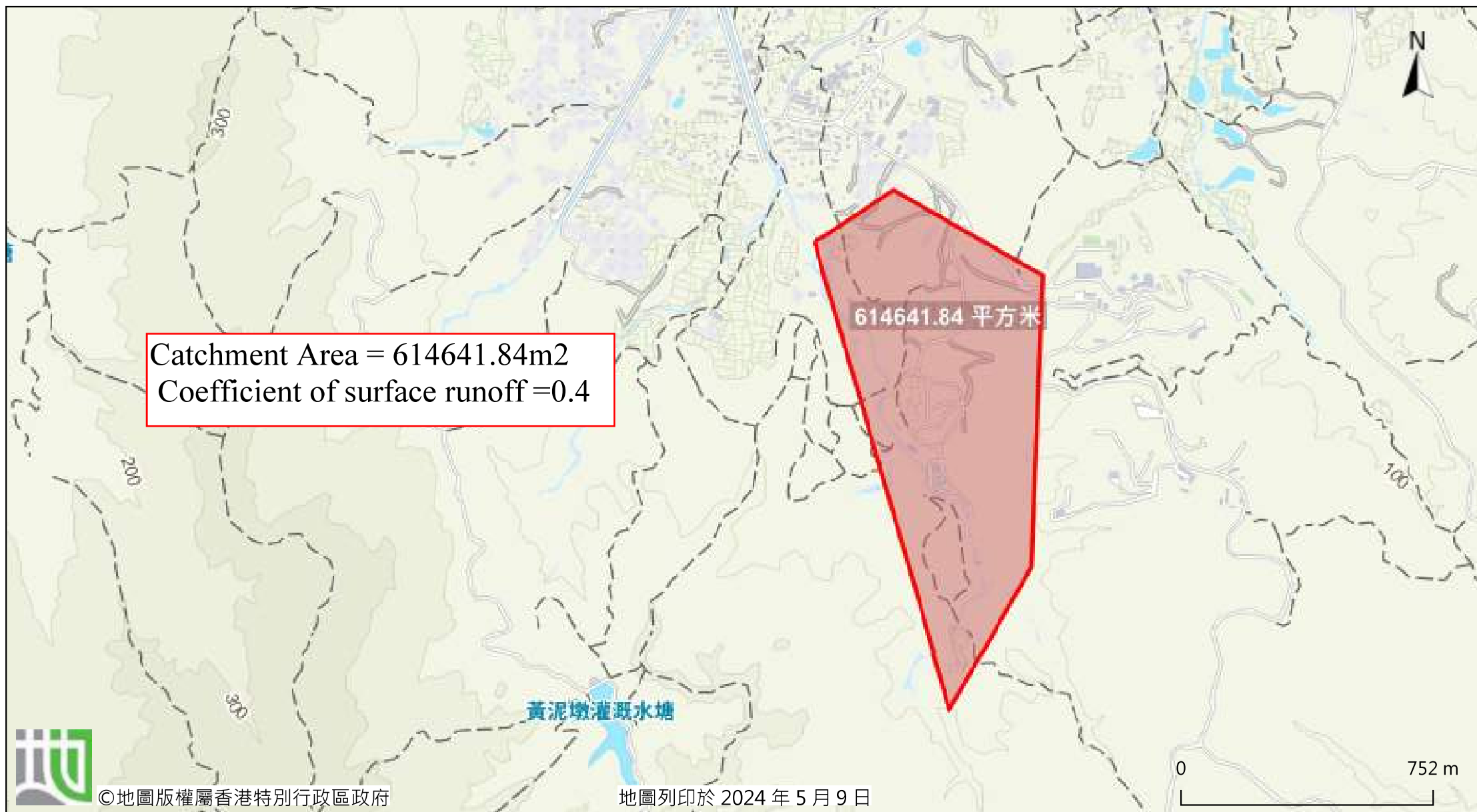
Appendix D1: Overall Catchment Area for Existing 3m (W) x 2m (H) Channel



Catchment Area = 24699.05m²
Coefficient of surface runoff = 0.25

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix D2: Overall Catchment Area for Existing 13m (W) x 6m (H) Channel

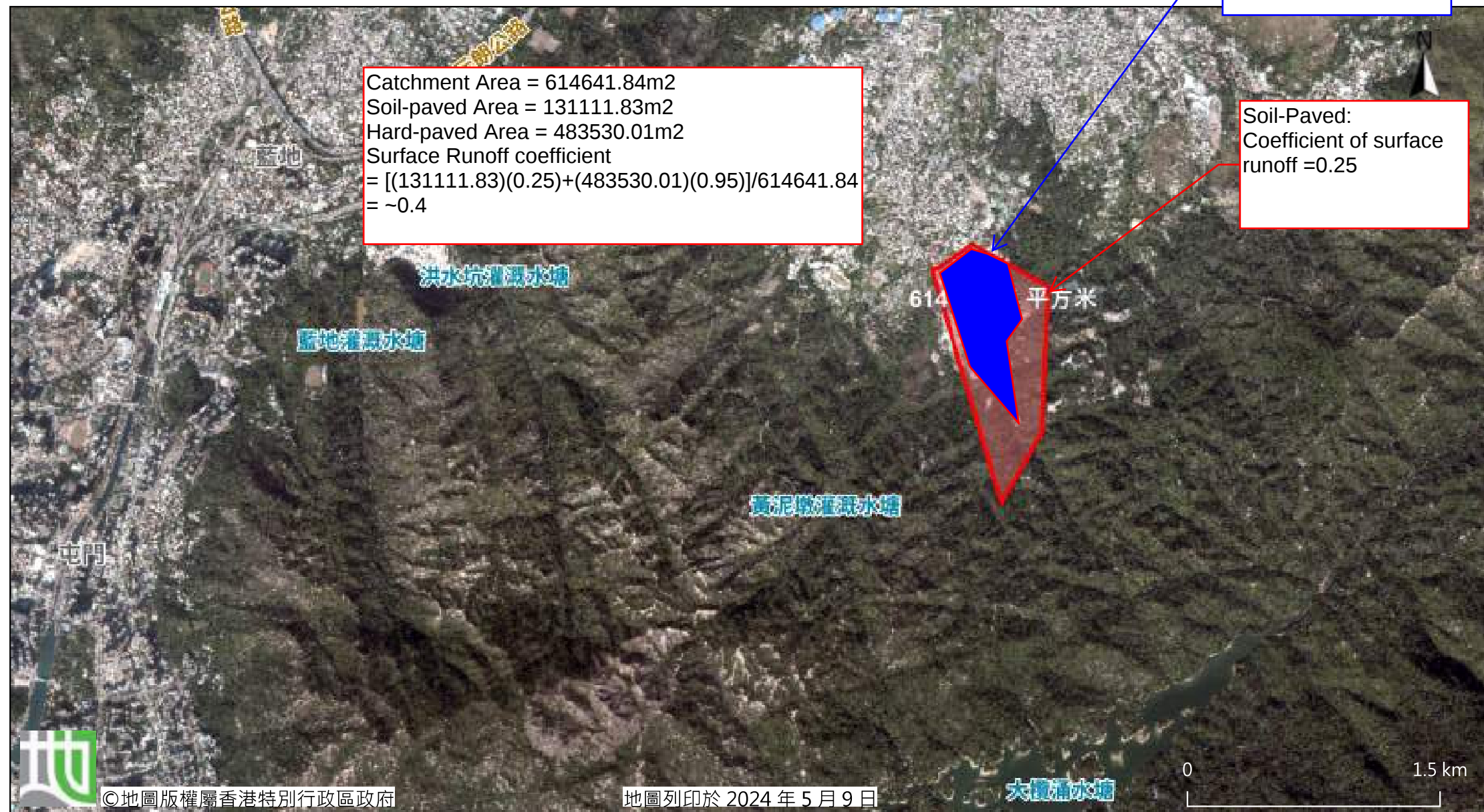


Hard-Paved:
Coefficient of surface
runoff =0.95

Soil-Paved:
Coefficient of surface
runoff =0.25

Catchment Area = 614641.84m²
Soil-paved Area = 131111.83m²
Hard-paved Area = 483530.01m²
Surface Runoff coefficient
= [(131111.83)(0.25)+(483530.01)(0.95)]/614641.84
= ~0.4

614 平方米



Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E: Calculation

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E1: Calculation of 1m x 1m channel and 1000mm box culvert and 900mm width stepped channel

Company:
Project :

Date: 1/7/2026

Site Area = 10313 m² (C =0.95, hard-paved)
Outside Catchment Area = 14289 m²
Total Catchment Area= 24602 m²

(Ratio of concrete paved: ratio of soil paved = 1:2.5)

$$t_o = \frac{0.1446SL}{H^{0.2} A^{0.1}}$$

where t_o = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)
 $t = 0.14475 \times 100 / 1.5^{0.2} / 24602^{0.1}$
 $= 4.856$ min

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

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in [Tables 3a, 3b, 3c and 3d](#).

Assume 10 yrs return period

$a = 505.5$
 $b = 3.29$
 $c = 0.355$

$i = 240.066018$ mm/hr

According to SDM Corrigendum No.1 /2022 $i = 240.066 \times (1 + 16\%) = 278.4765814$ mm/hr
Therefore, take $i = 280$ mm/hr

Company:
Project :

Date: 1/7/2026

Calculation for channels:

(Ratio of concrete paved: ratio of soil paved = 1:2.5)

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 280 mm/hr x 0.010313 km^2
= 0.762626 m^3/s
= 45758 liter/min

Outside Area = 14289 m^2
= 0.014289 km^2

Peak runoff in m^3/s = 0.278 x 0.52 x 280 mm/hr x 0.014289 km^2
= 0.578373 m^3/s
= 34702 liter/min

Total Peak Runoff for Site = 1.340999 m^3/s = 80459.92315 liter/min

Check 1000mm dia. Pipe by Colebrook-White Equation

$$V = -\sqrt{(8gDs)} \log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

where :

V	=			mean velocity (m/s)					
g	=	9.81	m/s ²	gravitational acceleration (m/s ²)					
D	=	1	m	internal pipe diameter (m)					
ks	=	0.000003	m	hydraulic pipeline roughness (m)				(Table 5, from DSD Sewerage Manual, uPVC)	
v	=	1.14E-06	m ² /s	kinematic viscosity of fluid (m ² /s)					
s	=	0.01		hydraulic gradient					
Area	=	0.70685835	m ² /s						
Therefore, design V of	=	4.5521	m/s	>	Design velocity from catchment area =	1.3410	m ³ /s	/	(1 ² * pi/4 x 0.9)
						1.8971251	m/s		==>O.K.

According to Section 9.3 of SDM, the capacity of proposed pipe is reduced 10% so the design velocity is 4.5521 x (1-10%) = 4.10 m/s > 1.89 m/s, which can also cater the surface runoff from development area. Also, 1000mm x 1000mm box culvert has more capacity than 1000mm. dia. pipe. The calculation is more conservative

wood stave pipes, planed plank conduits	0.3	0.6	1.5
Concrete			
Prestressed	0.03	0.06	0.15
Precast concrete pipes with 'O' ring joints	0.06	0.15	0.6
Spun precast concrete pipes with 'O' ring joints	0.06	0.15	0.3
Monolithic construction against steel forms	0.3	0.6	1.5
Monolithic construction against rough forms	0.6	1.5	-

To consider local head loss,

$$h_L = \frac{K\bar{V}^2}{2g}$$

$$g = 9.81 \text{ m/s}^2$$

$$K = 0.6 \text{ mm} = 0.0006 \text{ m}$$

$$V = 4.5221 \text{ m/s}$$

$$\text{Local Head Loss} = 0.0006 \text{ m, near to zero}$$

It is not significant to pipe design

For 1m x 1m channel in the site,

By Manning's equation, (1m x 1m (depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where

Manning Coefficient $n = 0.01$

$$S_0 = 0.0015$$

$$A = 1 \times 1 = 1 \text{ m}^2$$

$$P = 3 \text{ m}$$

$$= \frac{1}{0.01} \frac{(1)^{\frac{5}{3}}}{(3)^{\frac{2}{3}}} (0.0015)^{\frac{1}{2}}$$

$$= 1.86 \text{ m}^3/\text{s}$$

$$> 1.48 \text{ m}^3/\text{s}$$

OK!

Proposed 1.0m (W) x 1.0m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM, the capacity of proposed channel is reduced 10% so the design velocity is $1.86 \times (1-10\%) = 1.674 \text{ m}^3/\text{s} > 1.48 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Company:

Project :

Date:

1/7/2026

Calculation for Stepped channels:

Q_{req}	required channel capacity	=	95000	l/min	=	1.600	m ³ /s	(85% utilization)
α	channel gradient	=	23.58	degrees				
L	channel length	=	5	m				
D	design channel depth	=	2	m				
W	design channel width	=	0.95	m				
h	design channel step height	=	0.2	m				
l	design channel step length	=	0.2	m				

Determining the Average Air Concentration, C_e

$$C_e = 0.9 \sin \alpha = 0.38$$

Determining the Darcy's Friction Factor of Aerated Flow, f_e

$$f_e = 0.5 f \left\{ 1 + \tanh \left[0.628 \frac{0.51 - C_e}{C_e (1 - C_e)} \right] \right\} = 0.6666$$

Determining the Characteristic Aerated Flow Depth, Y_{90}

$$Y_{90} = D \cos \alpha = 1.83303 \text{ m}$$

Determining the Equivalent Non-aerated Flow Depth, d_o

$$d_o = Y_{90} (1 - C_e) = 1.136479 \text{ m}$$

Determining the Hydraulic Diameter of Equivalent Non-aerated Flow, D_H

$$D_H = 4 A_w / P_w = 4 \times \left(\frac{d_o \times W}{2 d_o + W} \right) = 0.562963 \text{ m}$$

$$\begin{array}{lcl} A_w & = & 0.19 \text{ m}^2 \\ P_w & = & 1.35 \text{ m} \end{array}$$

Determining the Equivalent Non-aerated Flow Velocity, V_o

$$V_o = \sqrt{\frac{8 g \sin \alpha}{f_e} \times \frac{D_H}{4}} = 2.574381262 \text{ m/s}$$

Determining the Channel Capacity, Q

$$Q = V_o \times d_o \times W = 2.779443 \text{ m}^3/\text{s} > 1.600 \text{ m}^3/\text{s}$$

\

Determining the Discharge per Unit Channel Width, q_w

$$q_w = Q / W = 2.92573 \text{ m/s}$$

There is no catchpit at downstream and connected to existing stream directly so no overshoot occur when $q_w > 2\text{m/s}$

Determining the Critical Flow Depth for the Given Discharge per Unit Width

$$d_c = (q_w^2 / g)^{1/3} = 0.956013 \text{ m}$$

Determining the Critical Flow Depth for Onset of Skimming Flow, $(d_c)_{\text{onset}}$

$$(d_c)_{\text{onset}} = (1.057 - 0.465 h / l) h = 0.1184 \text{ m} < 0.956 \text{ m}$$

The skimming flow assumption is valid and the calculated channel capacity Q can be adopted

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E2: Calculation of 3m(W) x 2m (H) Existing channel

Company:

Project :

Date: 10/9/2025

Site Area = 10313 m² (C=0.95, hard-paved)
Outside Catchment Area = 24699 m² (C=0.6, Grassland)
Total Catchment Area = 35012 m²

$$t_c = \frac{0.1446SL}{H^{0.2}A^{0.1}}$$

where t_c = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

$$t_c = 0.14475 \times 100 / 1.5^{0.2} / 24699^{0.1}$$
$$= 4.854 \text{ min}$$

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

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d,

Assume 10 yrs return period

$$a = 505.5$$
$$b = 3.29$$
$$c = 0.355$$

$$i = 240.086009 \text{ mm/hr}$$

According to SDM Corrigendum No.1 /2022
Therefore, take $i = 240.086 \times (1 + 16\%) = 278.4997709 \text{ mm/hr}$
 $i = 280 \text{ mm/hr}$

Company:
Project :

Date: 10/9/2025

Calculation for channels:

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 280 mm/hr x 0.010313 km^2
= 0.762626 m^3/s
= 45758 liter/min

Outside Area = 24699 m^2
= 0.024699 km^2

Peak runoff in m^3/s = 0.278 x 0.6 x 280 mm/hr x 0.024699 km^2
= 1.153542 m^3/s
= 69213 liter/min

Total Peak Runoff for Site = 1.916168 m^3/s = 114970.0692 liter/min

By Manning's equation, (3m x 2m (depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where

Manning Coefficient $n = 0.04$

$$S_0 = 1/150$$

$$A = 3 \times 2 = 6 \text{ m}^2$$

$$P = 3 + 3 + 2 = 8 \text{ m}$$

$$= \frac{1}{0.04} \frac{(6)^{\frac{5}{3}}}{(8)^{\frac{2}{3}}} (1/150)^{\frac{1}{2}}$$

$$= 10.1 \text{ m}^3/\text{s}$$

$$> 1.92 \text{ m}^3/\text{s}$$

OK!

Existing 3m (W) x 2m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM and full of debris, the capacity of existing channel is reduced 80% so the design velocity is $10.1 \times (1-80\%) = 2.02 \text{ m}^3/\text{s} > 1.92 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix E3: Calculation of 13m(W) x 6m (H) Existing channel

Company:

Project :

Date: 10/9/2025

Site Area = 10313 m² (C=0.95, hard-paved)
Outside Catchment Area = 614642 m² (C=0.6, Grassland)
Total Catchment Area = 624955 m²

$$t_c = \frac{0.1446SL}{H^{0.2}A^{0.1}}$$

where t_c = time of concentration of a natural catchment (min.)
 A = catchment area (m²)
 H = average slope (m per 100 m), measured along the line of natural flow, from the summit of the catchment to the point under consideration
 L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

$$t_c = 0.14475 \times 100 / 1.5^{0.2} / 624955^{0.1}$$
$$= 3.514 \text{ min}$$

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

where i = extreme mean intensity in mm/hr,
 t_d = duration in minutes ($t_d \leq 240$), and
 a, b, c = storm constants given in Tables 3a, 3b, 3c and 3d,

Assume 10 yrs return period

$$a = 485$$
$$b = 3.11$$
$$c = 0.397$$

$$i = 228.957085 \text{ mm/hr}$$

According to SDM Corrigendum No.1 /2022
Therefore, take $i = 228.957 \times (1 + 16\%) = 265.5902186 \text{ mm/hr}$
 $i = 270 \text{ mm/hr}$

Company:
Project :

Date: 10/9/2025

Calculation for channels:

Catchment Area of site

Site Area = 10313 m^2
= 0.010313 km^2

Peak runoff in m^3/s = 0.278 x 0.95 x 270 mm/hr x 0.010313 km^2
= 0.735389 m^3/s
= 44123 liter/min

Outside Area = 624955 m^2
= 0.624955 km^2

Peak runoff in m^3/s = 0.278 x 0.6 x 270 mm/hr x 0.624955 km^2
= 28.14547 m^3/s
= 1688728 liter/min

Total Peak Runoff for Site = 28.88086 m^3/s = 1732851.748 liter/min

By Manning's equation (13m x 6m depth) channel is adopted)

$$Q = \frac{1}{n} \frac{A^{\frac{5}{3}}}{P^{\frac{2}{3}}} S_0^{\frac{1}{2}}$$

where Manning Coefficient $n = 0.018$

$$S_0 = 0.001$$

$$A = 13 \times 6 = 78 \text{ m}^2$$

$$P = 13 + 6 + 6 = 25 \text{ m}$$

$$= \frac{1}{0.018} \frac{(78)^{\frac{5}{3}}}{(25)^{\frac{2}{3}}} (0.001)^{\frac{1}{2}}$$

$$= 336 \text{ m}^3/\text{s}$$

$$> 28.80 \text{ m}^3/\text{s}$$

OK!

Existing 13m (W) x 6m (H) open channel (1:150) in the site can cater the surface runoff from proposed development

According to Section 9.3 of SDM, the capacity of existing channel is reduced 10% so the design velocity is $336 \times (1-10\%) = 302.4 \text{ m}^3/\text{s} > 28.80 \text{ m}^3/\text{s}$, which can also cater the surface runoff from development area.

Utilization of the existing channel = $28.8/302.4 = 9.52\%$

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix F: Site Photo

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA	: 10,313 m ²	(ABOUT)
COVERED AREA	: 7,730 m ²	(ABOUT)
UNCOVERED AREA	: 2,583 m ²	(ABOUT)
PLOT RATIO	: 1.47	(ABOUT)
SITE COVERAGE	: 75 %	(ABOUT)
NO. OF STRUCTURE	: 8	
DOMESTIC GFA	: NOT APPLICABLE	
NON-DOMESTIC GFA	: 15,211 m ²	(ABOUT)
TOTAL GFA	: 15,211 m ²	(ABOUT)
BUILDING HEIGHT	: 3 m - 13 m	(ABOUT)
NO. OF STOREY	: 1 - 2	

STRUCTURE

USE

COVERED
AREA

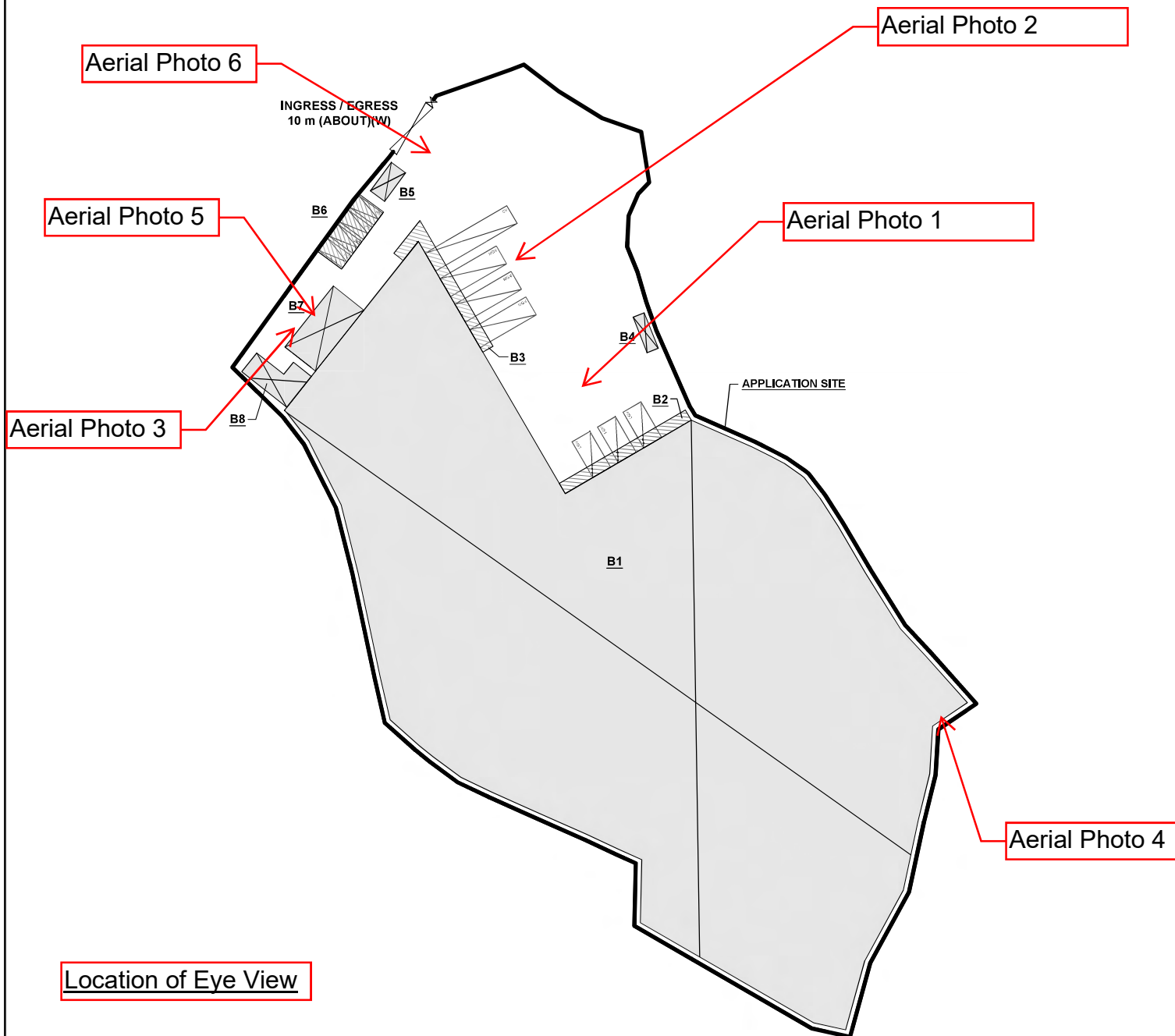
GFA

BUILDING
HEIGHT

B1	WAREHOUSE (EXCL D.G.G.)*	7,393 m ² (ABOUT)	14,786 m ² (ABOUT)	13 m (ABOUT)(2-STOREY)
B2	COVERED L/UL AREA	50 m ² (ABOUT)	50 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B3	COVERED L/UL AREA	58 m ² (ABOUT)	58 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B4	METER ROOM	13 m ² (ABOUT)	13 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B5	GUARDROOM	18 m ² (ABOUT)	18 m ² (ABOUT)	3 m (ABOUT)(1-STOREY)
B6	COVERED PARKING SPACES	60 m ² (ABOUT)	60 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)
B7	SITE OFFICE AND WASHROOM	88 m ² (ABOUT)	176 m ² (ABOUT)	7 m (ABOUT)(1-STOREY)
B8	SITE OFFICE AND STORE ROOM	50 m ² (ABOUT)	50 m ² (ABOUT)	3.5 m (ABOUT)(1-STOREY)

TOTAL 7,730 m² (ABOUT) 15,211 m² (ABOUT)

*WAREHOUSE (EXCL. D.G.G.) - WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)



LEGEND

	APPLICATION SITE
	STRUCTURE (ENCLOSED)
	STRUCTURE (CANOPY)
	PRIVATE CAR PARKING SPACE
	LOADING / UNLOADING SPACE FOR LGV
	LOADING / UNLOADING SPACE FOR MGV
	LOADING / UNLOADING SPACE FOR CV
	INGRESS / EGRESS

PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE	: 4
DIMENSION OF L/UL SPACE	: 5 m (L) x 2.5 m (W)
NO. OF L/UL SPACE FOR LIGHT GOODS VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 7 m (L) x 3.5 m (W)
NO. OF L/UL SPACE FOR MEDIUM GOODS VEHICLE	: 3
DIMENSION OF L/UL SPACE	: 11 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)

PLANNING CONSULTANT

R-Riches
Property Consultants Ltd.

PROJECT

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

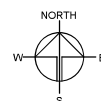
ADDRESS

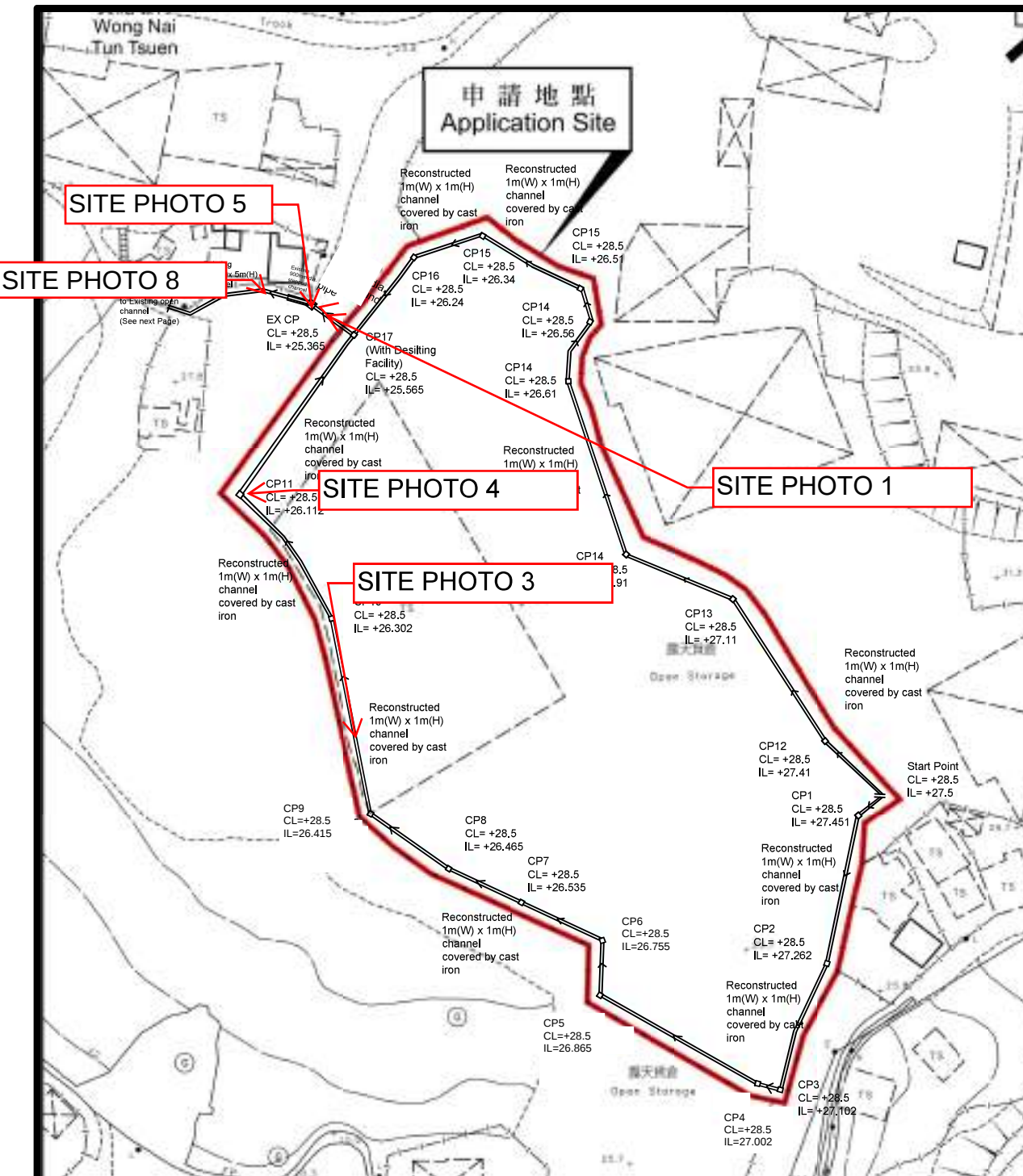
VARIOUS LOTS IN D.D. 117 AND ADJOINING
GOVERNMENT LAND, TAI TONG, YUEN LONG,
NEW TERRITORIES

SCALE
1 : 1000 @ A4DRAWN BY
MNDATE
21.11.2023

REVISED BY

DATE

TITLE
LAYOUT PLANDWG NO.
PLAN 4VER.
001



Note:

1. Catchpit (CP20) with desilting facility shall follow CEDD standard drawing No. C2406I.
2. Proposed Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
3. Stepped Channel follows Typical Details of CEDD standard drawing No. C2411G
4. Cast concrete cover for manhole follows Typical Details of CEDD standard drawing No. C2407B , and for channel inside the site follows Typical Details of CEDD standard drawing No. C2412E.
5. The inverted level of the connection point shall be verified on site prior the commencement of work
6. No formation works/leveling works are carried out and no hoarding/walls are erected.

Legend:

- Proposed UC (Gradient) with cast iron cover
- Existing Drainage Facility/ Reconstructed Facility with Cast iron cover
- Proposed Catchpit
- ▬ Existing Stepped Channel

Company:

Project:

VARIOUS LOTS IN
D.D.117 AND
ADJOINING
GOVERNMENT LAND,
TAI TONG, YUEN
LONG, NEW
TERRITORIES
(A/YL-TT/635)

(Drainage Impact
Assessment)

Title:

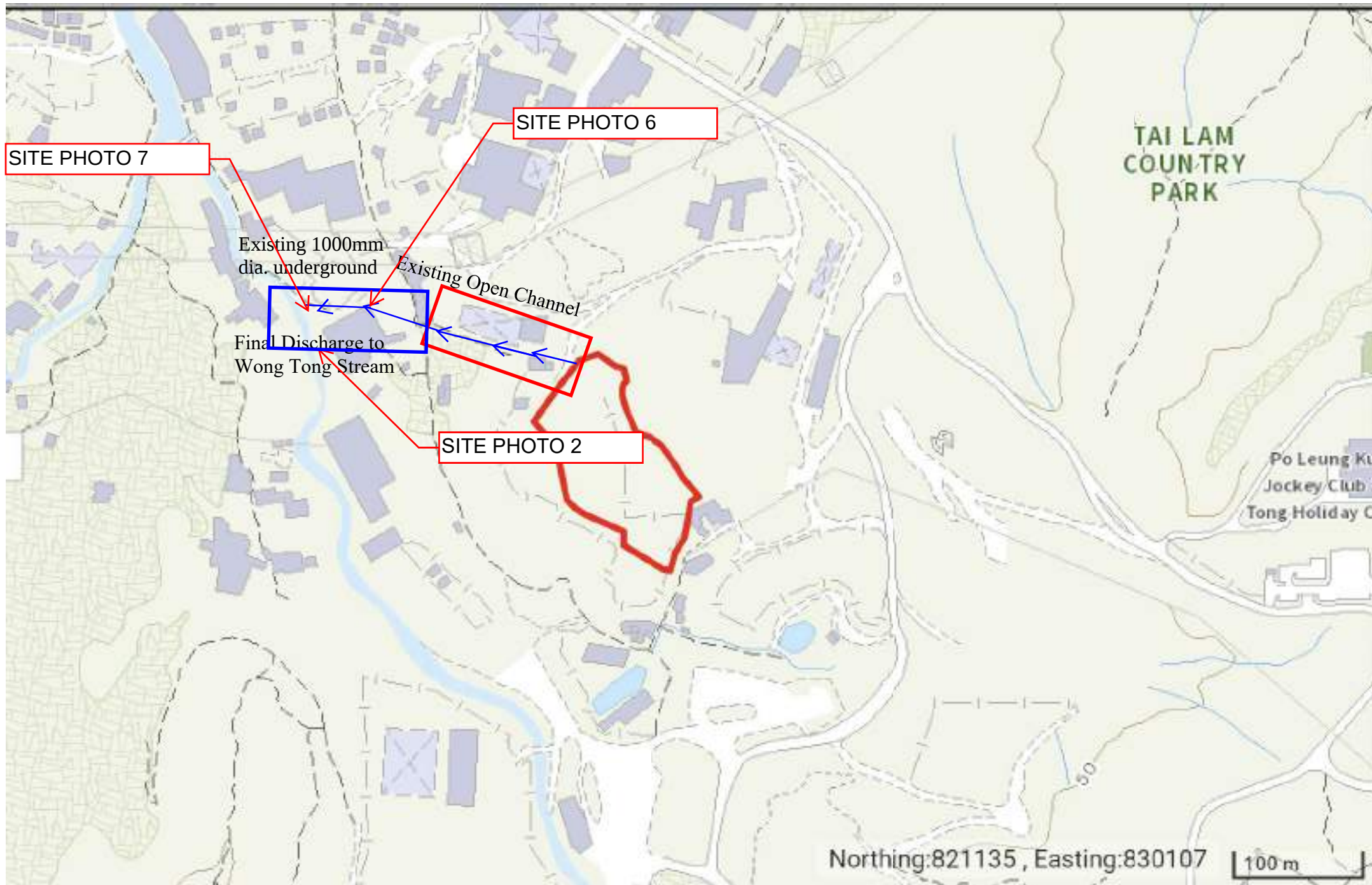
Drainage layout

Dwg No:

File:

Fig.1

Date:
8 Oct 2024





Aerial Photo: Overview of the Site



Aerial Photo 1: Shortage



Aerial Photo 2: Shortage



Aerial Photo 3: Site View



Aerial Photo 4: Site View



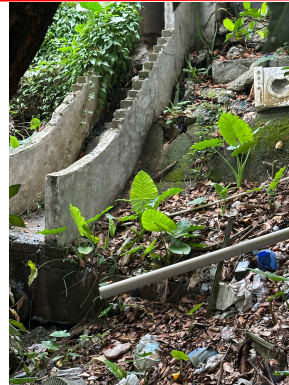
Aerial Photo 5: Site View



Aerial Photo 6: Site Entrance



Site Photo 1a: Stepped Channel and Existing Stream (3m (W) x2m(H))



Site Photo 1b: Stepped Channel and Existing Stream (3m (W) x2m(H))



Site Photo 1c: Stepped Channel and Existing Stream (3m (W) x2m(H))



Site Photo 2a: Final Discharge to Wong Tong Stream (Maintained by DSD)

Figure.1



Site Photo 2b: Final Discharge to Wong Tong Stream (Maintained by DSD)



Site Photo 3: Existing 1m (W) x 1m (H) in the site



Site Photo 4: Existing 1m (W) x 1m (H) in the site



Site 5 Existing Underground 1000mm box culvet



SITE PHOTO 6 EXISTING UNDERGROUND 1000mm dia. PIPE

Existing Underground
1000mm dia. pipe



SITE PHOTO 7 EXISTING UNDERGROUND 1000mm dia. PIPE and Existing Stream



SITE PHOTO 8 EXISTING 3m x 2m existing channel



Slope Gradient
= 25 degrees



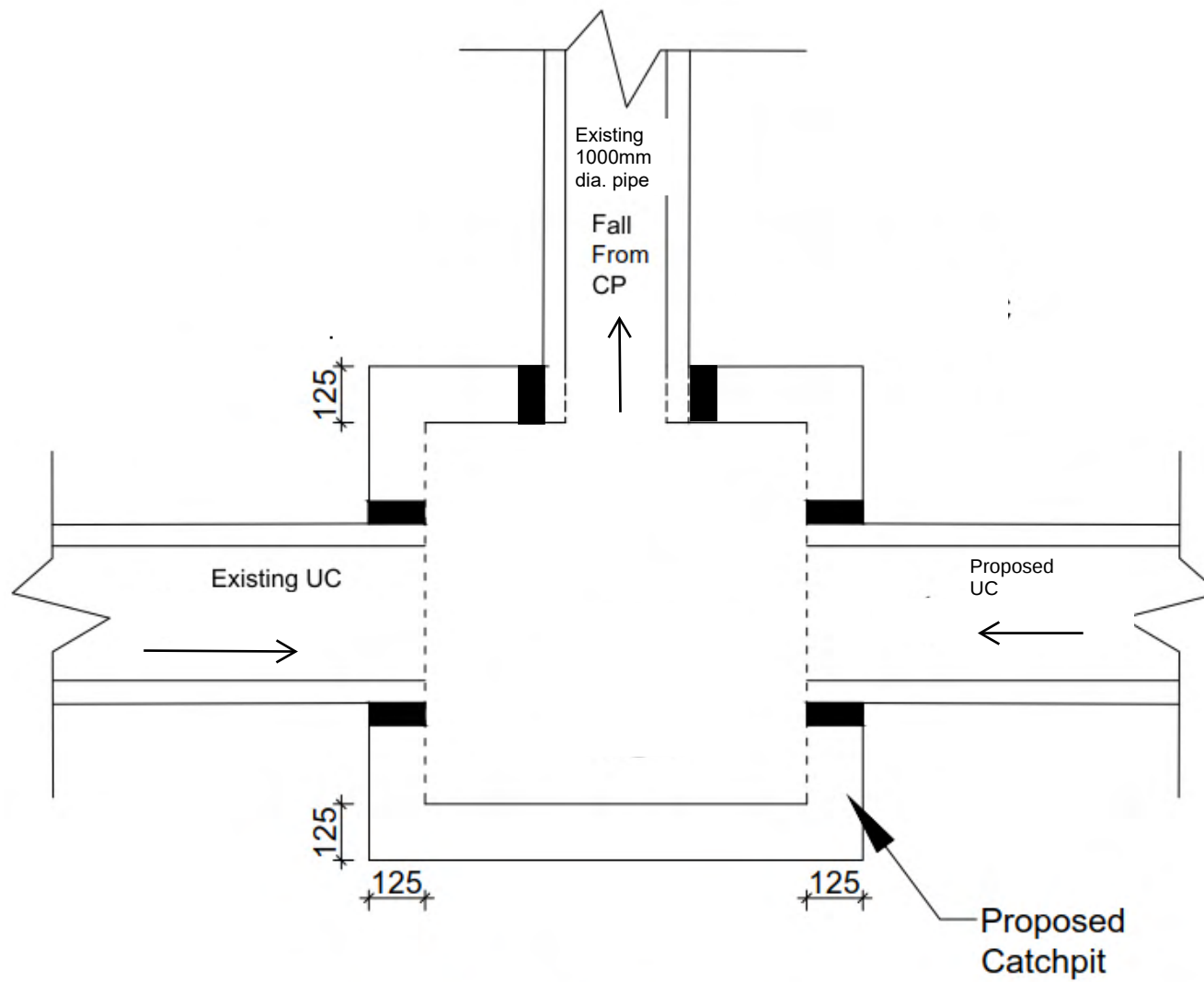
Dimension of Stepped Channel



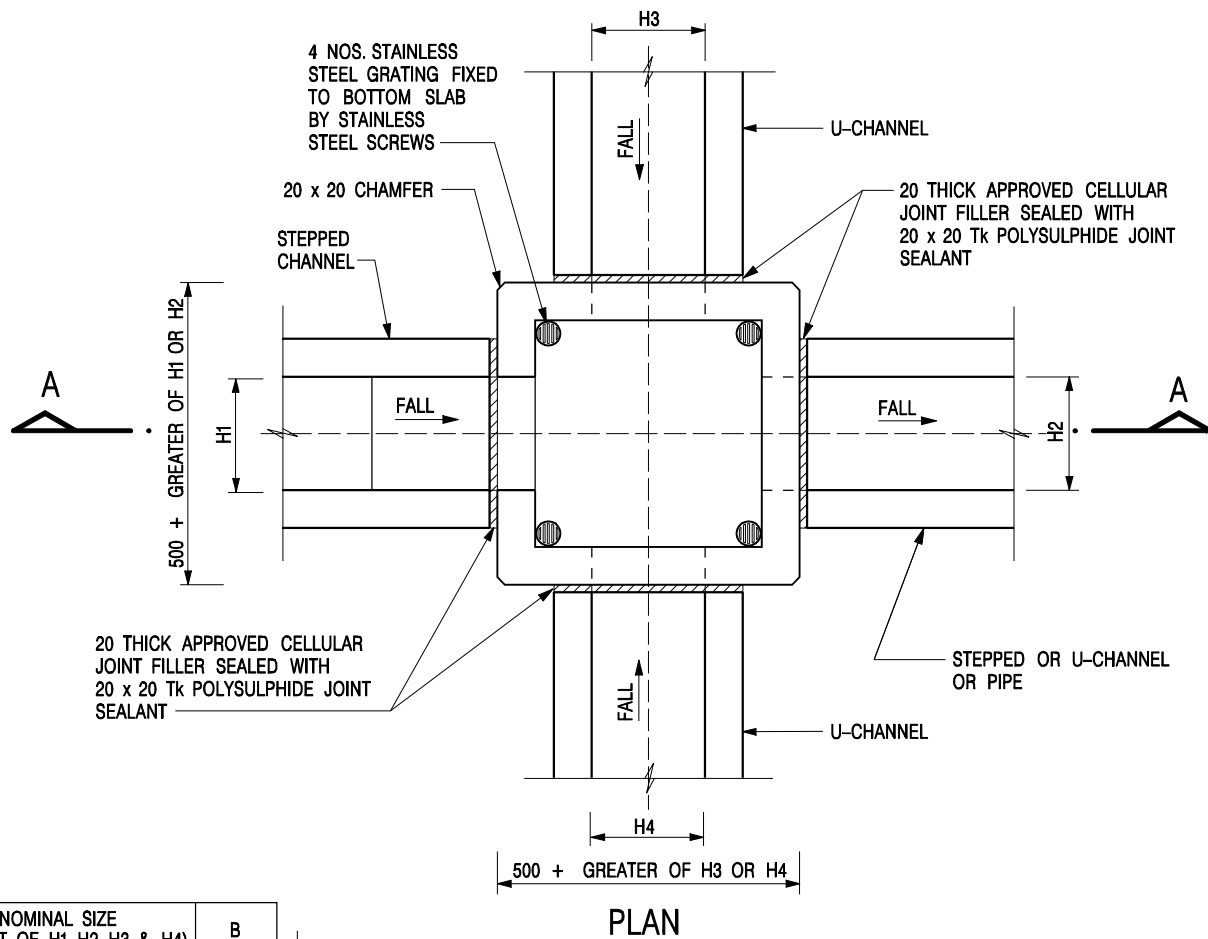
Dimension of 1000mm Box Culvert

Proposed Temporary Warehouse (Excluding Dangerous Goods Godown) with Ancillary Facilities for a Period of 3 Years at various Lots in D.D. 117 and Adjoining Government Land, Tai Tong, Yuen Long, New Territories (A/YL-TT/635)

Appendix G: Standard Drawing

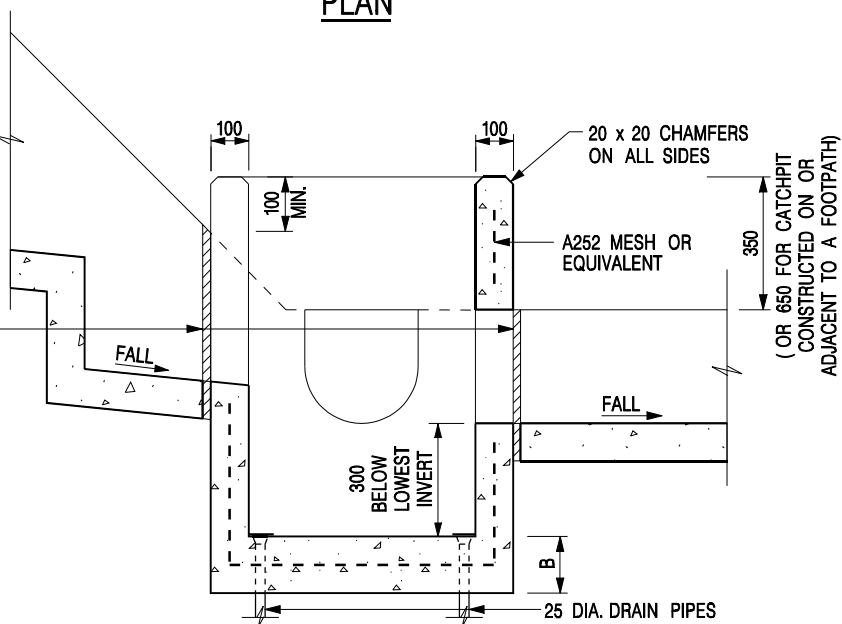


Connection Details
OF CP 17



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



SECTION A - A

NOTES:

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

CATCHPIT WITH TRAP
(SHEET 1 OF 2)

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



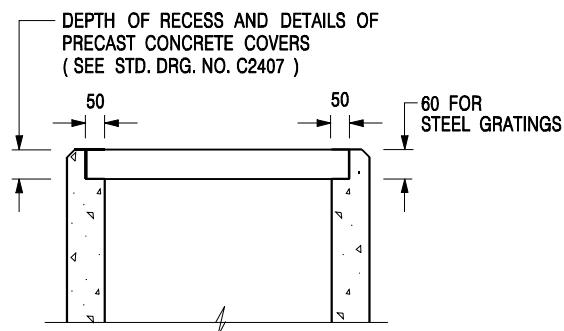
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /1



**ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS**

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED BY THE ENGINEER, CATCHPIT WITH TRAP IS NORMALLY NOT PREFERRED DUE TO PONDING PROBLEM.
7. UPON THE REQUEST FROM MAINTENANCE PARTY, DRAIN PIPES AT CATCHPIT BASE CAN BE USED BUT THIS IS FOR CATCHPITS LOCATED AT SLOPE TOE ONLY AND AS DIRECTED BY THE ENGINEER.
8. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS (SEE DETAIL 'A' ON STD. DRG. NO. C2405) 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 'G' ON STD. DRG. NO. C2405; 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 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 'F' ON STD. DRG. NO. C2405.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

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

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



**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.

C2406 /2

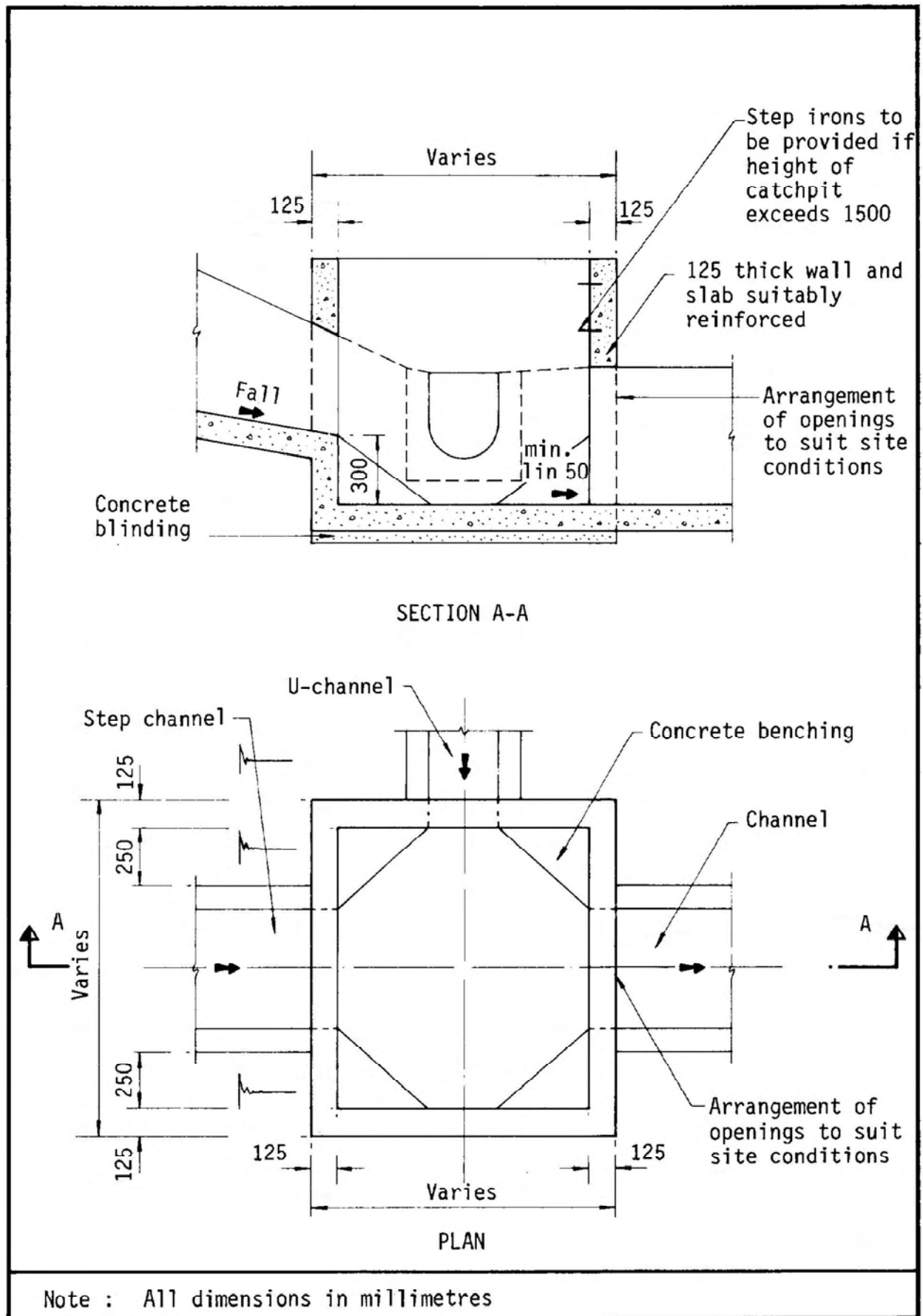
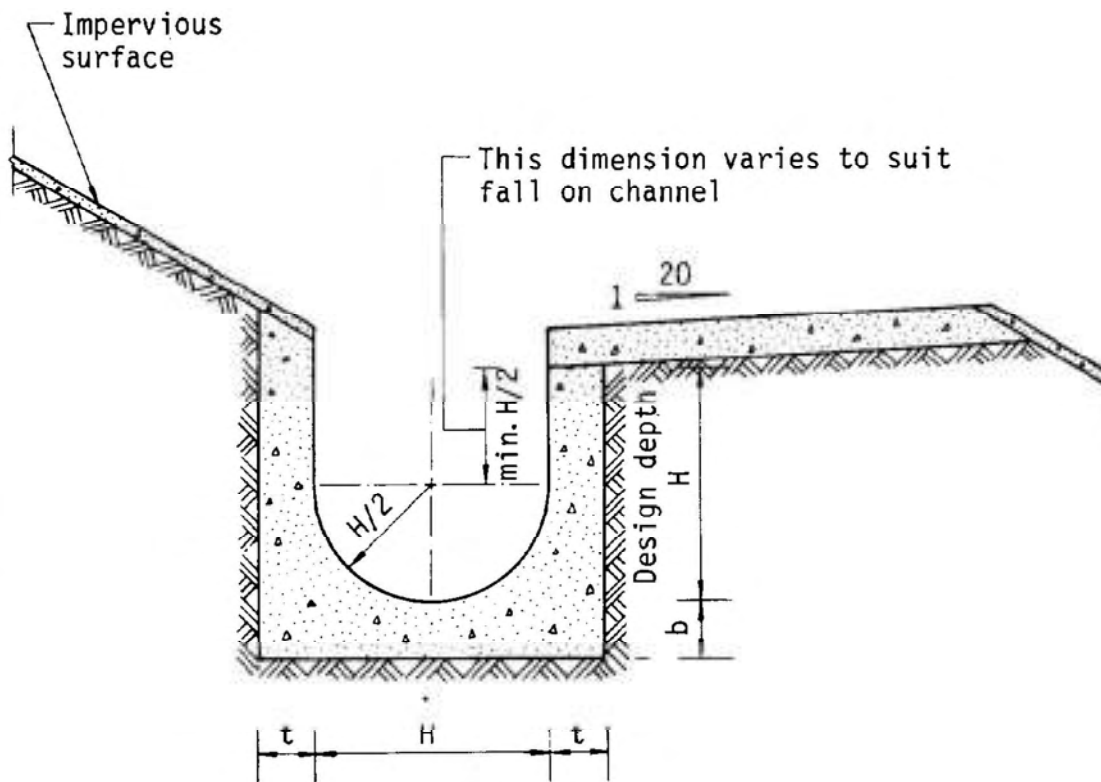


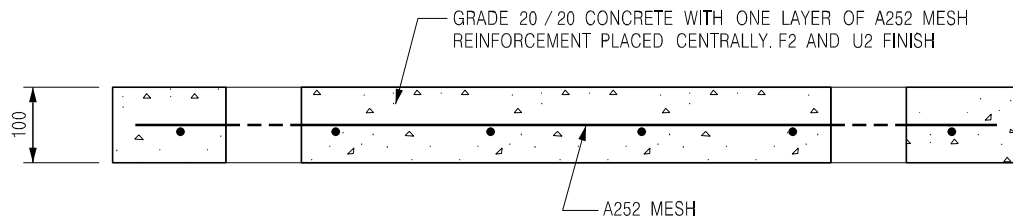
Figure 8.10 - Typical Details of Catchpits



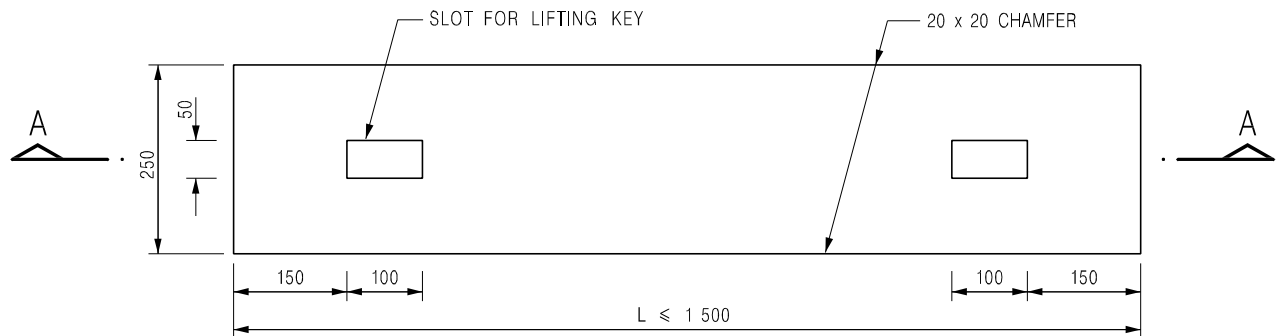
Dimensions of U - channel

Nominal size of channel H (mm)	Thickness t (mm)	Thickness b (mm)
225 to 600	150	150
675 to 1200	175	225

Figure 8.11 - Typical U-channel Details

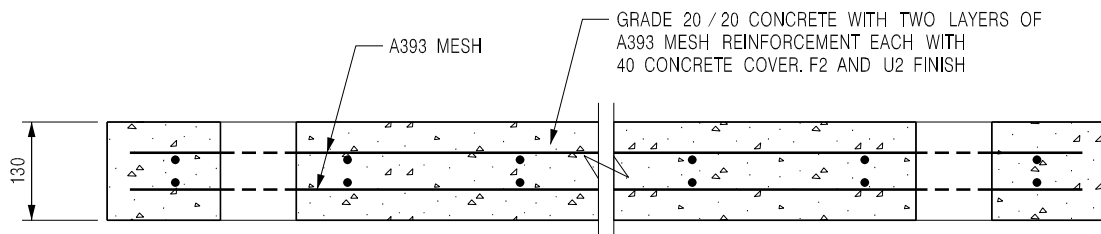


SECTION A - A

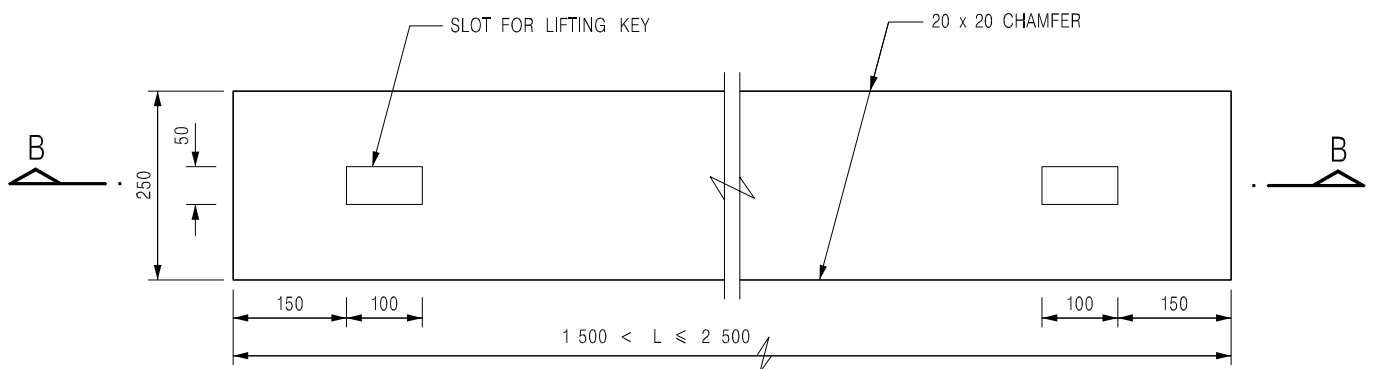


PLAN

TYPE 1 - FOR SPAN UP TO 1.5 m



SECTION B - B



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.

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

**PRECAST CONCRETE COVERS
FOR CATCHPIT AND SAND TRAP**

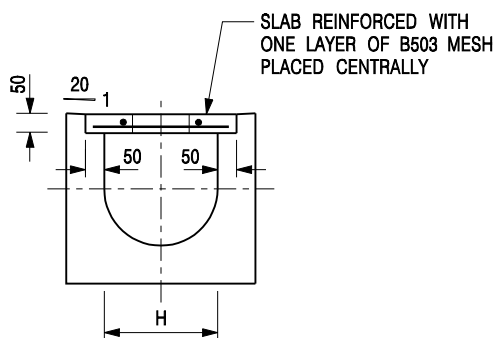


**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

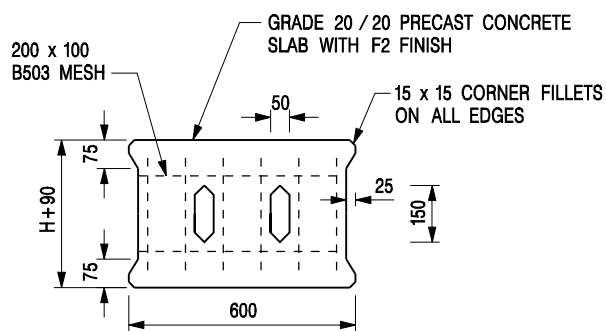
SCALE 1 : 10

DATE JAN 1991

DRAWING NO.
C2407B



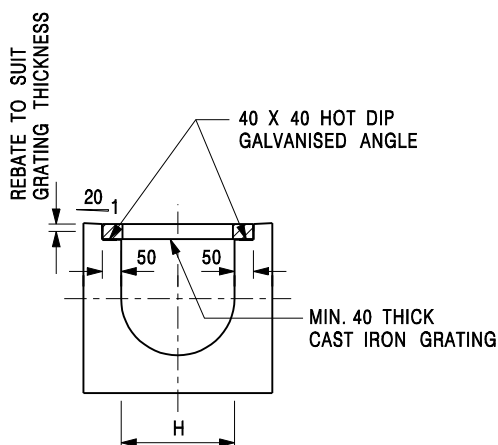
TYPICAL SECTION



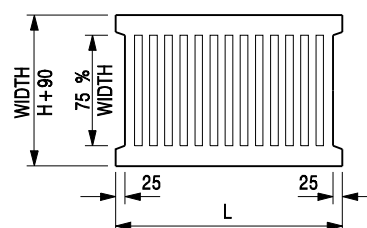
PLAN OF SLAB

U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)



TYPICAL SECTION



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

CAST IRON GRATING

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

U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

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

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

COVER SLAB AND CAST IRON
GRATING FOR CHANNELS



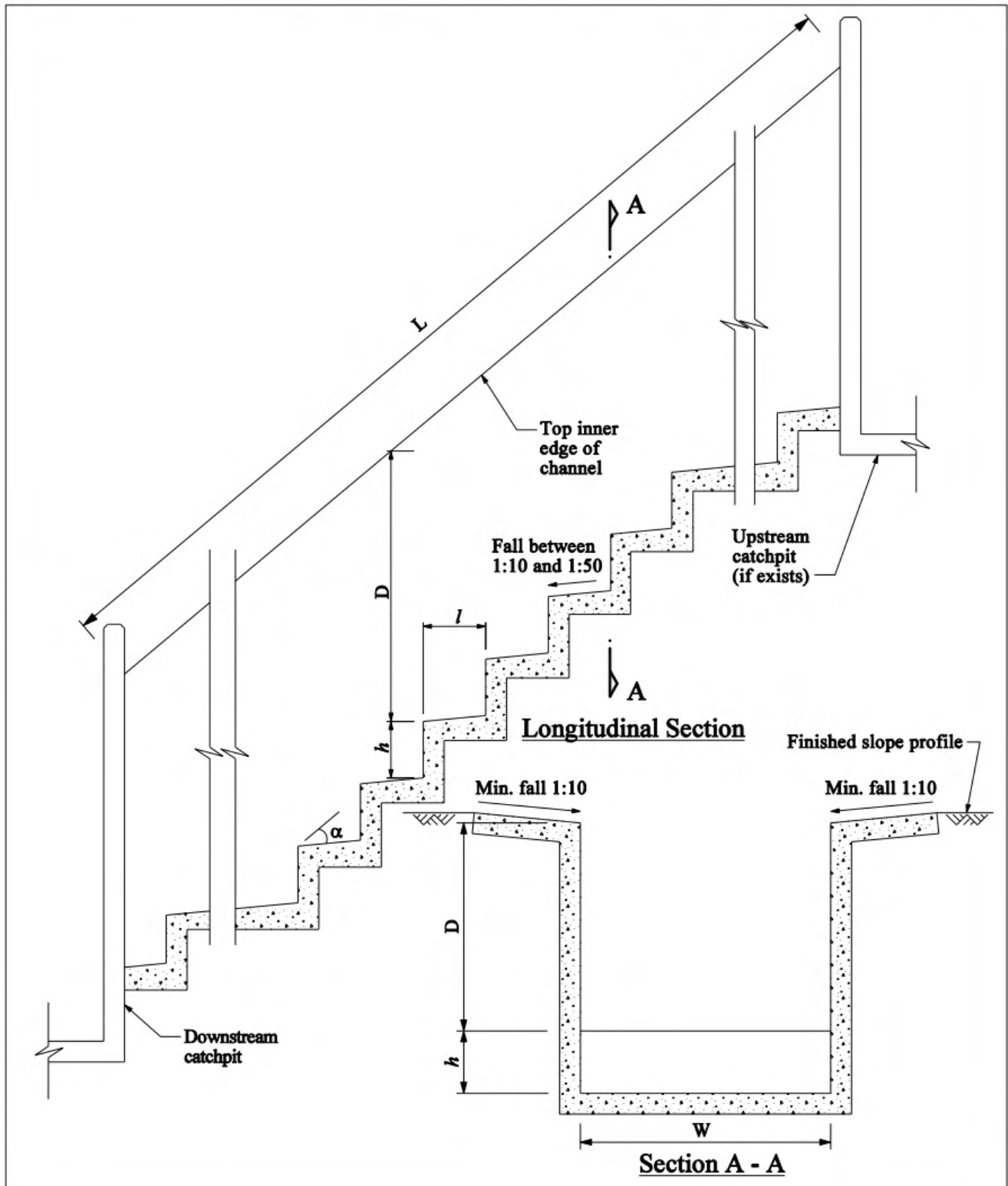
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DATE JAN 1991

DRAWING NO.
C2412E

Figure 4 – Denotation of Channel Dimensions



$h = 0.2\text{m}$
 $l = 0.2\text{m}$
 $D = 2\text{m}$