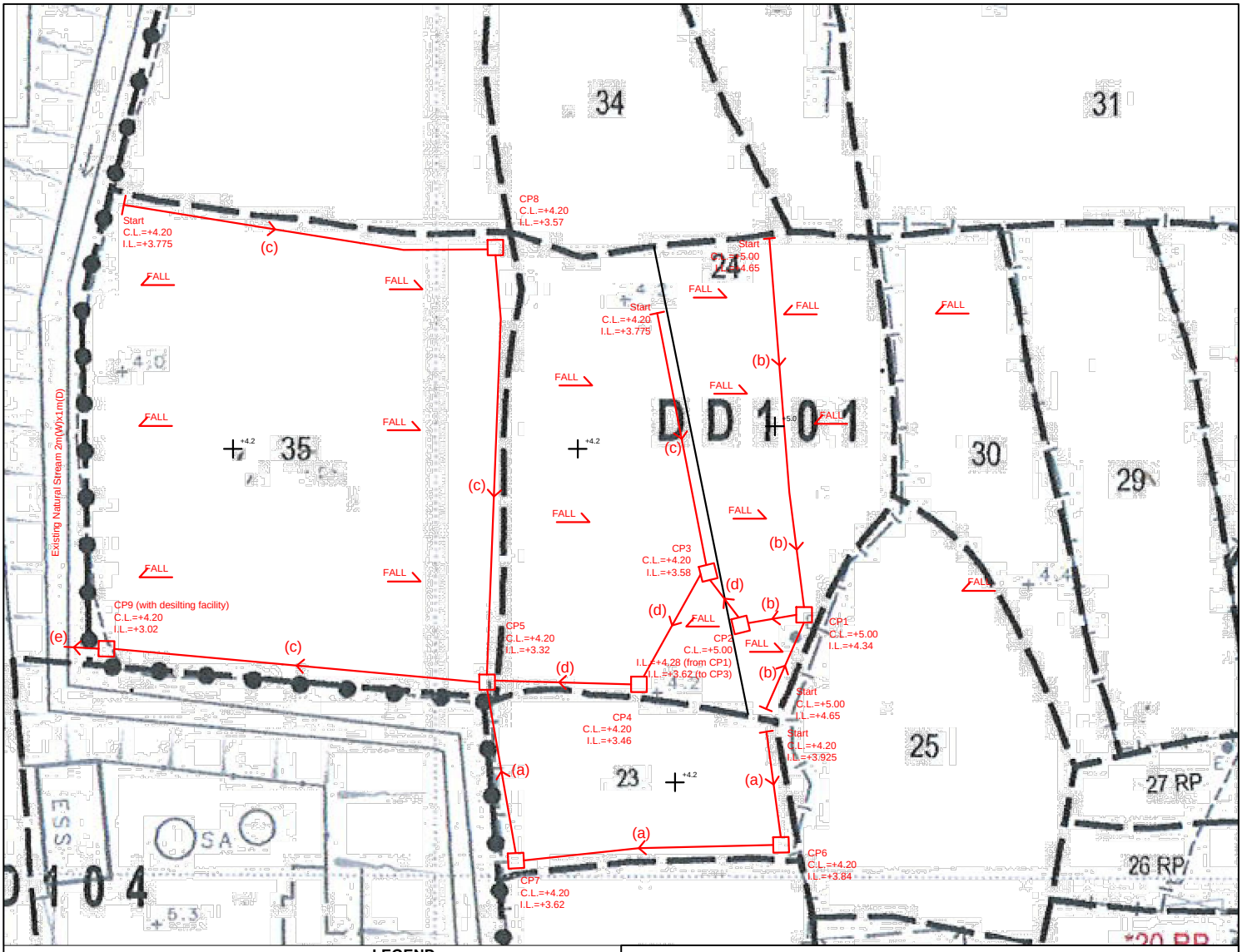
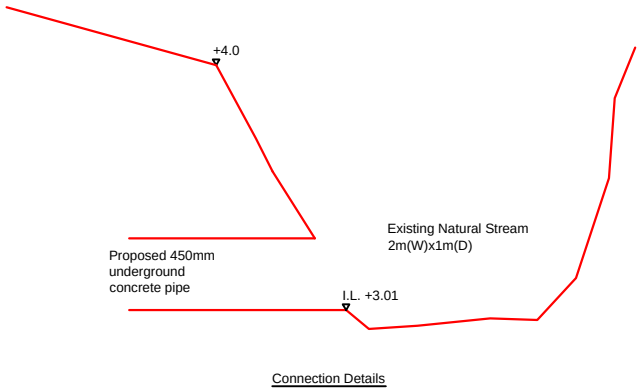


Note:

1. Catchpits (CP9) 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. The runoff generated from the site is orginally collected by the existing natural stream

LEGEND

CP	Proposed CatchPit
(a)	Proposed 225UC (1:100) with Cast Iron Cover
(b)	Proposed 300UC (1:100) with Cast Iron Cover
(c)	Proposed 375UC (1:100) with Cast Iron Cover
(d)	Proposed 375mm underground concrete pipe (1:100)
(e)	Proposed 450mm underground concrete pipe (1:100)
	Existing 2m(W)x1m(D) natural stream



Connection Details

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Title: Layout Plan

D01

Drawn by: DM

Date: 2–8–2024

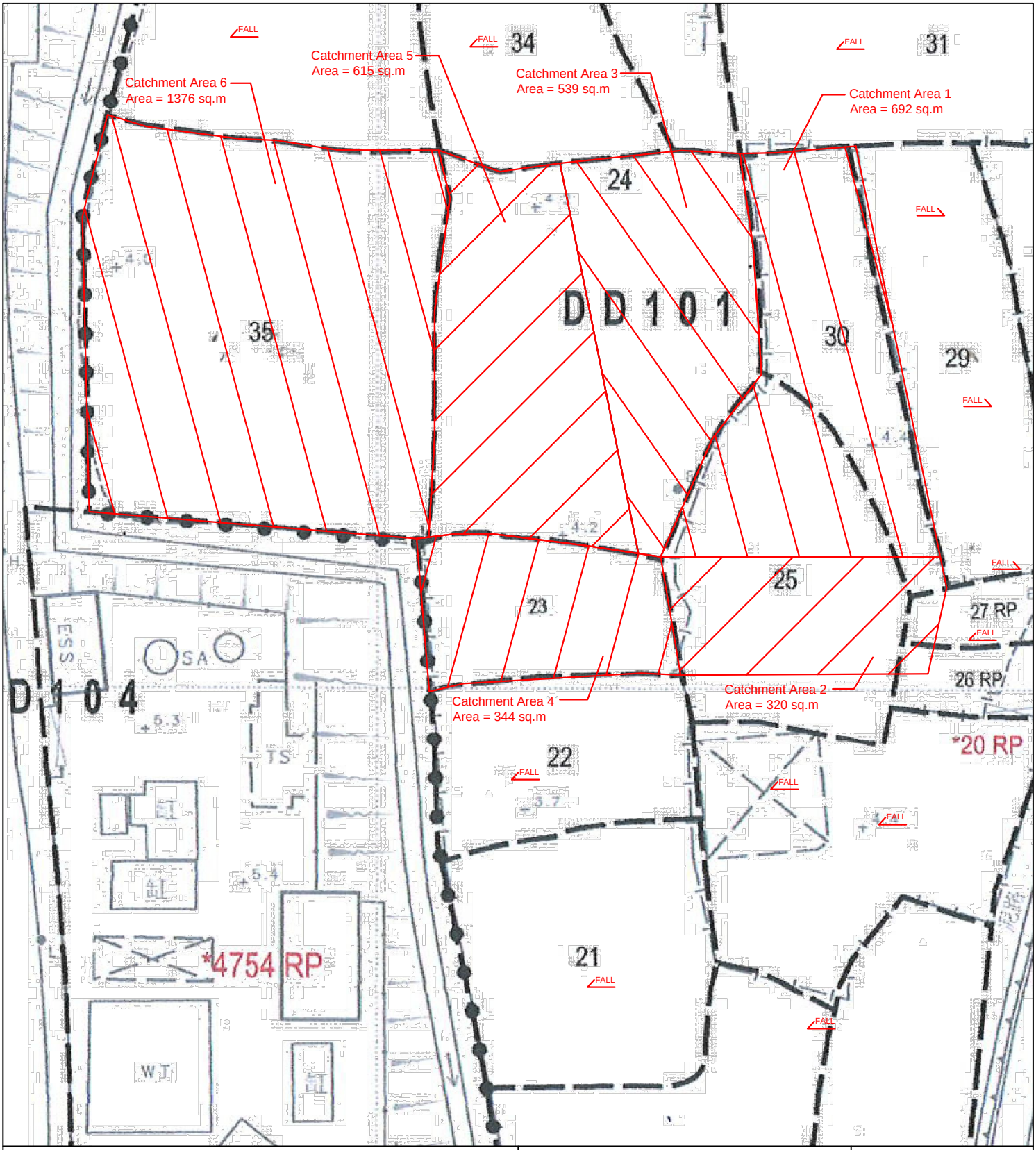
Check by: DM

Scale: ----

Project:

Proposed Temporary Place of Recreation, Sports or Culture (Hobby Farm) for a Period of 5 Years and Associated Excavation and Filling of Land at Lot 23, 24 and 35 in D.D. 101, Mai Po, Yuen Long, New Territories

(Application No.:A/YL-MP/374)



正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANTS CO.

Title: Catchment Area Plan

D02

Drawn by: DM

Date: 2-8-2024

Check by: DM

Scale: ----

Project:
Proposed Temporary Place of Recreation, Sports or Culture (Hobby Farm) for a Period of 5 Years and Associated Excavation and Filling of Land at Lot 23, 24 and 35 in D.D. 101, Mai Po, Yuen Long, New Territories

(Application No.:A/YL-MP/374)

Calculation of Q of Catchment Areas

Q = 0.278 C i A

	C	i (mm/hr)	A (m2)	Q (lit/min)
Catchment Area 1	0.95	250	692	2741
Catchment Area 2	0.95	250	320	1268
Catchment Area 3	0.95	250	539	2135
Catchment Area 4	0.95	250	344	1363
Catchment Area 5	0.95	250	615	2436
Catchment Area 6	0.95	250	1376	5451

Design Drain in the right portion of Lot 24

Q = Catchment Area 1 + Catchment Area 3

= 4877 lit/min

Provide 300UC (1:150) is OK

Design Drain in Lot 23

Q = Catchment Area 2 + Catchment Area 4

= 2630 lit/min

Provide 225UC (1:100) is OK

Design Drain in the left portion of Lot 24

Q = Catchment Area 1 + Catchment Area 3 + Catchment Area 5

= 7313 lit/min

Provide 375UC (1:100) is OK

Design Drain in Lot 35 (except CP5 to CP9)

Q = Catchment Area 6

= 5451 lit/min

Provide 300UC (1:150) is OK

Design Drain between CP5 to CP9

Q = Catchment Area (1+2+3+4+5+6)

= 15394 lit/min

Provide 375UC (1:100) is OK

Design Drain between CP3 and CP5

Q = Catchment Area 1 + Catchment Area 3 + Catchment Area 5
= 7313 lit/min

Manning Equation V = $R^{2/3}*S_f^{0.5}/n$

where R = $\pi r^2/2\pi r$ d= 0.375 m
= r/2 r= 0.1875 m
= 0.09 m

n = 0.012 $s/m^{1/3}$ (Table 13 of Stormwater Drainage Manual)

1/ 100 S_f = 0.0100

Therefore, V = $0.09^{2/3}*0.01^{0.5}/0.012$
= 1.72 m/sec

Maximum Capacity (Q_{max}) = 0.9*V*A (0.9 factor is adopted for Sedimentation)
= $0.9*1.72*\pi r^2$
= 0.171 m^3/sec
1 nos of pipe = 0.171 m^3/sec
= 10257 lit/min
> 7313 lit/min

Provide 375 underground pipe (1:100) is OK

Design Drain between CP5 to CP9 (pipe final outfall)

Q = Catchment Area (1+2+3+4+5+6)
= 15394 lit/min

Manning Equation V = $R^{2/3}*S_f^{0.5}/n$

where R = $\pi r^2/2\pi r$ d= 0.45 m
= r/2 r= 0.225 m
= 0.11 m

n = 0.012 $s/m^{1/3}$ (Table 13 of Stormwater Drainage Manual)

1/ 100 S_f = 0.0100

Therefore, V = $0.09^{2/3}*0.0067^{0.5}/0.012$
= 1.94 m/sec

Maximum Capacity (Q_{max}) = 0.9*V*A (0.9 factor is adopted for Sedimentation)
= $0.9*1.40*\pi r^2$
= 0.278 m^3/sec
1 nos of pipe = 0.278 m^3/sec
= 16679 lit/min
> 15394 lit/min

Provide 450 underground pipe (1:100) is OK

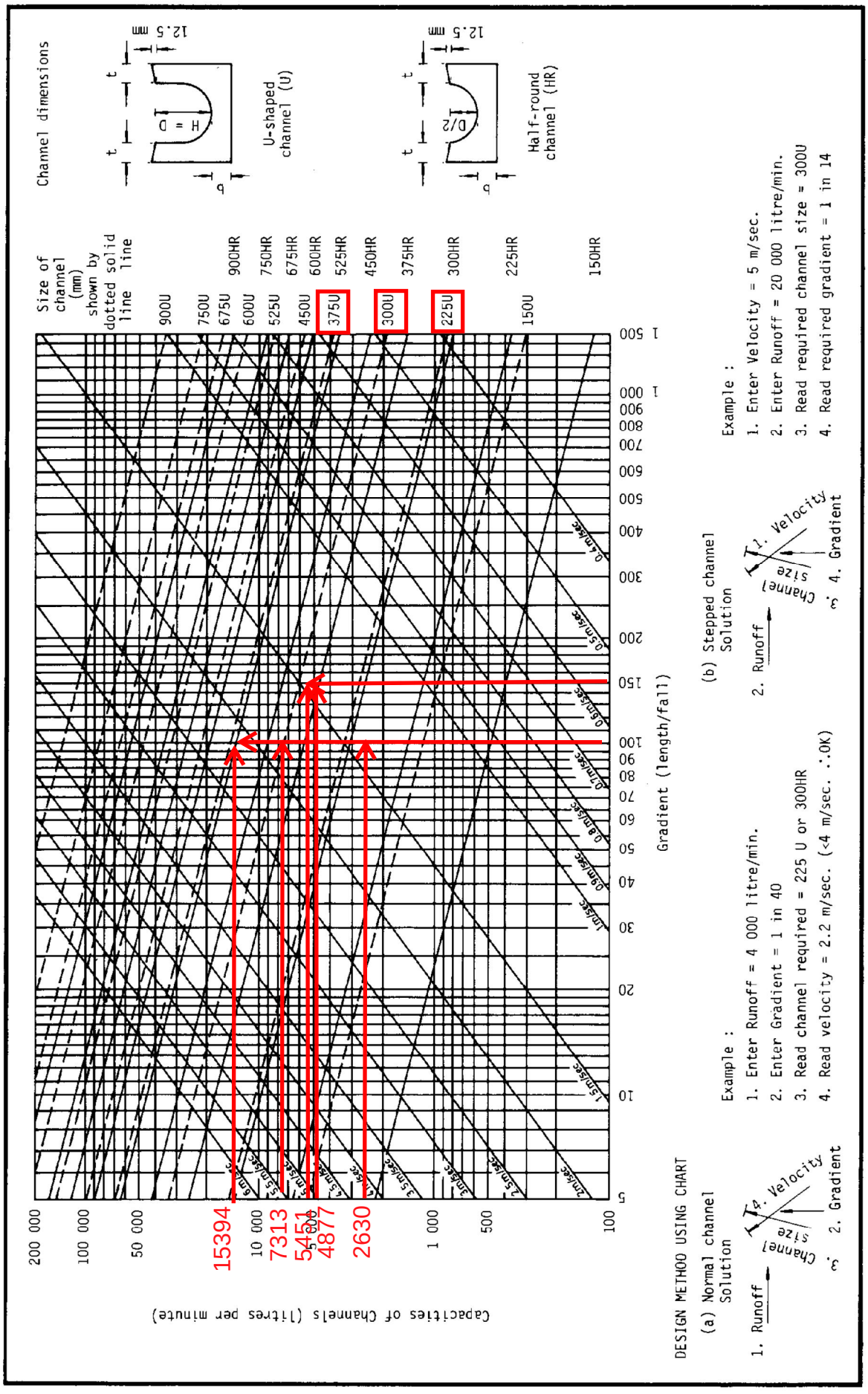
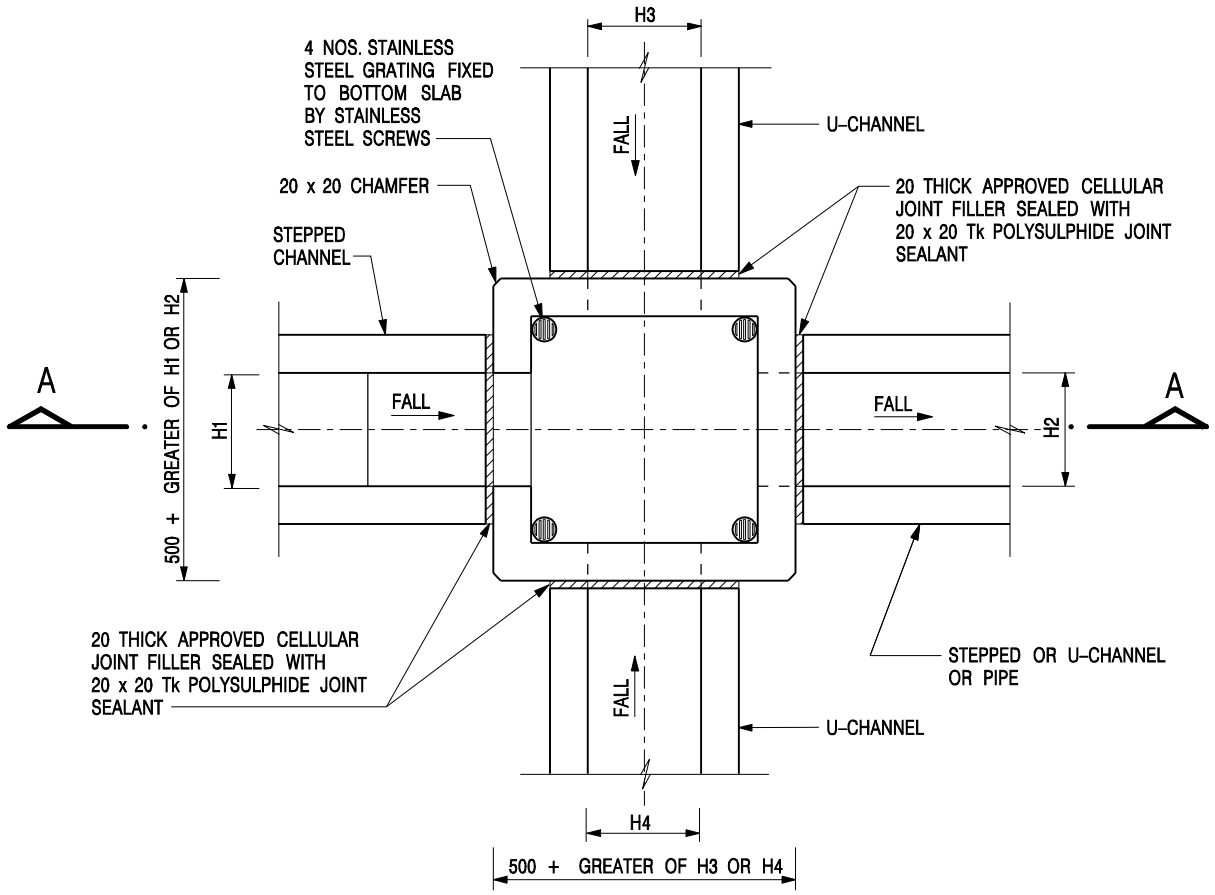
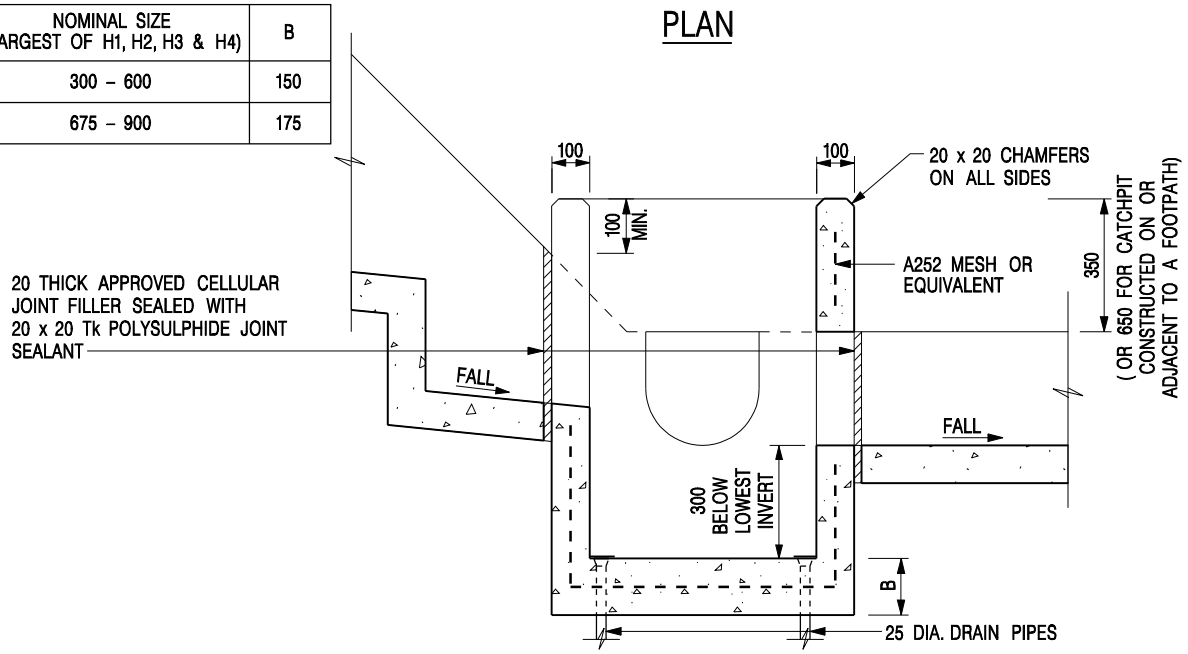


Figure 8.7 - Chart for the Rapid Design of Channels



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

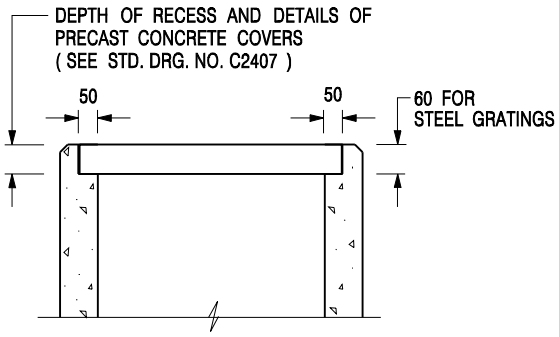
(SHEET 1 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2406 /1



ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS

NOTES:

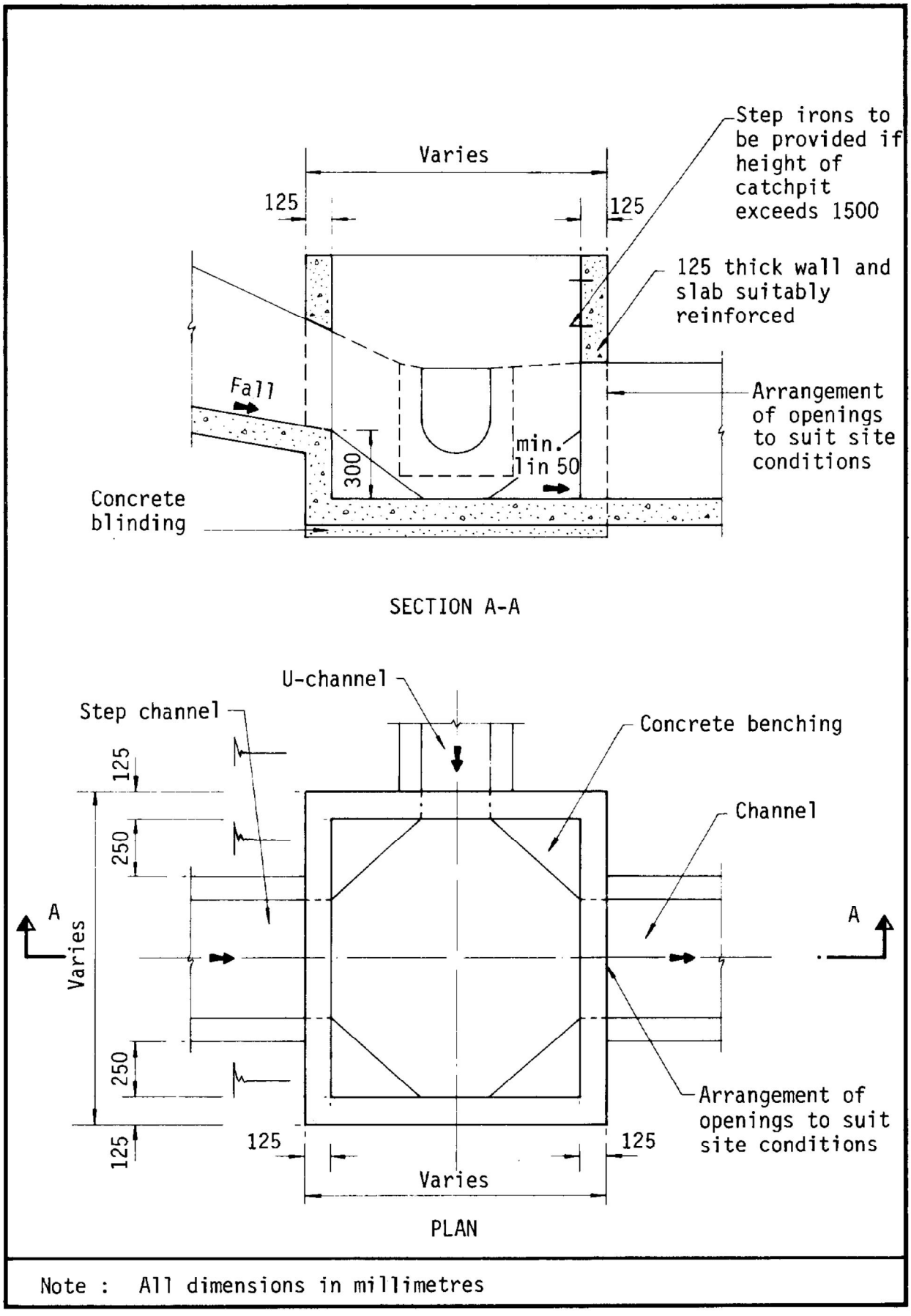
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. UNLESS REQUESTED BY THE MAINTENANCE PARTY AND AS DIRECTED 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 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 'F' ON STD. DRG. NO. C2405.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

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

CATCHPIT WITH TRAP
(SHEET 2 OF 2)

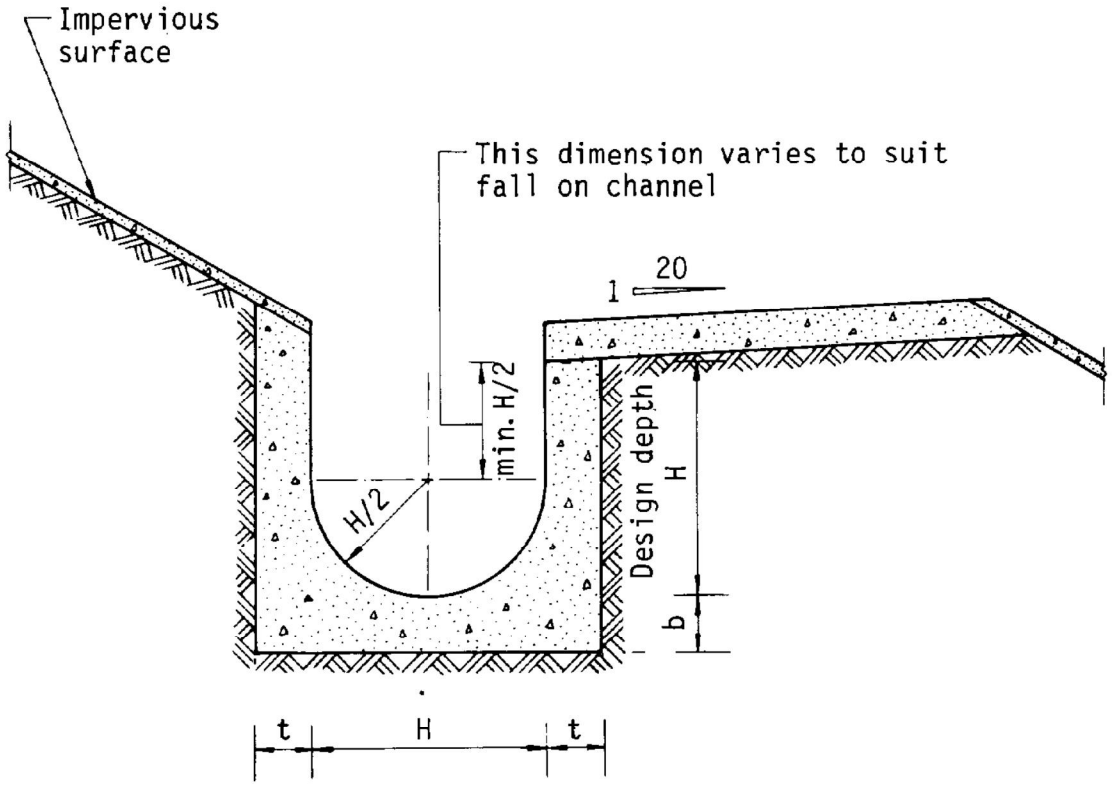
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20	DRAWING NO. C2406 /2
DATE JAN 1991	



Note : All dimensions in millimetres

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