

---

寄件者: jeff tang <[REDACTED]>  
寄件日期: 2026年03月30日星期一 13:16  
收件者: Ivan Sze Yuet FUNG/PLAND; tpbpd/PLAND  
副本: [REDACTED]  
主旨: 關於申請編號A/YL-KTN/1174 補充資料  
附件: A\_YL-KTN\_1174 進一步資料 (20260330).pdf  
類別: Internet Email

致城市規劃委員會：

本人現提交進一步資料，以解答渠務署及地政署的意見。謝謝。

關於申請編號A/YL-KTN/1174,

本人回覆地政署的內容

本場地現時已有由元朗地政處發出的短期豁免書 (STW) 作商店及服務行業用途 (見附圖)；而部分現有構築物不包括在內，現附上場地照片反映場地最新狀況 (見附圖)。

申請人將會在規劃申請批准後，向元朗地政處提出申請修改該STW，以符合政府部門規定。

為回答渠務署的疑問現呈上最新的渠務報告

詳情附件檔案

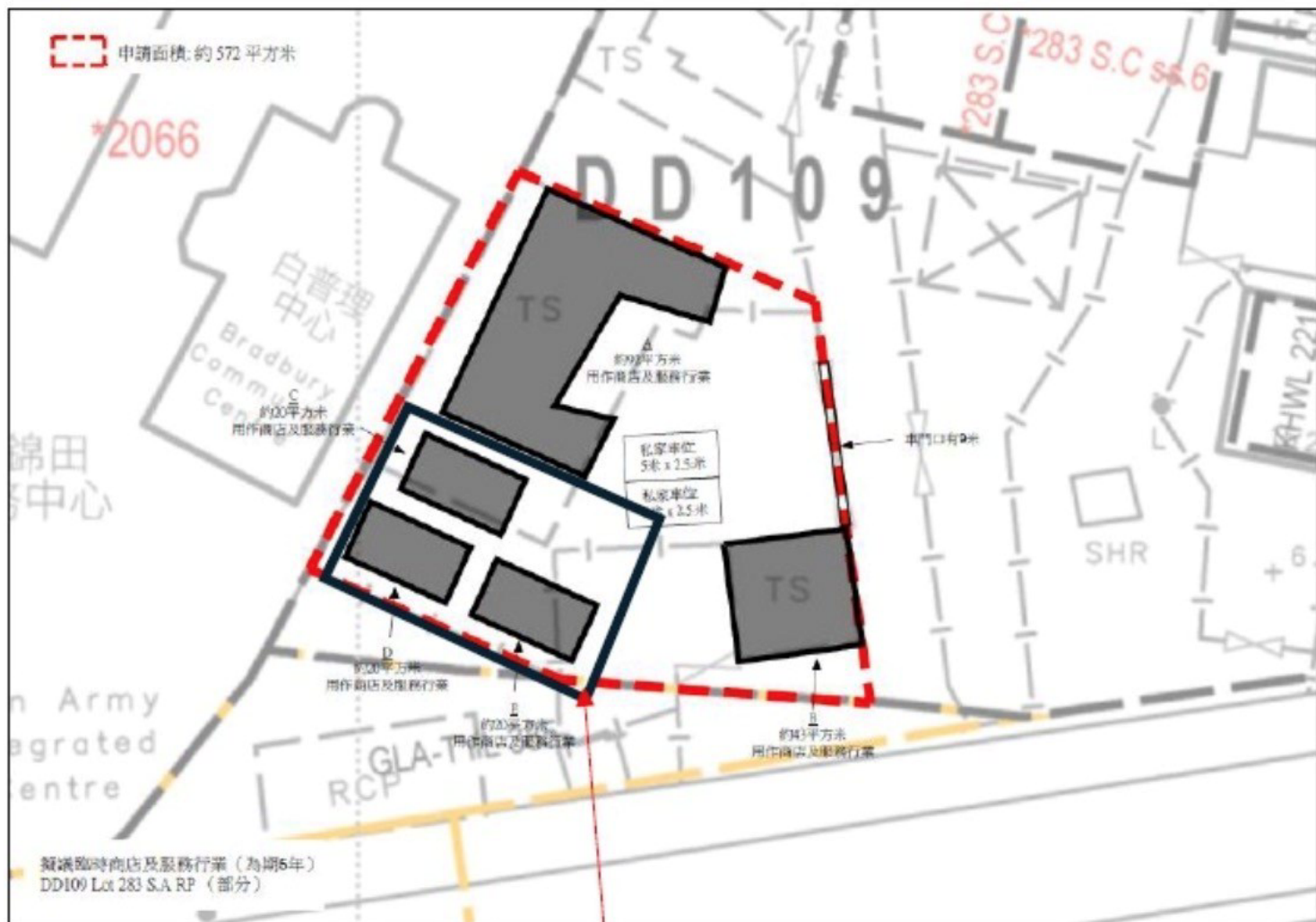
為回答地政署的疑問，現呈上檔案

致城規會

本人鄧國棟回收今早10:02及10:03發出的

A\_YL-KTN\_1174進一步資料 (1及2)  
的電郵

30-03-2026 13:15 鄧國棟



未有 STW 的構築物

致城規會：

關於 A/YL-KTN/1174 的規劃申請，本人現提交進一步資料，包括一個回應部門意見表，以及一份經修改的渠務報告。謝謝。

鄧國棟

30/03/2026

Comments of the Chief Engineer/Mainland North, Drainage Services Department (DSD)

Item	Comments	Responses
A	Specific Comments	
1	Para. 3.1.3 (5): The applicant should update Colebrook-White Equation as per Table 12 of SDM.	Noted. The typo is updated for your perusal.
2	Appendix A: The applicant should also clarify if deposition of sediment in drainage system has been considered as per the requirement in Stormwater Drainage Manual (SDM) (Section 9.3).	Noted. Appendix A is revised, reduction of flow area is reduced by 10% as per SDM section 9.3.
3	With reference to our drainage record, invert level of existing drains connecting to manhole SMH1012050 is +2.65 mPD. According to the submitted hydraulic calculation in Appendix A of the submission, invert level of the proposed stormwater pipe at the connection to existing manhole SMH1012050 is +3.88 mPD. The applicant should review invert level of the proposed stormwater pipe so as to minimize need of modification of existing manhole SMH1012050 as backdrop manhole.	Noted. The invert level of the proposed connection pipe is revised to +3.22 mPD. No modification of manhole to backdrop type is required.
4	Sand trap or provision alike should be clearly indicated on the proposed drainage plan and provided before the collected runoff is discharged to the public drainage facilities.	Backdrop manhole with trap is proposed at CP1.03 as indicated in Figure 3 and drainage schedule for your perusal.
B	General Comments	
1	For the construction details of the proposed drainage facilities, reference should be made to current CEDD's standard drawings.	Noted.
2	For any proposed connection to DSD's drainage facilities, the applicant should submit form HBP1 to this Division for application of technical audit. Upon our acceptance of the connection application, the applicant shall carry out the proposed connection works in accordance with DSD's Standard Drawings at the resources of the applicant.	Noted.
3	Connection of the proposed and existing drainage facilities shall be designed and constructed such that there is no water leakage at the proposed connection.	Noted.
4	The proposed development should neither obstruct overland flow nor adversely affect any existing natural streams, village drains, ditches and the adjacent areas, etc.	Noted.

5	Where walls or hoarding are erected are laid along the site boundary, adequate openings should be provided to intercept the existing overland flow passing through the site.	Noted. 100mm opening from ground level along wall/ hoarding or equivalent to be provided where it is erected
6	The applicant is required to rectify the drainage system if they are found to be inadequate or ineffective during operation. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system.	Noted.
7	The applicant should submit HBP1 to this Division for application of technical audit for any proposed connection to DSD's drainage facilities.	Noted.
8	Comments from HyD, TD and RMO shall be sought as part of the proposed drainage works would be carried out within highway polygon and on carriageway.	Noted.
9	The applicant should consult DLO/YL and seek consent from the relevant owners for any drainage works to be carried out outside his lot boundary before commencement of the drainage works.	Noted.

Temporary Shop and Services for a Period of 5 Years,  
Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long,  
New Territories

# Drainage Proposal

**Mar 2026**



---

## 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
Figure6 – Catchment of Existing Manhole

## **List of Appendix**

Appendix A – Design Calculation
Appendix B - Development Layout Plan
Appendix C – Reference Drawings
Appendix D – Site Photos

# 1 Introduction

## 1.1 Background

1.1.1 The applicant seeks planning permission from the Town Planning Board (the Board) for 'Temporary Shop and Services for a Period of 5 Years, Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, 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 located to near junction of Kam Tin Road and Kam Sheung Road. It has an area of approx. 572 m<sup>2</sup>. The site location is shown in **Figure 1**.

1.2.2 The existing site is fully unpaved. Existing levels are approximately +6.15 mPD. No major site formation of the Application Site is anticipated.

1.2.3 There is an existing manhole and 1650mm pipe at Kam Tin Road which eventually discharge to Kam Tin River. **Figure 2** indicates the existing drainage system of the area.

## 2 Development Proposal

### 2.1 The Proposed Development

2.1.1 The total site area is approximately 572 m<sup>2</sup>. The catchment plan is shown in **Figure 4**.

Proposed Development Area (Approx.)	
Total Site Area (m <sup>2</sup> )	572
Paved Area after Development (m <sup>2</sup> )	572

**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.

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 5 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:

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

Where,

V = velocity of the pipe flow (m/s)

S<sub>f</sub> = 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:

$$\text{Colebrook-White Equation: } \frac{v}{\nu} = -\sqrt{32gRS_f} \log \left( \frac{k_s}{14.8R} + \frac{1.255\nu}{R\sqrt{32gRS_f}} \right)$$

where,

V	=	velocity of the pipe flow (m/s)
S <sub>f</sub>	=	hydraulic gradient
k <sub>f</sub>	=	roughness value (m)
ν	=	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 application site. The design calculation of proposed drains are shown in **Appendix A**. The catchment and checking of capacity of existing 1650mm drains downstream of manhole SMH1012050 are also shown in **Appendix A**. According to the checking, existing 1650mm drains has enough capacity and the flow from application site only occupy about 1.0% of its capacity.
- 4.1.2 The alignment, size, gradient and details of the proposed drains are shown in **Figure 3**. The catchment plan is shown in **Figure 4**.
- 4.1.3 Reference Drawings are shown in **Appendix C** for reference. Existing site photos are shown in **Appendix D**.

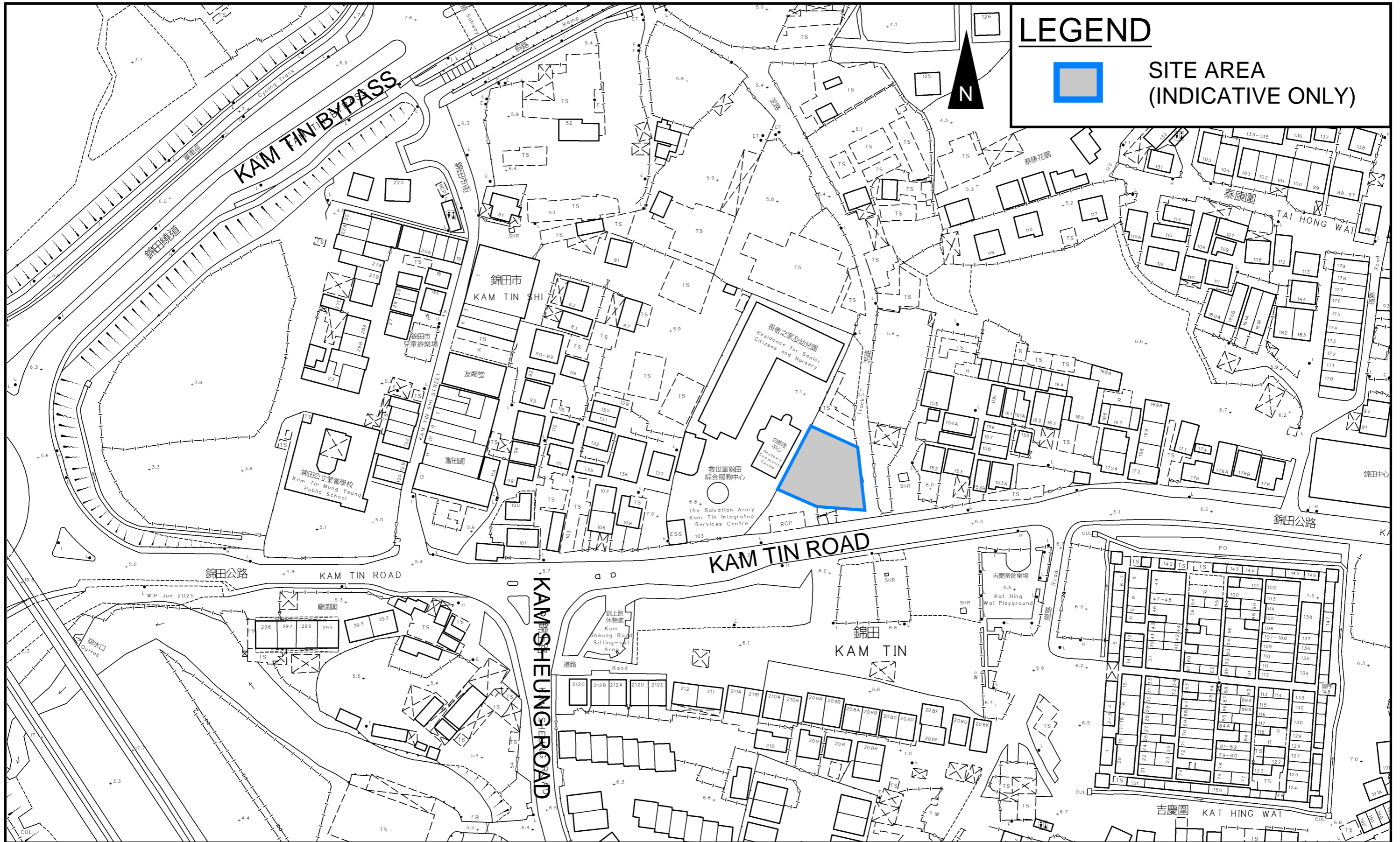
## 5 Conclusion

- 5.1.1 Drainage review has been conducted for the Proposed Development. The surface runoff will be collected by the proposed drains discharge to existing 1650mm drains and eventually discharge to Kam Tin River.
- 5.1.2 With implementation of the above drainage system, no unacceptable drainage impact is anticipated.

- End of Text -

# FIGURES

---



# LEGEND



**SITE AREA  
(INDICATIVE ONLY)**

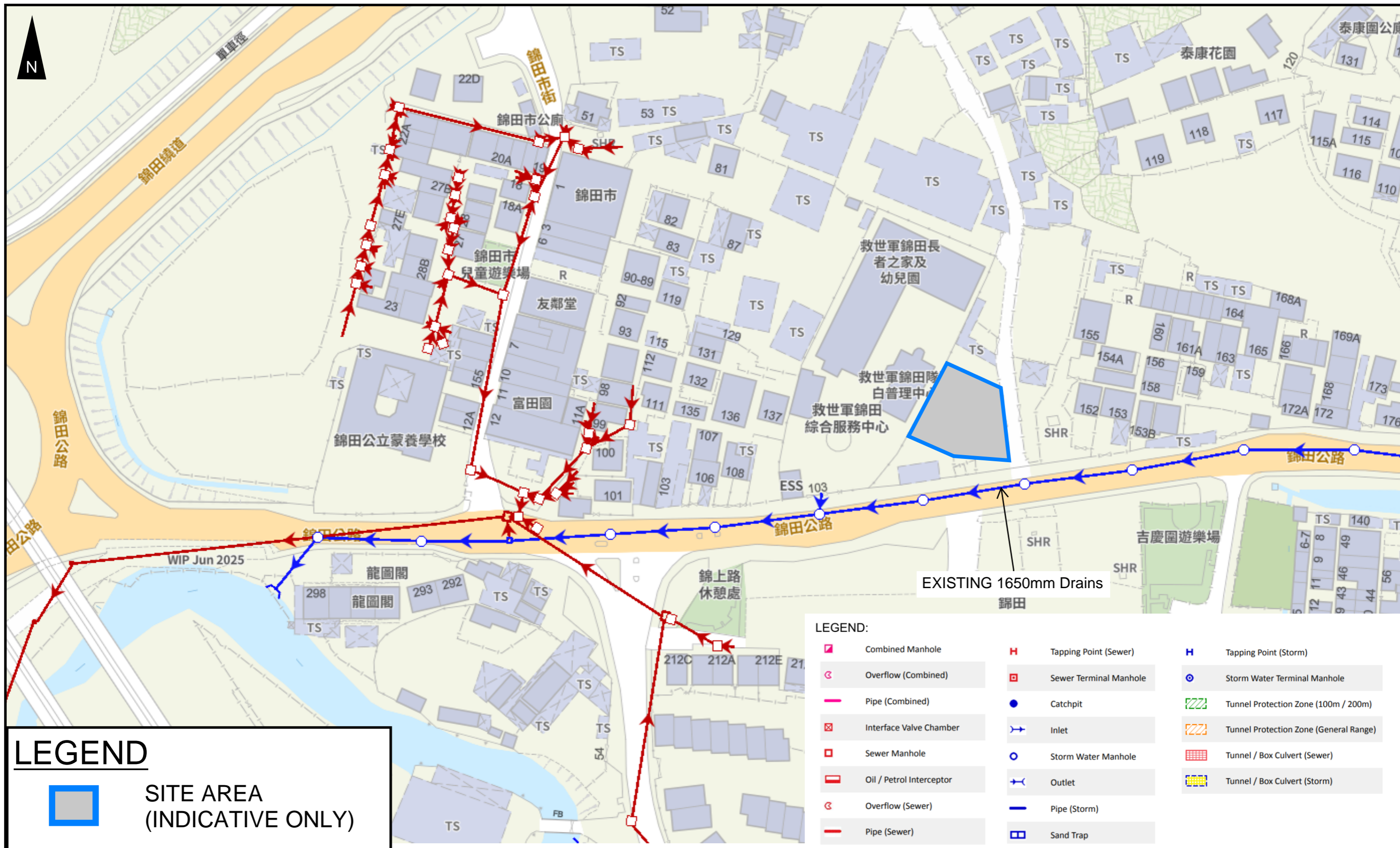
**PROJECT:**  
Temporary Shop and Services for a Period of 5 Years

**TITLE**  
**SITE LOCATION PLAN**

**FIGURE NUMBER**  
**FIGURE 1**

**LOCATION:**  
Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, New Territories

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:

Temporary Shop and Services for a Period of 5 Years

## TITLE

EXISTING DRAINAGE PLAN

## FIGURE NUMBER


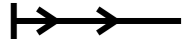




FIGURE 2

## LOCATION:

Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, New Territories

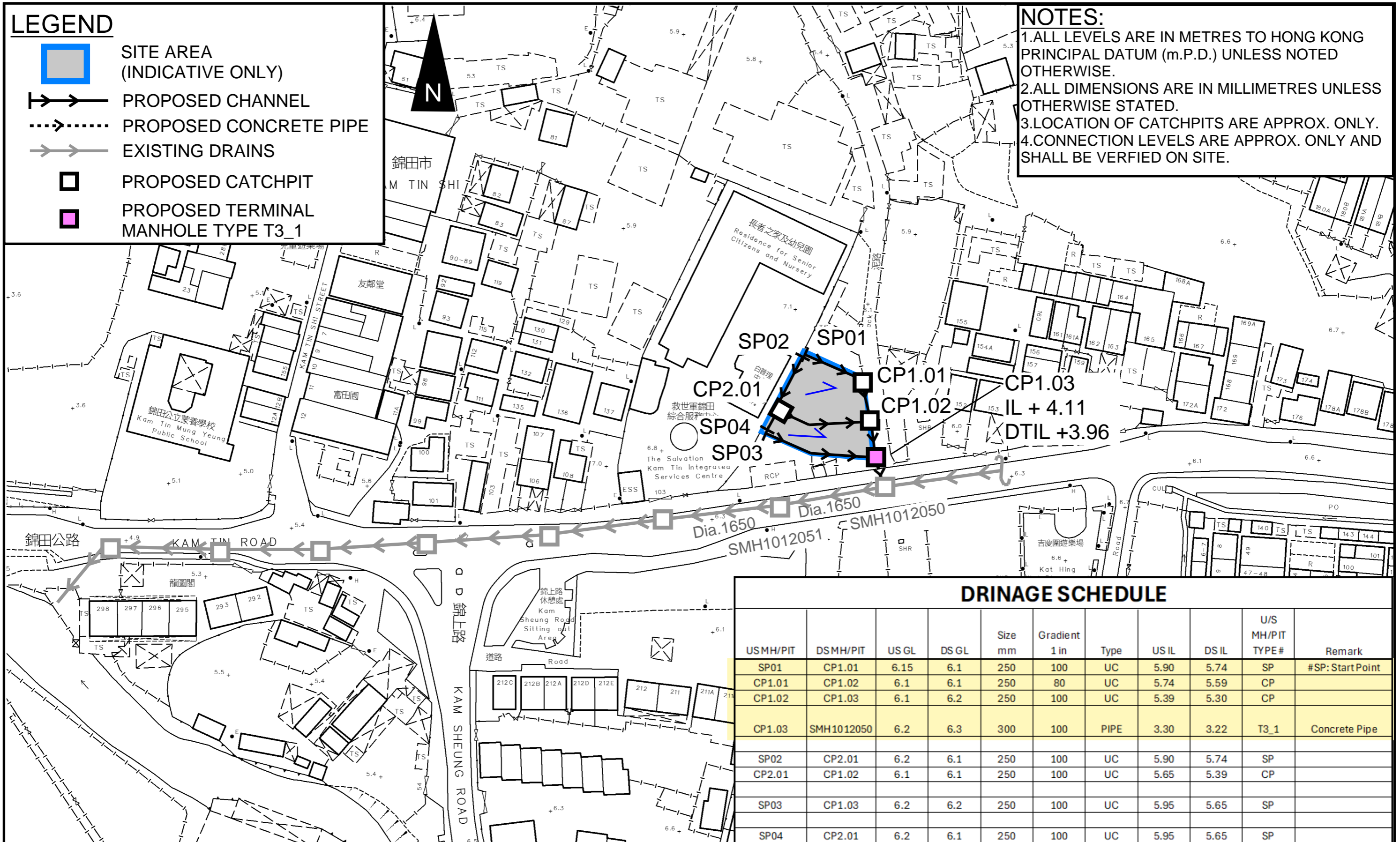
VER	DESCRIPTION	DATE

**LEGEND**

-  SITE AREA (INDICATIVE ONLY)
-  PROPOSED CHANNEL
-  PROPOSED CONCRETE PIPE
-  EXISTING DRAINS
-  PROPOSED CATCHPIT
-  PROPOSED TERMINAL MANHOLE TYPE T3\_1

**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 VERIFIED ON SITE.



DRAINAGE SCHEDULE										
USMH/PIT	DSMH/PIT	US GL	DS GL	Size mm	Gradient 1 in	Type	US IL	DS IL	U/S MH/PIT TYPE #	Remark
SP01	CP1.01	6.15	6.1	250	100	UC	5.90	5.74	SP	#SP: Start Point
CP1.01	CP1.02	6.1	6.1	250	80	UC	5.74	5.59	CP	
CP1.02	CP1.03	6.1	6.2	250	100	UC	5.39	5.30	CP	
CP1.03	SMH1012050	6.2	6.3	300	100	PIPE	3.30	3.22	T3_1	Concrete Pipe
SP02	CP2.01	6.2	6.1	250	100	UC	5.90	5.74	SP	
CP2.01	CP1.02	6.1	6.1	250	100	UC	5.65	5.39	CP	
SP03	CP1.03	6.2	6.2	250	100	UC	5.95	5.65	SP	
SP04	CP2.01	6.2	6.1	250	100	UC	5.95	5.65	SP	

**PROJECT:**

Temporary Shop and Services for a Period of 5 Years

**TITLE**

PROPOSED DRAINAGE SYSTEM

**FIGURE NUMBER**

FIGURE 3

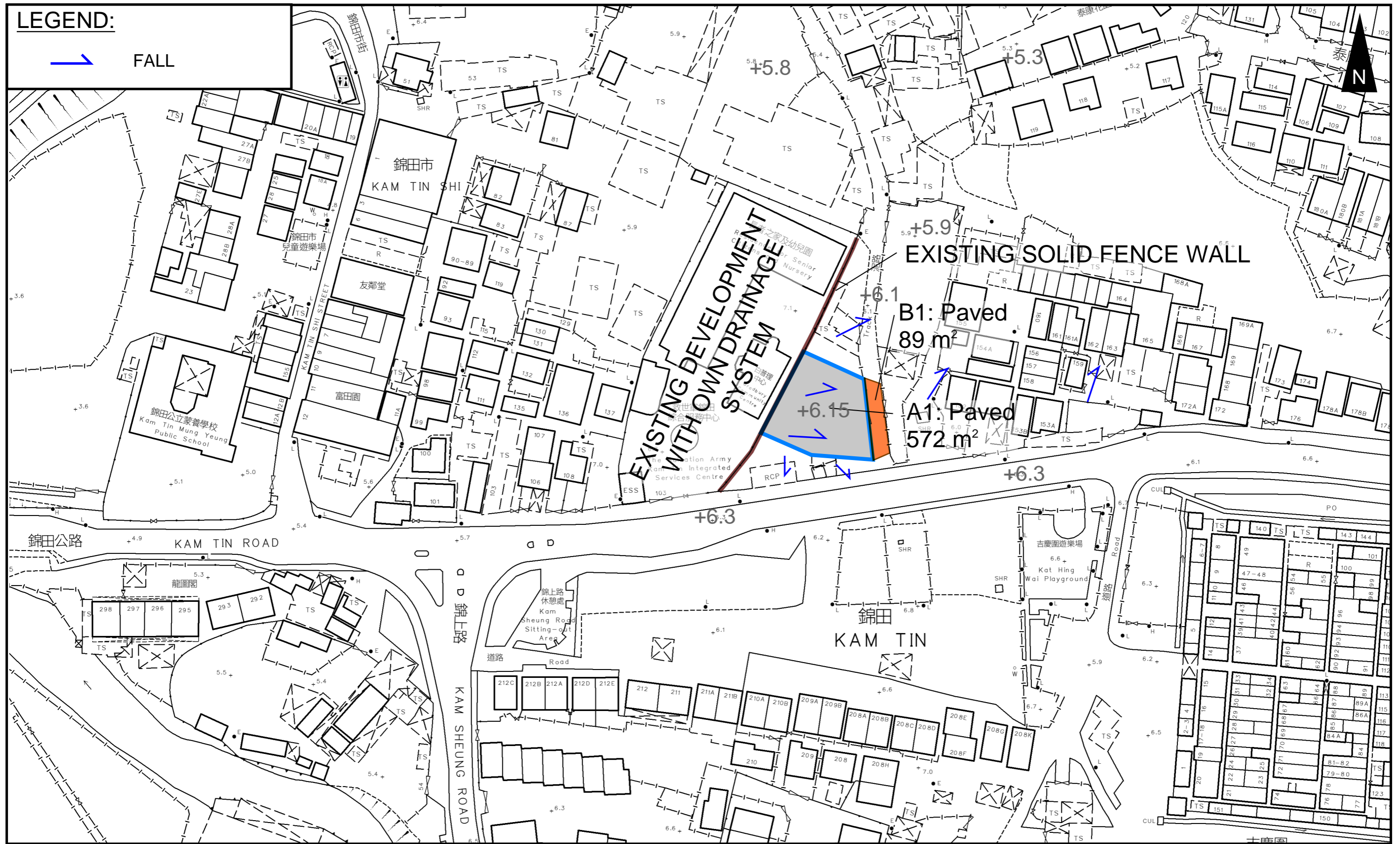
**LOCATION:**

Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, New Territories

VER	DESCRIPTION	DATE
-----	-------------	------

**LEGEND:**

 FALL



**PROJECT:**

Temporary Shop and Services for a Period of 5 Years

**TITLE**

CATCHMENT PLAN

**FIGURE NUMBER**


FIGURE 4

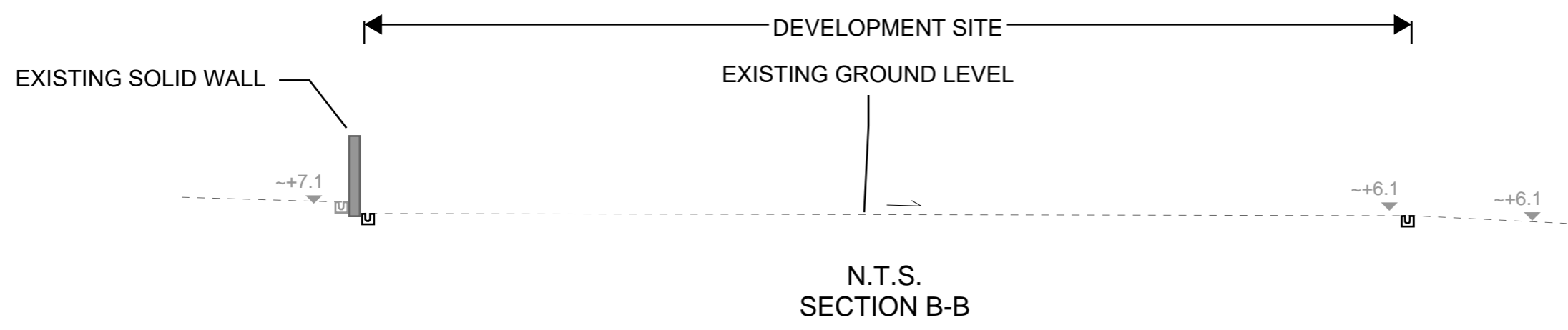
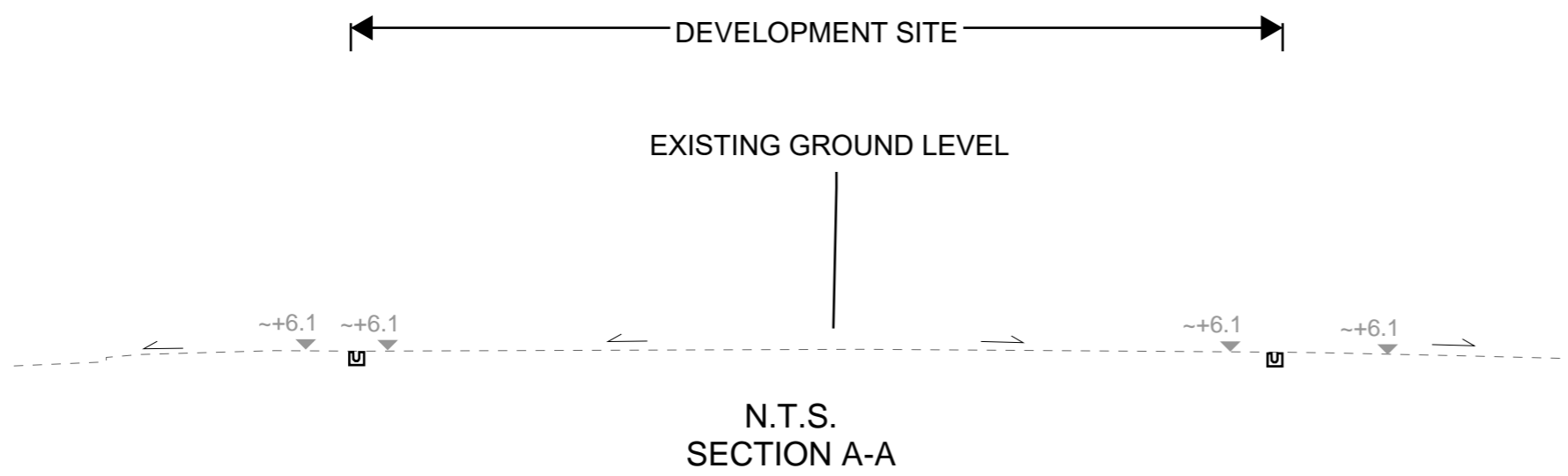
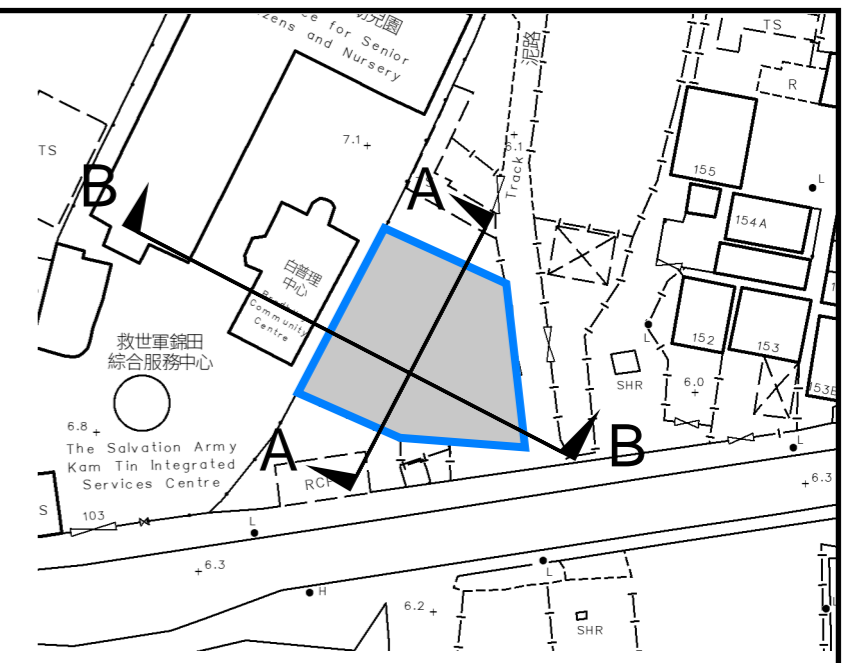
**LOCATION:**

Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, New Territories

VER	DESCRIPTION	DATE

**LEGEND**

 SITE AREA (INDICATIVE ONLY)

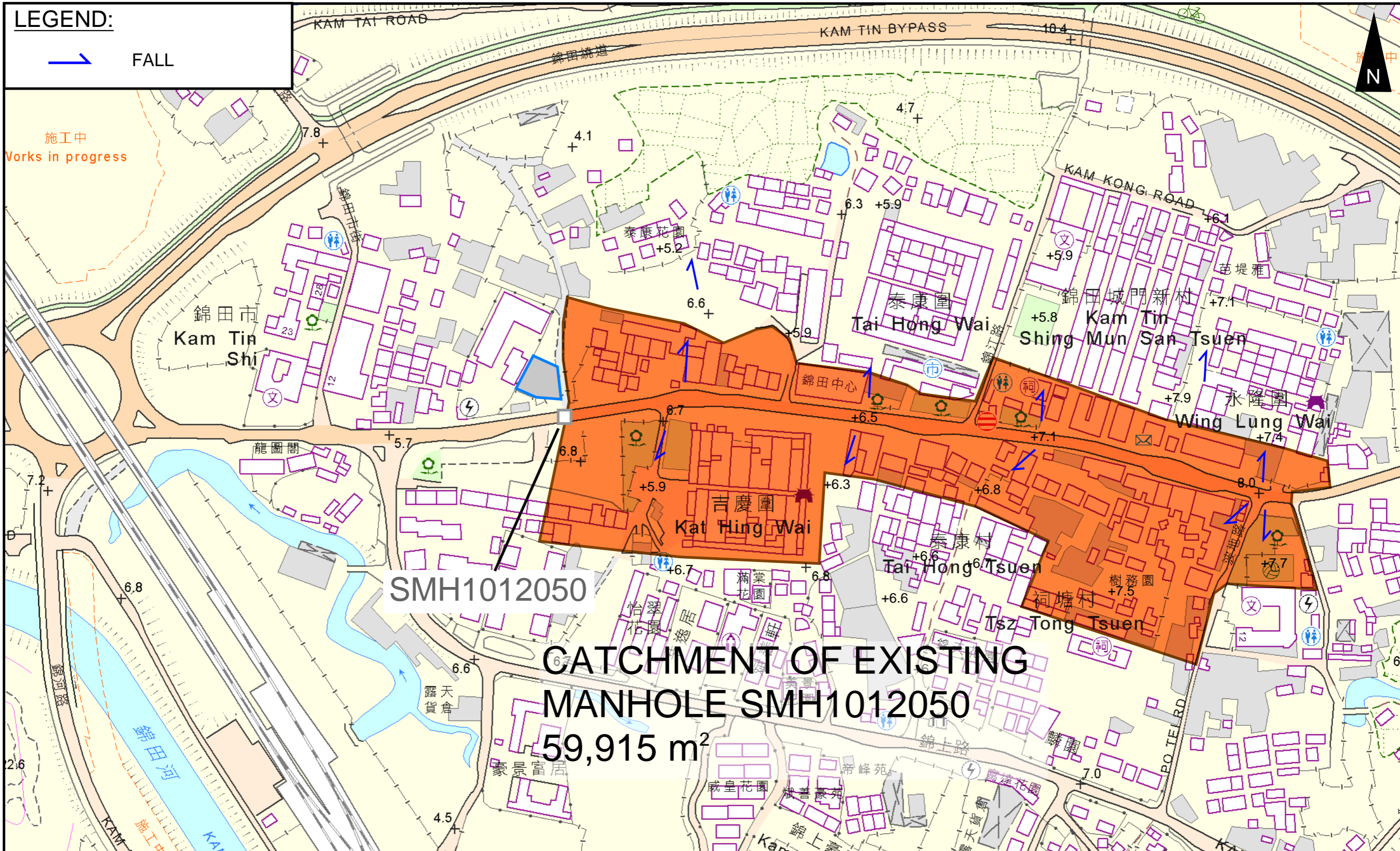


<p><b>PROJECT:</b> Proposed Temporary Warehouse (excl. D.G.G.) with Ancillary Facilities and Associated Filling of Land for a Period of 3 Years in "Agriculture" Zone</p>	<p><b>TITLE</b> SECTIONS</p>	<p><b>FIGURE NUMBER</b> FIGURE 5</p>		
<p><b>LOCATION:</b> Lots 1266 (Pt.) and 1267 (Pt.) in D.D. 118, Tai Tong, Yuen Long, N.T.</p>		<p>VER</p>	<p>DESCRIPTION</p>	<p>DATE</p>

**LEGEND:**

 FALL

施工中  
Works in progress



SMH1012050

**CATCHMENT OF EXISTING  
MANHOLE SMH1012050  
59,915 m<sup>2</sup>**

**PROJECT:**

Temporary Shop and Services for a Period of 5 Years

**TITLE**

**CATCHMENT OF EXISTING  
MANHOLE**

**FIGURE NUMBER**

**FIGURE 6**

**LOCATION:**

Lot 283 S.A RP (Part) in D.D. 109, 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	0.6
Viscosity	0.000001

Storm Constant	HKO a	505.5
	HKO b	3.29
	HKO c	0.355

Catchment Area Table (Area in m<sup>2</sup>)

Catchment	A1	B1	Catchment of SMH1012050															
Total Area	572	89	59915															
Hard Paved Area	572	89	59915															
Unpaved Area	0	0	0															
Equival. Area	543.4	84.55	56919.25															

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 <sup>3</sup> /s	Catchments	Total Equivalent Area m <sup>2</sup>	ToC min	Intensity mm/hr ##	Total Discharge m <sup>3</sup> /s	Utilization	Remark
SP01	CP1.01	6.15	6.10	250	100	UC	5.90	5.74	SP	16.3	1.31	0.07	A1	543.40	1.10	332	0.05	76.6%	
CP1.01	CP1.02	6.10	6.10	250	80	UC	5.74	5.59	CP	12.1	1.46	0.07	A1,B1	627.95	1.31	327	0.06	77.8%	
CP1.02	CP1.03	6.10	6.20	250	100	UC	5.39	5.30	CP	9.4	1.31	0.07	A1,B1	627.95	1.81	315	0.05	83.9%	
CP1.03	SMH1012050	6.20	6.30	300	100	PIPE	3.30	3.22	T3_1	7.6	1.47	0.09	A1,B1	627.95	1.93	312	0.05	58.3%	
SP02	CP2.01	6.15	6.10	250	100	UC	5.90	5.74	SP	15.8	1.31	0.07	A1	543.40	1.10	332	0.05	76.6%	
CP2.01	CP1.02	6.10	6.10	250	100	UC	5.65	5.39	CP	26	1.31	0.07	A1	543.40	1.48	322	0.05	74.3%	
SP03	CP1.03	6.20	6.20	250	100	UC	5.95	5.65	SP	29.9	1.31	0.07	A1	543.40	1.10	332	0.05	76.6%	
SP04	CP2.01	6.20	6.10	250	100	UC	5.95	5.65	SP	29.9	1.31	0.07	A1	543.40	1.10	332	0.05	76.6%	
SMH1012050	SMH1012051	6.30	6.30	1650	250	PIPE	2.65	2.54	Existing	29	2.69	5.18	A1,B1,Catchment of SMH1012050	57547.20	5.00	265	4.24	81.9%	Catchment of SMH1012050 see Figure 6
Checking of Existing 1650 Pipe Against flow from Application Site																			
SMH1012050	SMH1012051	6.30	6.30	1650	250	PIPE	2.65	2.54	Existing	29	2.69	5.18	A1,B1	627.95	2.02	310	0.05	1.0%	

#SP: Start Point

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


###: 10% reduction in flow area is considered in the capacity review (SDM section 9.3)

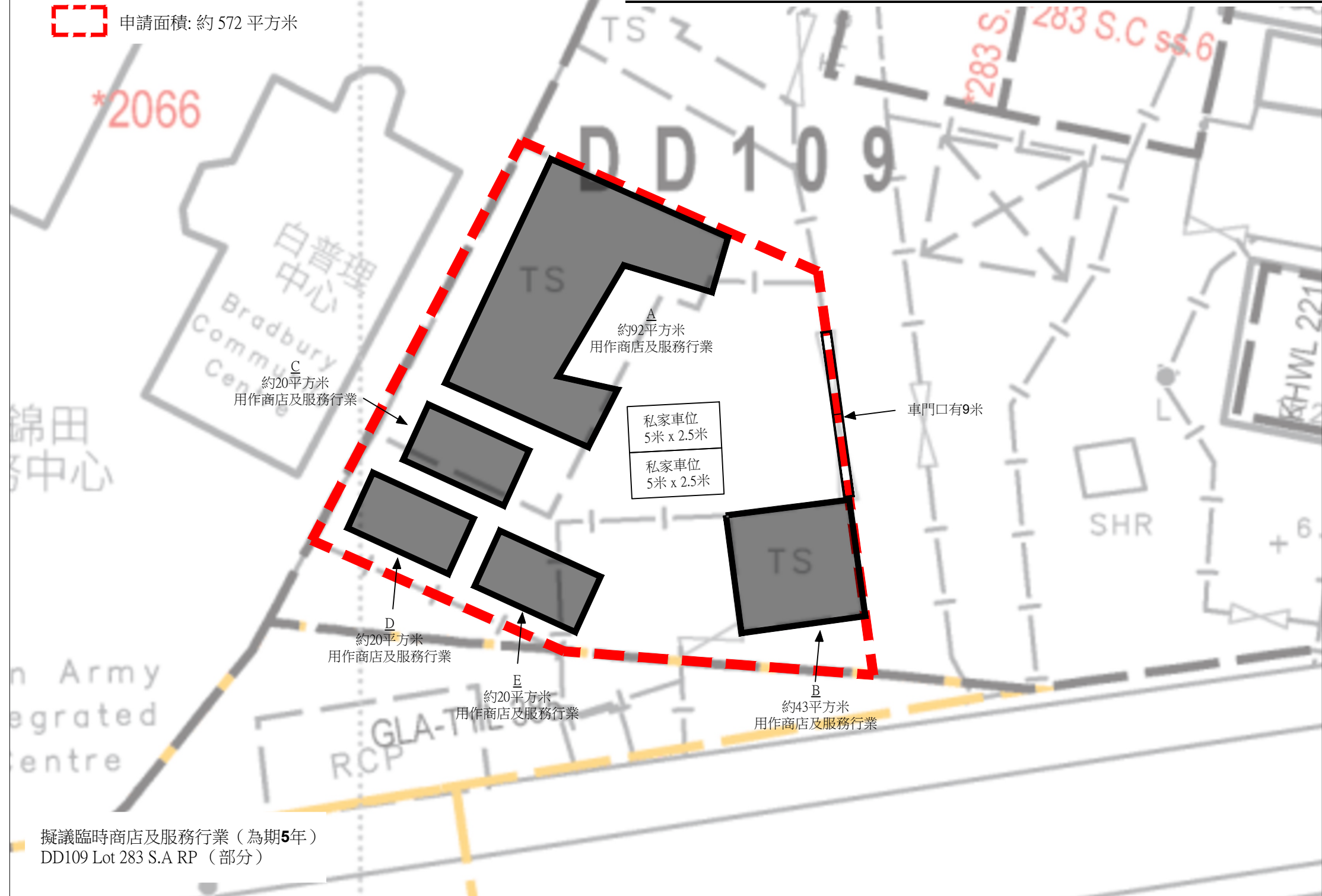
### Time of Concentration Checking

Catchment	Flow Distance	Highest Level	Lowest Level	Gradient (per 100m)	to (min) =	tc =
A	L	H1	H2	=(H1-H2)/L x 100	0.14465L / (H <sup>0.2</sup> A <sup>0.1</sup> )	to + tf
(m <sup>2</sup> )	(m)	(mPD)	(mPD)		(min)	(min)
572	10.5	6.17	6.15	0.190	1.1	1.1



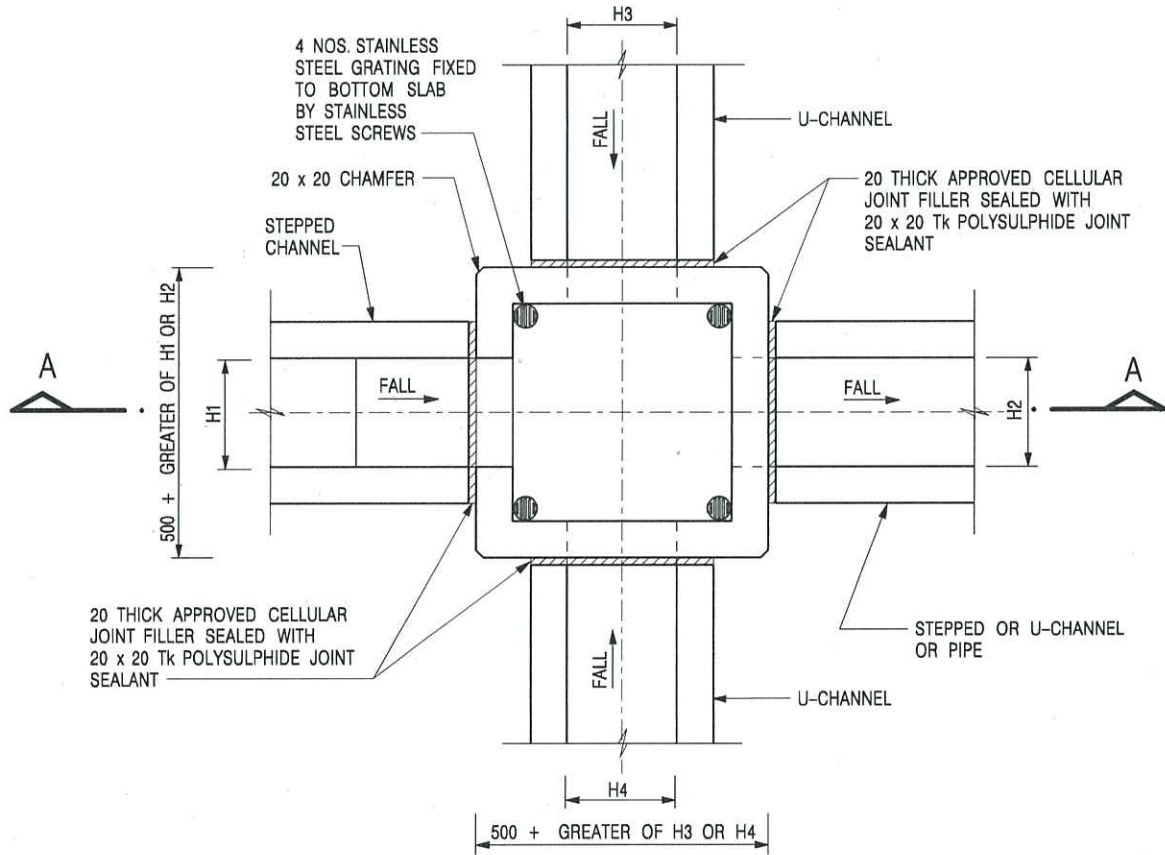
# APPENDIX B - PROPOSED SITE LAYOUT PLAN

 申請面積: 約 572 平方米

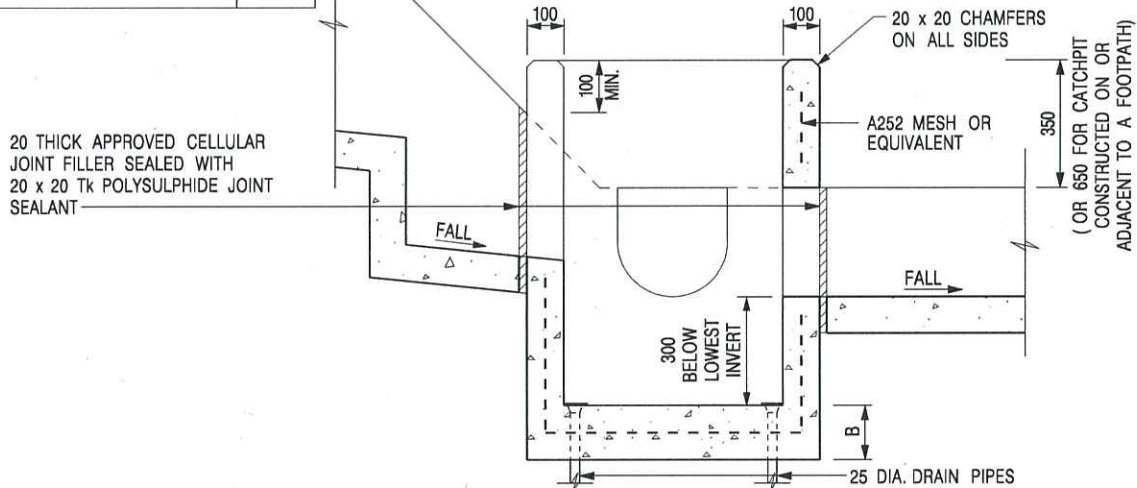


擬議臨時商店及服務行業 (為期5年)  
DD109 Lot 283 S.A RP (部分)

# Appendix C - Reference Drawings



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



**NOTES:**

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

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

CATCHPIT WITH TRAP  
(SHEET 1 OF 2)



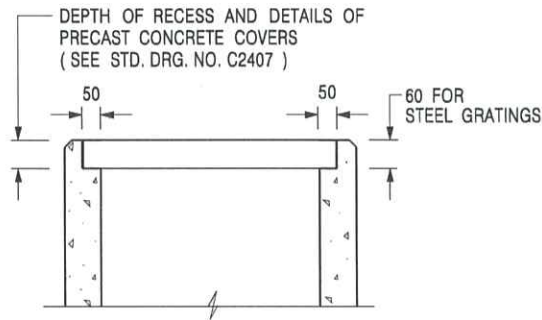
CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DRAWING NO.

DATE JAN 1991

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 /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.

A	MINOR AMENDMENT.	Original Signed	04.2016
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
<b>REF.</b>	<b>REVISION</b>	<b>SIGNATURE</b>	<b>DATE</b>

CATCHPIT WITH TRAP  
(SHEET 2 OF 2)



**CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT**

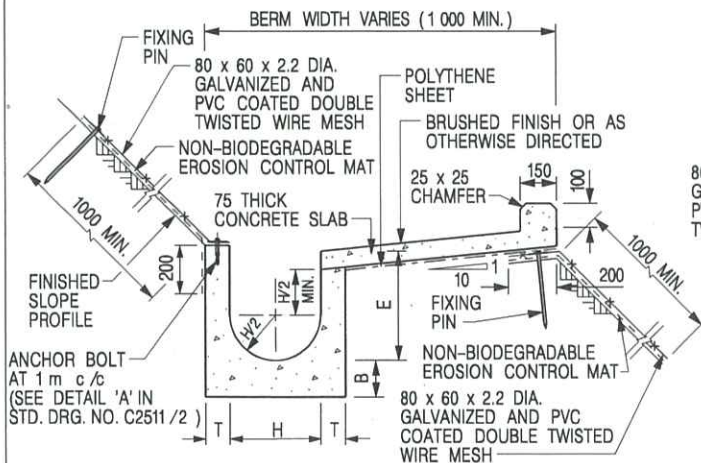
**SCALE** 1 : 20

**DRAWING NO.**

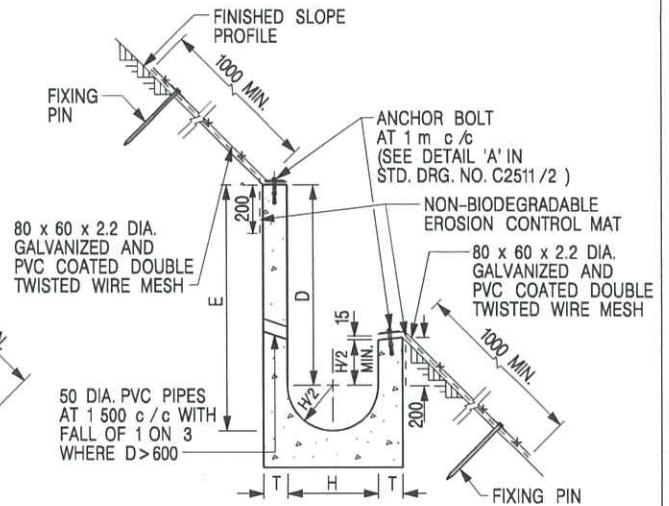
**DATE** JAN 1991

**C2406 /2A**

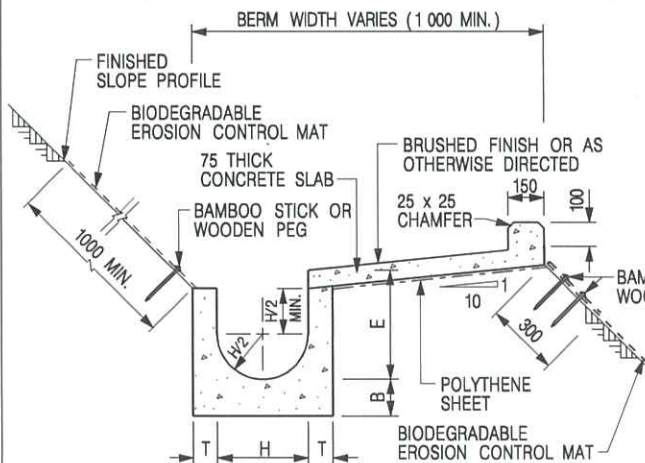




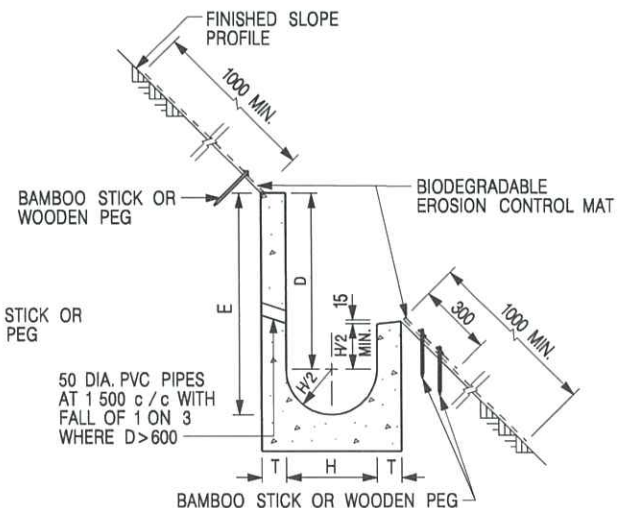
**U-CHANNELS CONSTRUCTED ON BERM WITH NON-BIODEGRADABLE EROSION CONTROL MAT**



**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:**

- ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL CONCRETE TO BE GRADE 20 / 20.
- CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
- SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
- JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
- FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
- FOR TYPICAL FIXING PIN DETAILS, SEE STD. DRG. NO. C2511/2.
- MINIMUM SIZE OF 25 x 50 x 300mm SHALL BE PROVIDED FOR WOODEN PEG.
- MINIMUM SIZE OF 10mm DIAMETER WITH 200mm LONG SHALL BE PROVIDED FOR BAMBOO STICK.
- 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)**



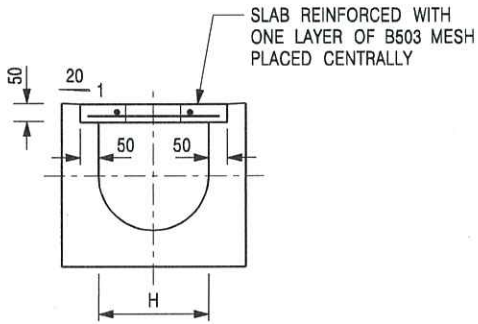
**CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

**SCALE** DIAGRAMMATIC

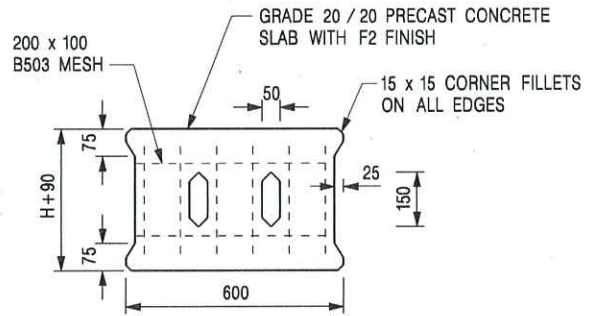
**DRAWING NO.**

**DATE** JAN 1991

**C24101**



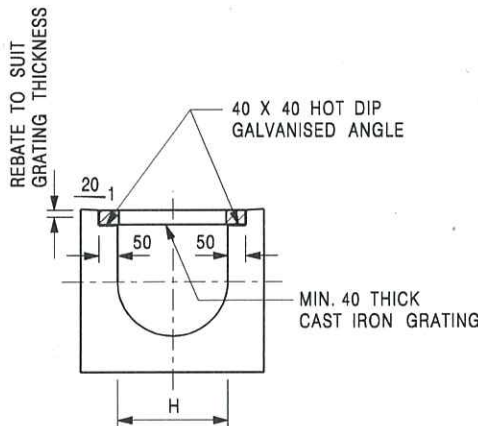
TYPICAL SECTION



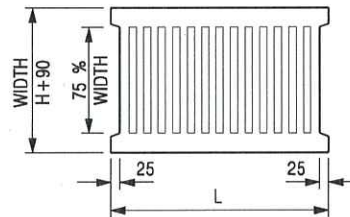
PLAN OF SLAB

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.

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



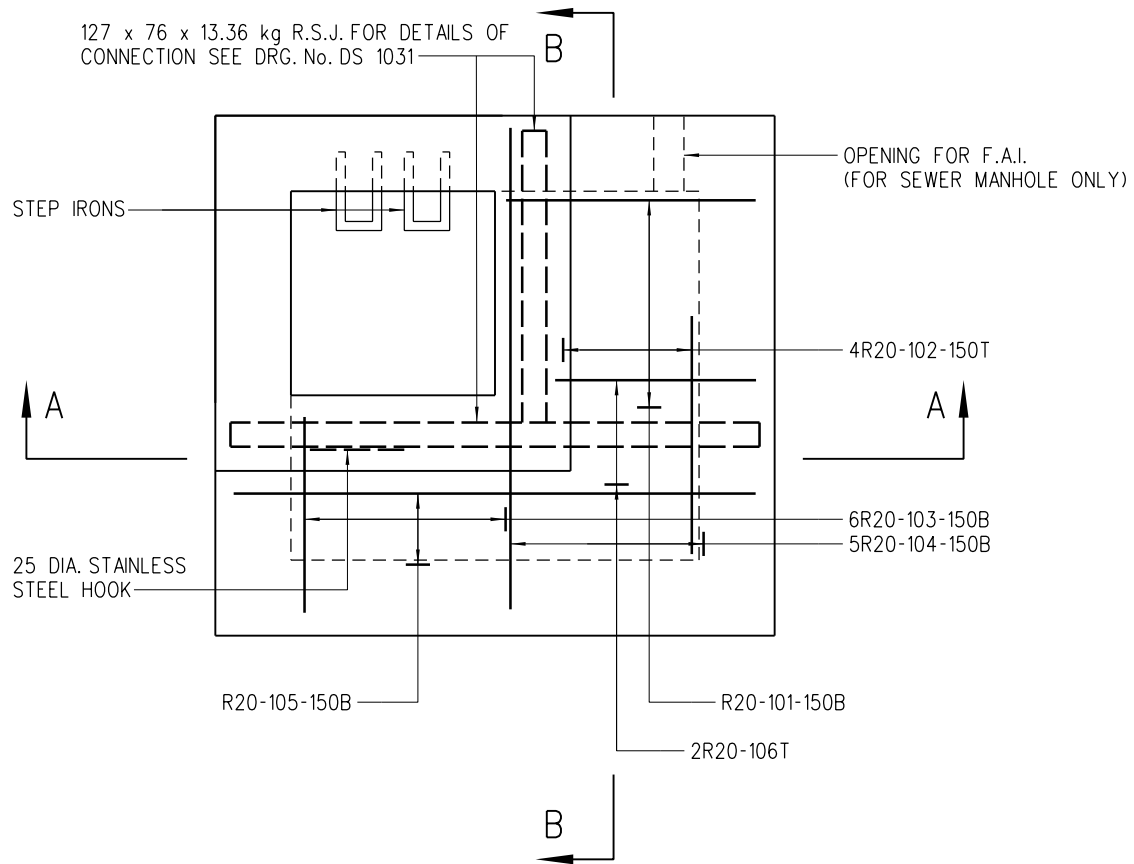
CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DRAWING NO.

DATE JAN 1991

C2412E



**PLAN**

(OTHER DETAILS NOT SHOWN FOR CLARITY)

**NOTES:**

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NOTATION OF : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS REINFORCEMENT FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
3. B DENOTES GRADE 500B RIBBED REINFORCEMENT.
4. R DENOTES GRADE 250 PLAIN REINFORCEMENT.
5. PIPE DIAMETER : NOT EXCEEDING 450 mm
6. NORMAL RANGE OF DEPTH : 1750 mm TO 4 250 mm, TO BE MEASURED FROM ROAD SURFACE TO LOWEST INVERT.
7. USED IN : STORMWATER DRAIN AND SEWER
8. JUNCTION : POSITION OF JUNCTION TO BE DETERMINED IN EACH INDIVIDUAL CASE. CHANNELS IMMEDIATELY UNDER ACCESS TO MANHOLE SHOULD BE AVOIDED.
9. TOP TREATMENT : SEE DRAWING No. DS 1032
10. STEP IRON : SEE DRAWING No. DS 1043
11. FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
12. CONCRETE MIX : GRADE 30/20
13. DIAMETER OF F.A.I. NORMALLY 100 mm
14. COVER TO REINFORCEMENT SHALL BE 40 mm UNLESS OTHERWISE STATED.
15. BARS INTERCEPTED BY PIPE TO BE CUT OFF AS DIRECTED ON SITE AND 20 mm DIAMETER TRIMMING BARS TO BE ADDED AS DIRECTED BY THE ENGINEER.
16. ALL BAR MARKS APPEARING ARE USED FOR REFERENCE IN THIS DRAWING ONLY.
17. RECESS WITH SQUARE STEEL ROD SHALL BE PROVIDED AT TOP OF MANHOLE CHAMBER FOR INSTALLING MONITORING DEVICE(S). DETAILS REFER TO DSD STANDARD DRAWING NO. DS 1099.

A	NOTE 17 ADDED	ORIGINAL SIGNED	2.8.2022
	NEW ISSUE	ORIGINAL SIGNED	13.1.2016
REV.	DESCRIPTION	SIGNATURE	DATE

**TERMINAL MANHOLE  
TYPE T3\_1**

**DRAINAGE SERVICES DEPARTMENT**

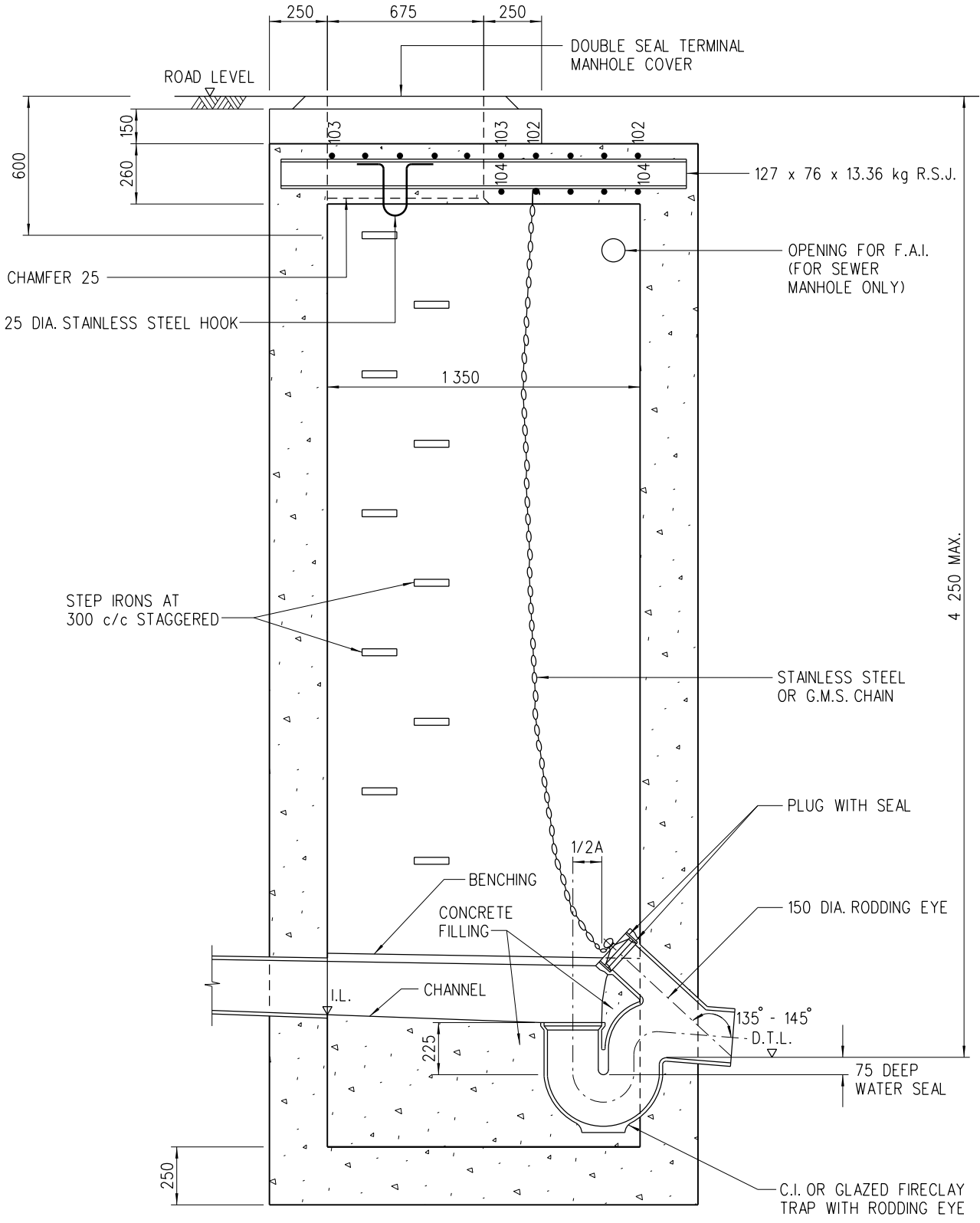
REFERENCE

DRAWING No.

SCALE

1 : 25

**DS 1092A**  
( SHEET 1 OF 3 )



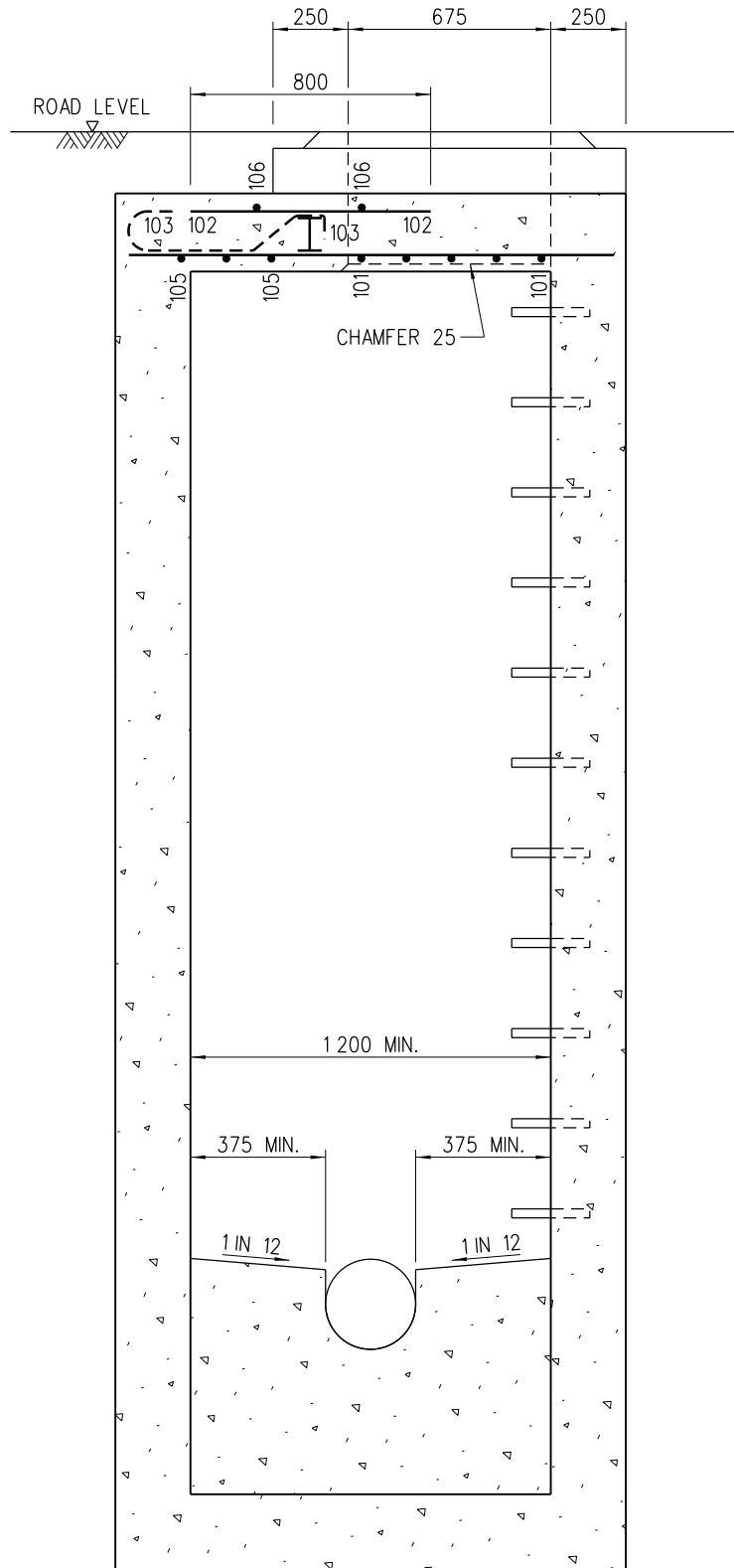
**SECTION A-A**

A	NOTE 17 ADDED	ORIGINAL SIGNED	2.8.2022
	NEW ISSUE	ORIGINAL SIGNED	13.1.2016
REV.	DESCRIPTION	SIGNATURE	DATE

**TERMINAL MANHOLE  
TYPE T3\_1**

**DRAINAGE SERVICES DEPARTMENT**

REFERENCE	DRAWING No.
SCALE 1 : 25	<b>DS 1092A</b> ( SHEET 2 OF 3 )



SECTION B-B

A	NOTE 17 ADDED	ORIGINAL SIGNED	2.8.2022
	NEW ISSUE	ORIGINAL SIGNED	13.1.2016
REV.	DESCRIPTION	SIGNATURE	DATE

TERMINAL MANHOLE  
TYPE T3\_1

**DRAINAGE SERVICES DEPARTMENT**

REFERENCE

DRAWING No.

SCALE

1 : 25

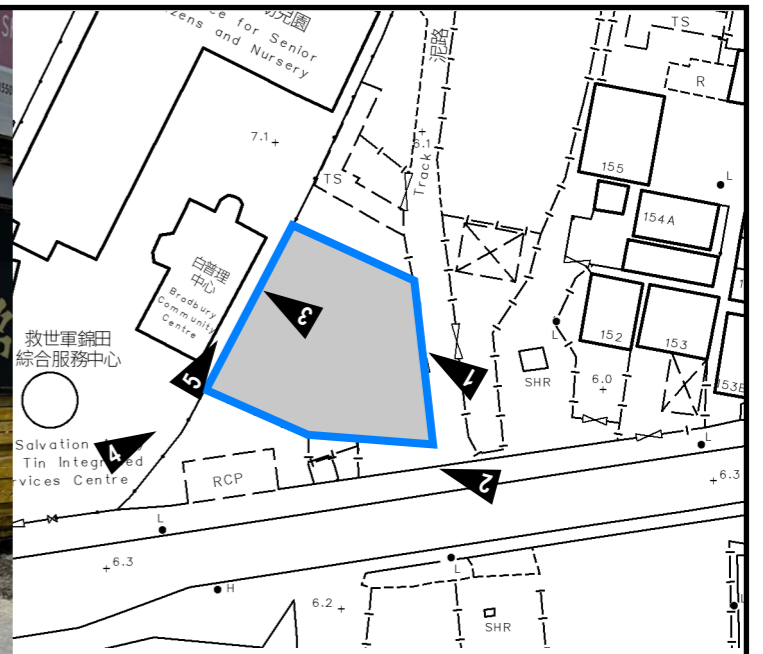
**DS 1092A**  
( SHEET 3 OF 3 )



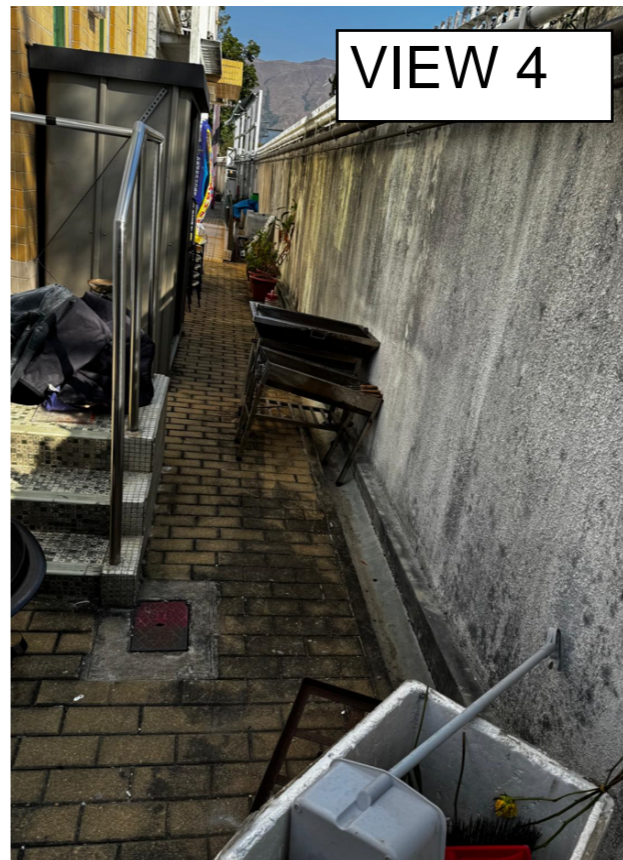
VIEW 1



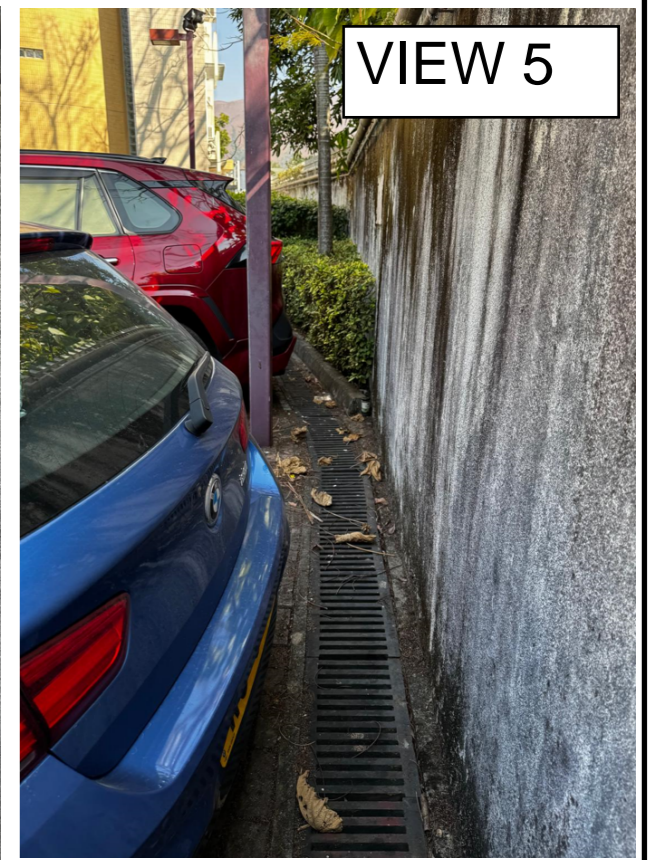
VIEW 2



VIEW 3



VIEW 4



VIEW 5

**PROJECT:**  
Temporary Shop and Services for a Period of 5 Years

**SITE PHOTOS**

**APPENDIX D**

**LOCATION:**  
Lot 283 S.A RP (Part) in D.D. 109, Kam Tin, Yuen Long, New Territories

VER	DESCRIPTION	DATE