

Comments from the Chief Engineer/Mainland North, Drainage Services Department:

(A) Specific Comments

Drawings (No.: D01, D03 and D04): The applicant should clarify discrepancy of site formation levels shown on the submitted drawings and review cover levels of the proposed drainage facilities. Also, the applicant should update cross sections to reflect existing and the proposed ground profile of application site and its adjacent areas. Proper surface channels should be provided at the lower platform and wall toe to collect the overland flow to/ from adjacent areas.

D01, D03 and D04 are revised accordingly.

(B) General Comments

All general comments are note.

The proposed use should neither obstruct overland flow nor adversely affect any existing natural streams, village drains, ditches and the adjacent areas, etc.

Where walls or hoarding are erected along the site boundary, adequate openings should be provided to intercept the existing overland flow passing through the site.

The existing drainage facilities, to which the applicant proposed to discharge the stormwater from the application site was not maintained by this office. The applicant should identify the owner of the existing drainage facilities and seek agreement from the owner prior to commencement of the proposed works. In the case that it is a local village drains, DO/YL should be consulted.

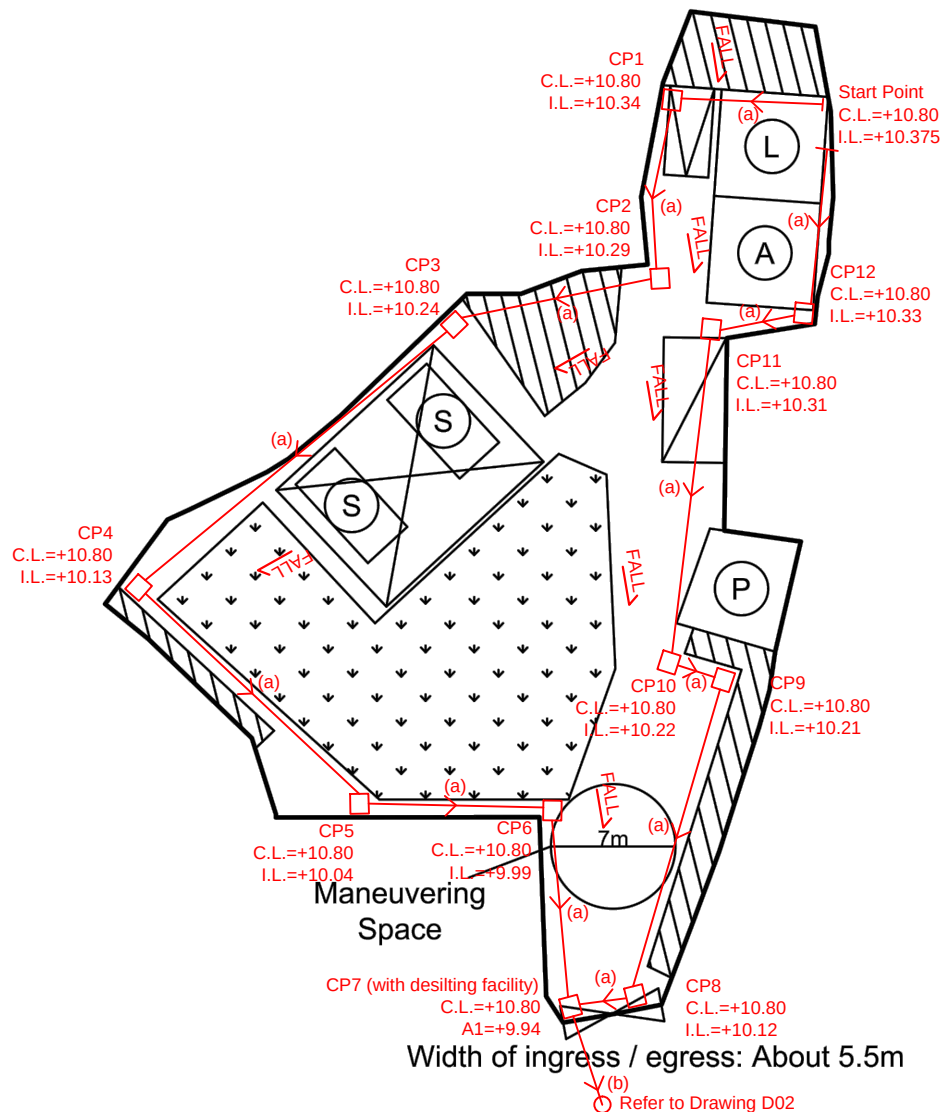
The applicant shall rectify the drainage system if they are found to be inadequate or ineffective during operation. The applicant shall also be liable for and shall indemnify claims and demands arising out of damage or nuisance caused by a failure of the drainage system.

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.

For the construction details of the proposed drainage facilities, reference should be made to current CEDD's standard drawings.

Connection of the proposed and existing drainage facilities shall be designed and constructed such that there is no water leakage at the proposed connection.

Connection to existing drainage facilities should be designed and constructed to prevent back flows at the drainage outlet when water level at the existing drainage facilities is high.



Note:

1. Catchpits (CP7) with desilting facility shall follow CEDD standard drawing No. C2406I.

2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.

3. No solid wall to be erected..

4. Minor filling works to be carried out to leveling the site. Existing Formation Level is from +10.40mPD to +10.62mPD. Proposed Formation Level is from +10.55mPD to +10.80mPD.

LEGEND

- CP Proposed CatchPit
- (a) Proposed 375UC (1:200) with Cast Iron Cover
- (b) Proposed 375mm dia. concrete pipe (1:100)
- △ FALL Fall Direction

恆協工程有限公司

HANDSHIP ENGINEERING COMPANY LIMITED

Project:
Temporary Animal Boarding Establishment for a Period of 5 Years and Filling of Land at Lot 1022 RP (Part) in D.D. 109, Kam Tin North, Yuen Long

(Application No.:A/YL-KTN/968)

Title:

Drainage Proposal - LAYOUT

D01

Drawn by:

DM

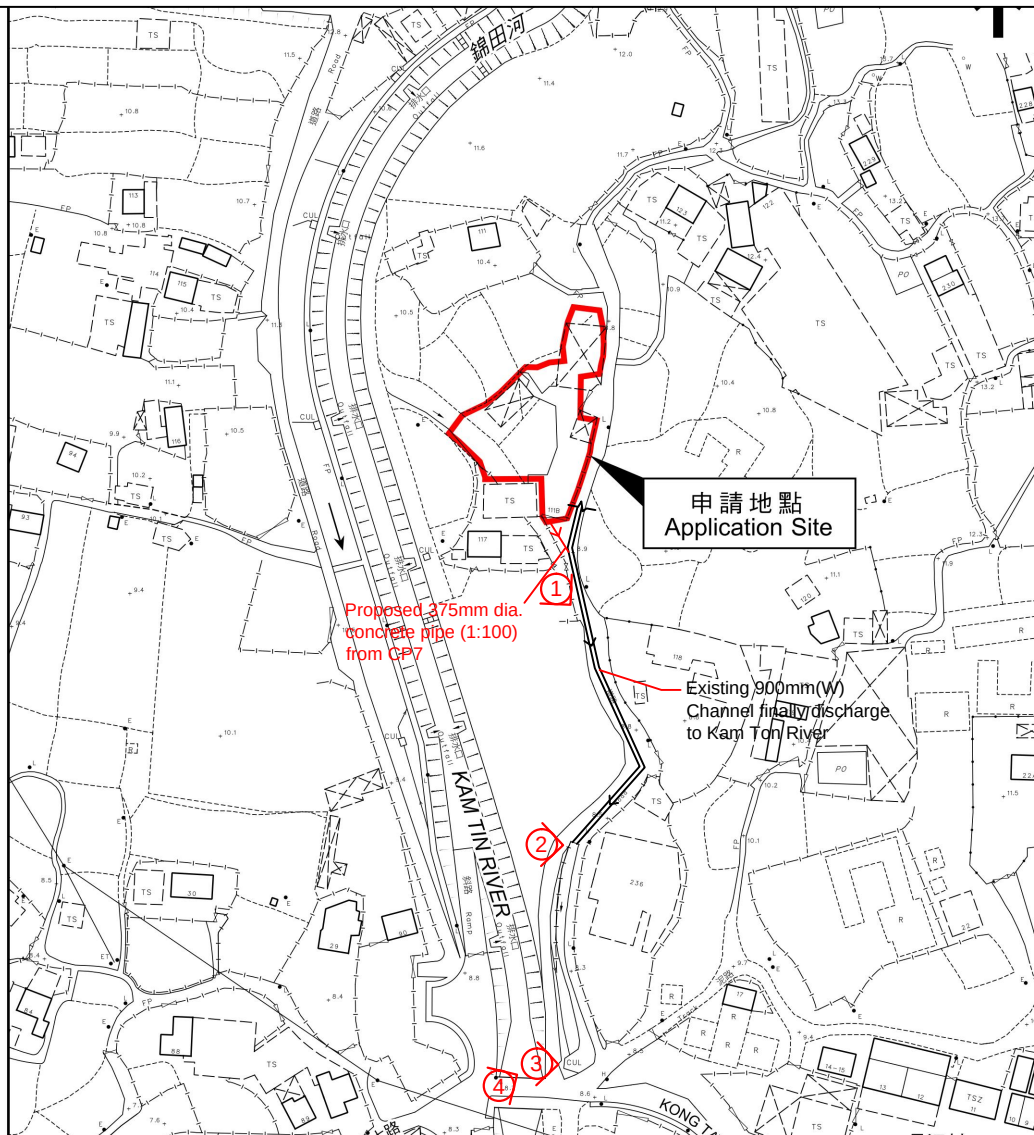
Date:

12-6-2026

Check by:

DM

Scale:

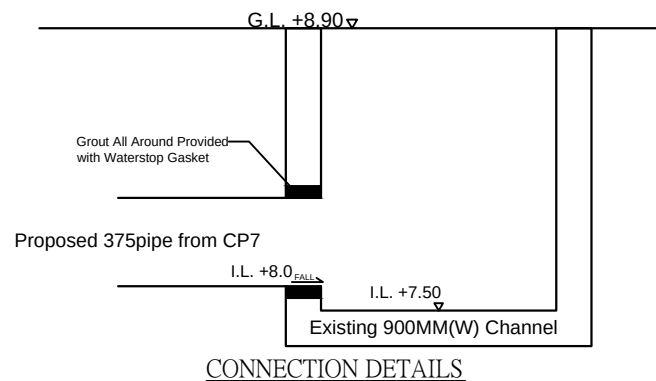


Note:

1. Catchpits (CP7) with desilting facility shall follow CEDD standard drawing No. C2406I.
2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
3. No solid wall to be erected..
4. Minor filling works to be carried out to leveling the site. Existing Formation Level is from +10.40mPD to +10.62mPD. Proposed Formation Level is from +10.55mPD to +10.80mPD.

LEGEND

- ☐ CP Proposed CatchPit
- (a) Proposed 375UC (1:200) with Cast Iron Cover
- (b) Proposed 375mm dia. concrete pipe (1:100)
- Existing 900mm(W) Channel
- FALL Fall Direction
- ① Photo Viewport



恆協工程有限公司

HANDSHIP ENGINEERING COMPANY LIMITED

Project
Temporary Animal Boarding Establishment for a Period of 5 Years
and Filling of Land at Lot 1022 RP (Part) in D.D. 109, Kam Tin
North, Yuen Long

(Application No.:A/YL-KTN/968)

Title:

Drainage Proposal - LAYOUT

D02

Drawn by:

DM

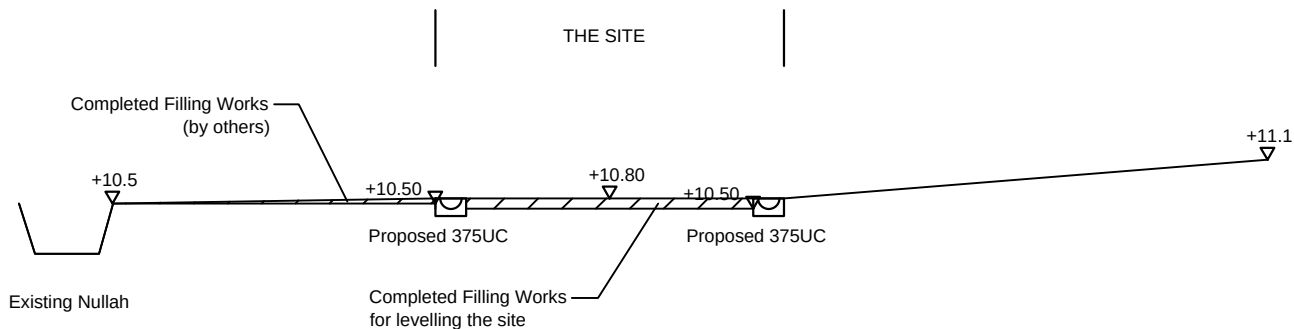
Date:

12-6-2026

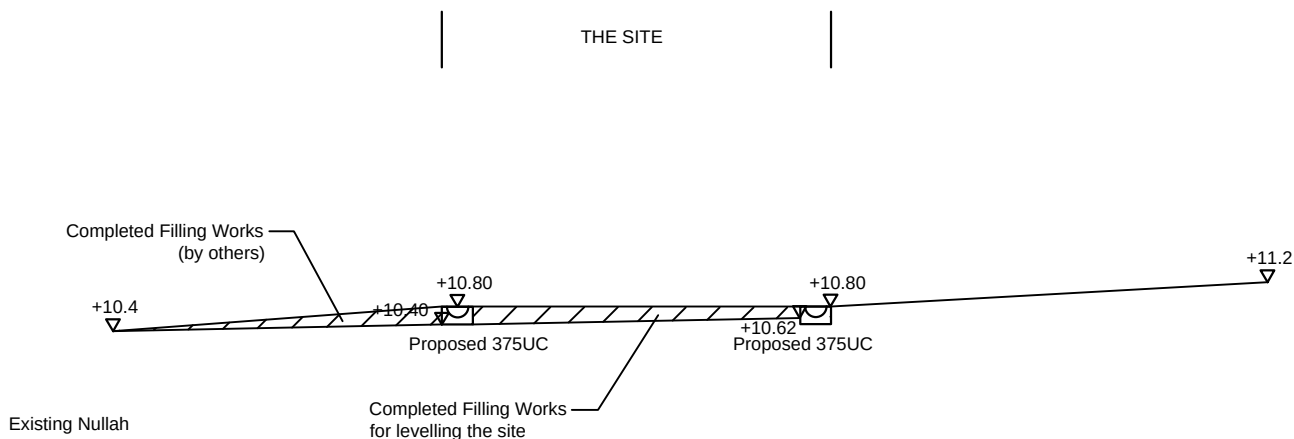
Check by:

DM

Scale:



SECTION A-A



SECTION B-B

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Project:
Temporary Animal Boarding Establishment for a Period of 5 Years
and Filling of Lot 1022 RP (Part) in D.D. 109, Kam Tin North, Yuen
Long

(Application No.:A/YL-KTN/968)

Title:

Drainage Proposal
SECTIONS

D04

Drawn by:

DM

Date:

12-6-2026

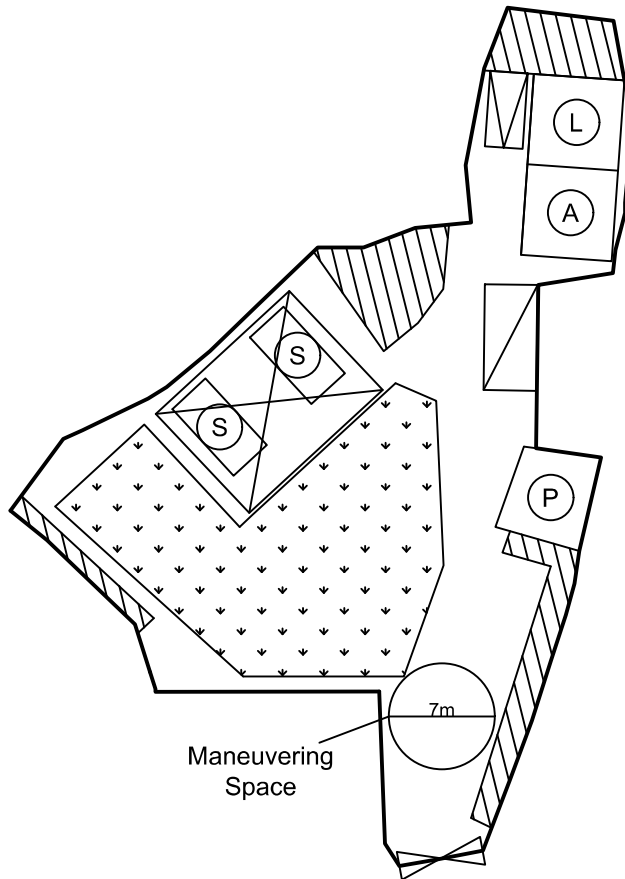
Check by:

DM

Scale:

Proposed Structures Details

	Structures	Gross Floor Area (GFA)	Height (Not Exceeding)	No. of Storey
A	Animal Boarding Establishment	About 6m x 6m = 36 m ²	3.5m	1
L	Ancillary Staff Lounge	About 6m x 6m = 36 m ²	3.5m	1
S	Ancillary Storage	About 3m x 6m x 2 = 36m ²	3.5m	1
✕	Canopy (On Top of Ancillary Storage)	About 12m x 9m = 108 m ²	4.5m	
	Total	About 180 m ²		
	Private Car Parking Space	5m x 2.5m	Unit(s): 1	
	LGV L/UL Space	7m x 3.5m	Unit(s): 1	



Width of ingress / egress: About 5.5m

Legend:

- ✕

Ingress/egress (Width: About 5.5m)
- ☐

Proposed Structures
- ▤

Private Car Parking Space
- ▥

LGV L/UL Space
- ▨

Tree Protection Zone
- ▩

Dog Function Area
- Ⓐ

Animal Boarding Establishment
- Ⓘ

Ancillary Staff Lounge
- Ⓟ

Fish Pond
- Ⓢ

Ancillary Storage
- ✕

Canopy

Total Area: 1,076.3 m² (About)
Covered Area: 180 m² (About)
Uncovered Area: 896.3 m² (About)
Non-Domestic GFA: 180 m² (About)
Nos. of Proposed Structures: 3

Appendix 2

Location: DD 109 Lot 1022 RP (Part)

OZP: S/YL-KTN/10
District: Kam Tin North
Zoning: Agriculture

Date: 11 December 2023

Proposed Layout Plan

擬議平面圖

擬議臨時動物寄養所連附屬設施
(為期5年)及填土

Proposed Temporary Animal Boarding
Establishment with Ancillary Facilities
For a Period of 5 Years and Filling of Land

SCALE

1:500

@A4

For Identification Only

Drawing No.:

2-01

PHOTO 1



PHOTO 2



Photo 3



Photo 4



Outside Catchment Area 1, Area = 1155 m² (C= 0.95)
 THE SITE, Area = 1076.3 m² (C= 0.95)

Calculation of Design Runoff of the Proposed Development,

For the design of drains inside the site, Catchment Area 1 + The Site

$$\Sigma Q = \Sigma 0.278 C i A$$

$$\begin{aligned} A &= 1155+1076.3 \quad \text{m}^2 \\ &= 2231.3 \\ &= 0.0022313 \quad \text{km}^2 \end{aligned}$$

$$\begin{aligned} t &= 0.14465 L/ H^{0.2} A^{0.1} \\ &= 0.14465*89/1^{0.2}*2231.3^{0.1} \\ &= 7.159 \quad \text{min} \end{aligned}$$

$$\begin{aligned} i &= 1.111*a/(t+b)^c \quad (50 \text{ yrs return period, Table 3a, Corrigendum 2024,} \\ &= 1.111*505.5/(7.159+3.29)^{0.355} \quad \text{SDM) and (11.1\% increase due to climate change)} \\ &= 244.2 \quad \text{mm/hr} \end{aligned}$$

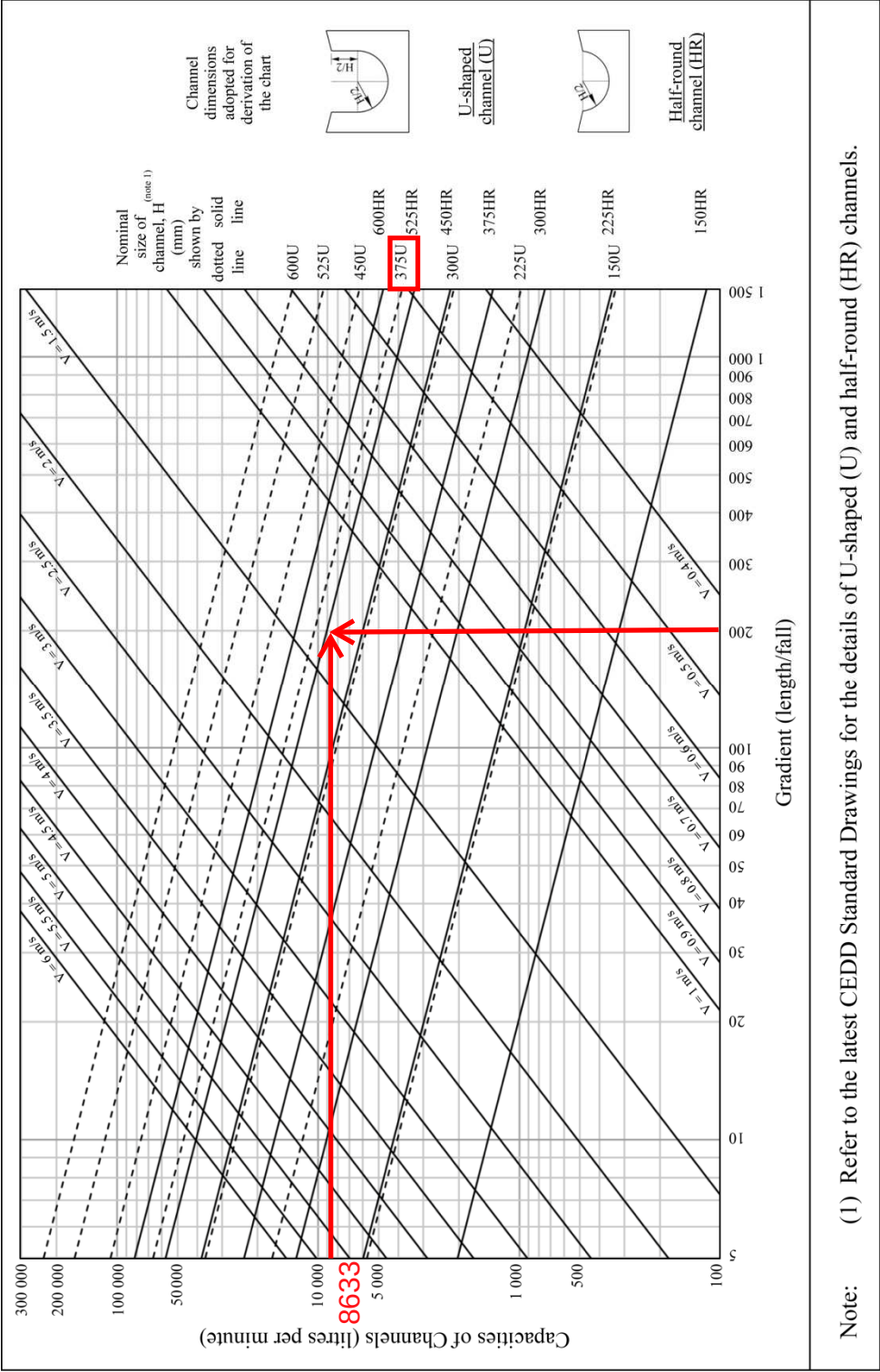
$$\begin{aligned} \text{Therefore, } Q &= 0.278*0.95*244.2*2231.3/1000000 \\ &= 0.1439 \quad \text{m}^3/\text{sec} \\ &= \underline{\underline{8633}} \quad \text{lit/min} \end{aligned}$$

Provide 375UC (1:200) is OK

GEO Technical Guidance Note No. 43 (TGN 43)
Guidelines on Hydraulic Design of U-shaped and Half-round Channels on Slopes

Issue No.: 1	Revision: -	Date: 05.06.2014	Page: 3 of 3
--------------	-------------	------------------	--------------

Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm



Check 375mm dia. Pipes by Colebrook-White Equation

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

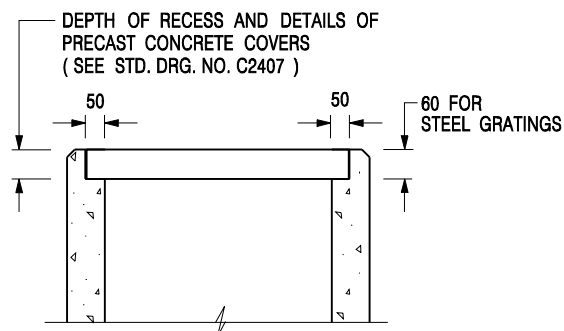
where :

V	=			mean velocity (m/s)
g	=	9.81	m/s ²	gravitational acceleration (m/s ²)
D	=	0.375	m	internal pipe diameter (m)
ks	=	0.00015	m	hydraulic pipeline roughness (m)
v	=	1.14E-06	m ² /s	kinematic viscosity of fluid (m ² /s)
s	=	0.01		hydraulic gradient

(Table 14, from DSD SDM 2018, concrete pipe)

Therefore, design V of pipe capacity = 2.0971 m/s

Q= 0.8VA (0.8 factor for sedimentation)
 = 0.185 m³/s
 = 11117.747 lit/min
 > 8633 lit/min Ok



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
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 /2A

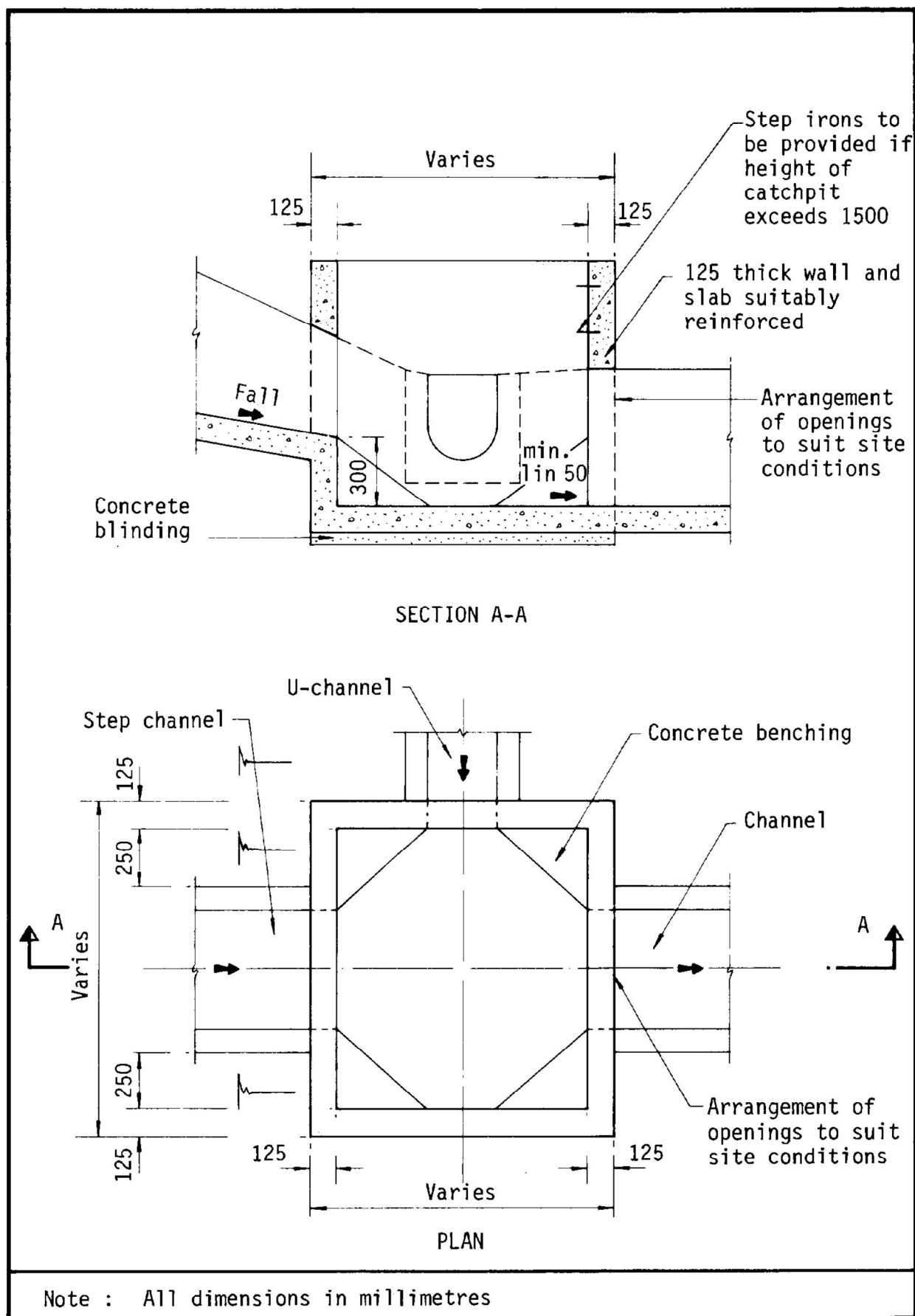
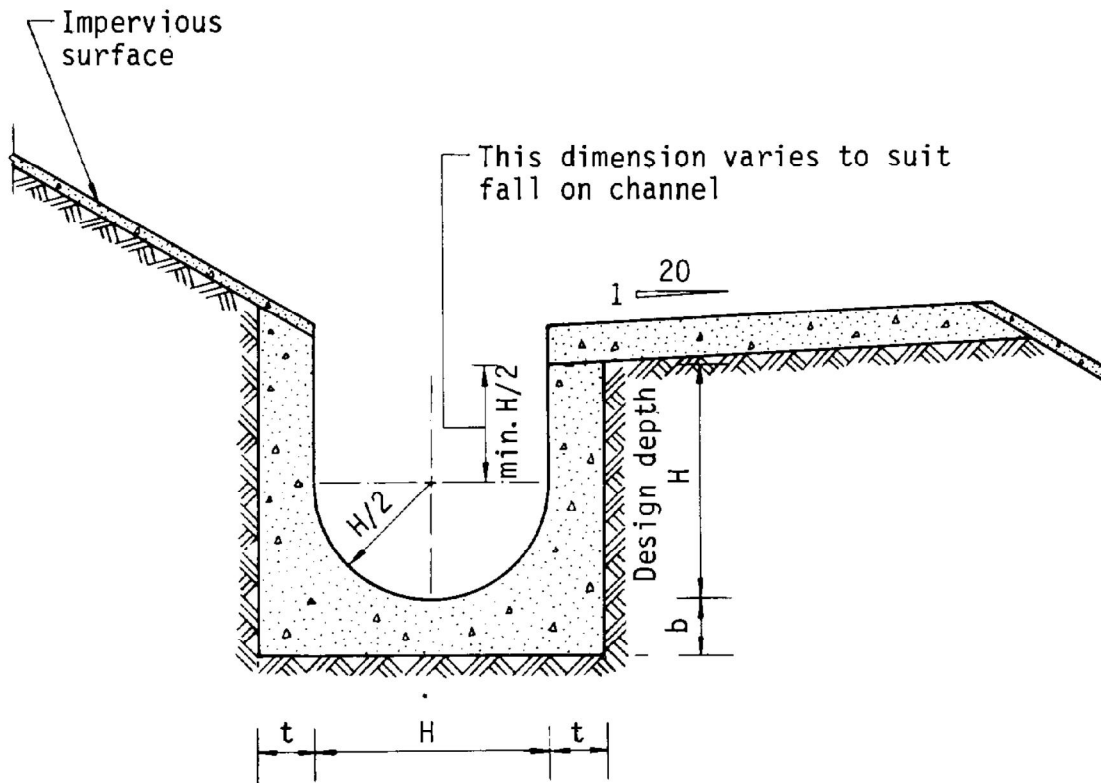


Figure 8.10 - Typical Details of Catchpits



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