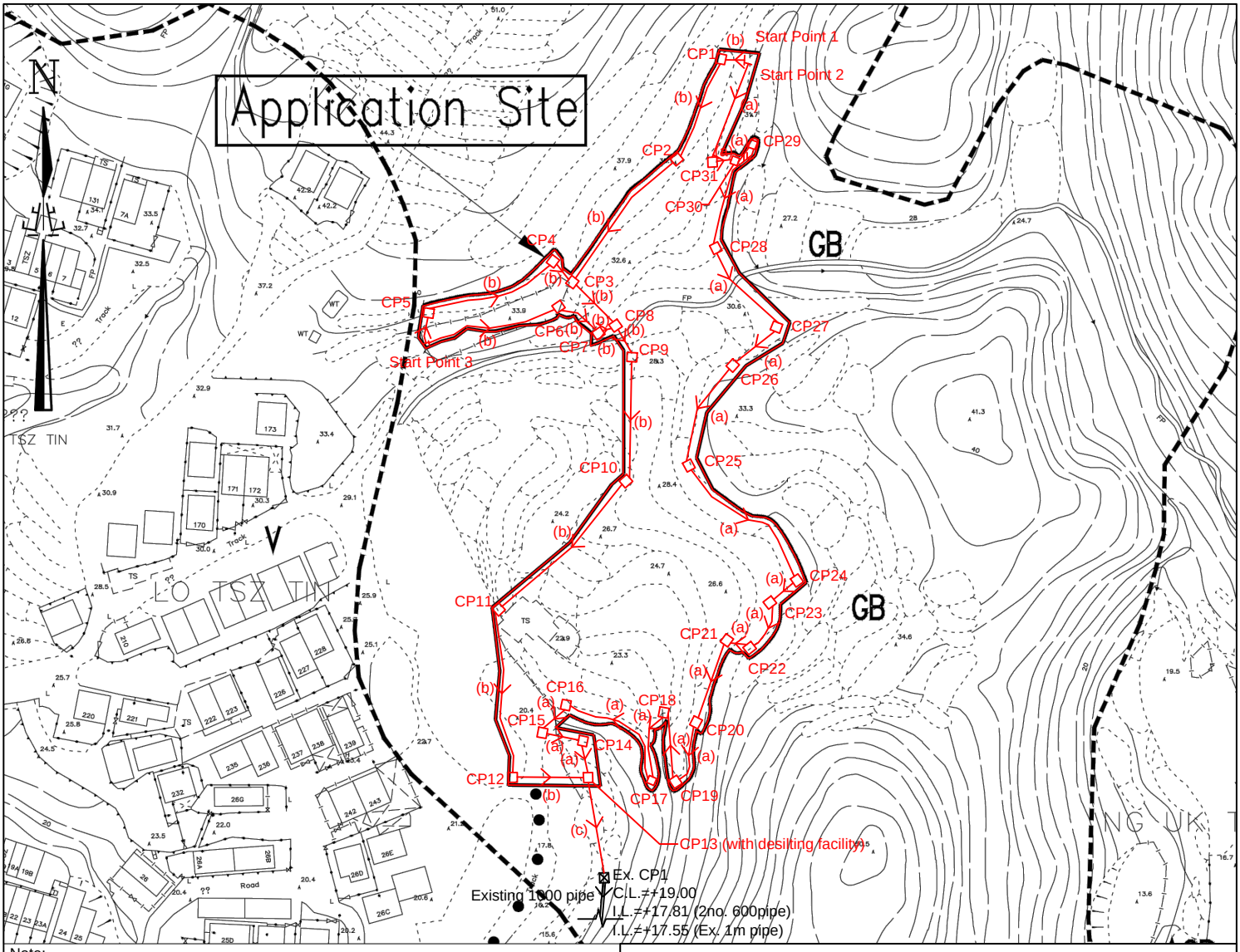


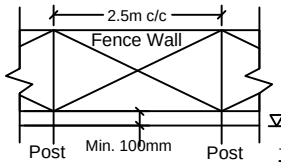
Note:

1. Catchpits (CP13) 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.

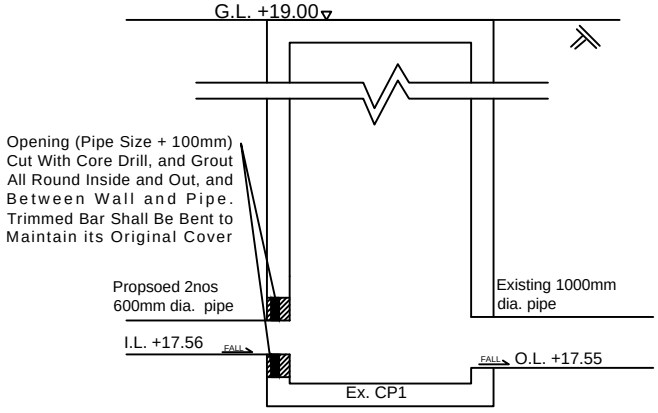
3. Open-bottom type Fence Wall to be erected.

4. No site formation works/ massive land filling works to be carried out. Minor filling works to be carried to leveling the site.



TYPICAL DETAIL OF OPEN-BOTTOM TYPE FENCE WALL

☐CP	Proposed CatchPit
☒CP	Existing CatchPit
(a)	Proposed 450UC (1:100) with Cast Iron Cover
(b)	Proposed 600mm dia. concrete pipe (1:100)
(c)	Proposed 2nos. 600mm dia. concrete pipe (1:100)
	Existing 1000 pipe



CONNECTION DETAILS

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Title: Drainage Proposal - LAYOUT

D01

Drawn by: DM

Date: 14–3–2026

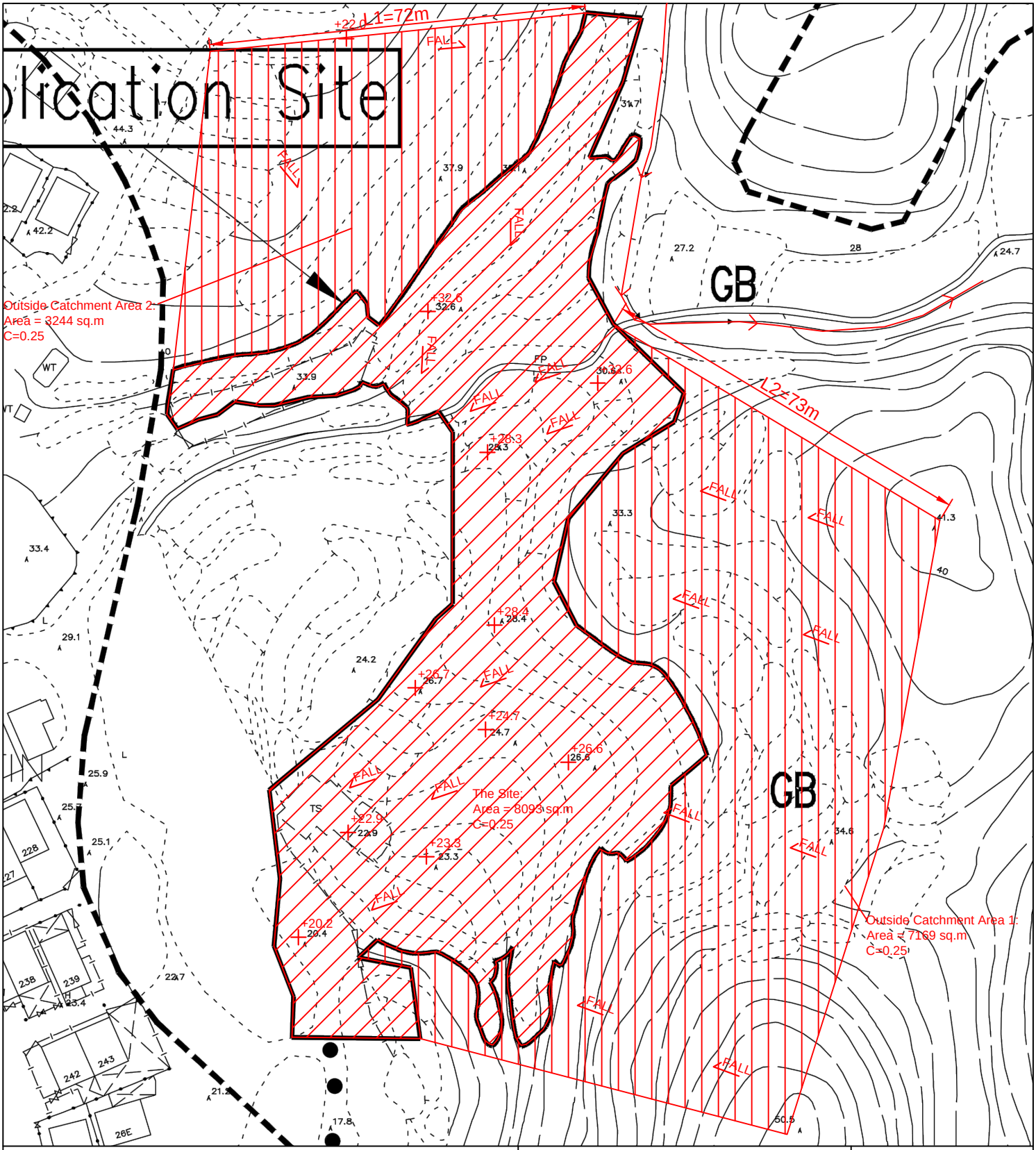
Check by: DM

Scale: ————

Project:

Proposed Filling and Excavation of Land for the Permitted Agricultural use Part of Lots 1517，1525，1535，1536，1538，1540、1545，1553，1554，1575，1576，1581，1582，1584，1585，1586，1587 and 1588. Whole Lot of Lots 1518，1526，1539，1541，1542RP，1543，1544，1571S.A，1571S.B，1572，1574，1577，1578，1579，1580 in D.D.17 and Adjoining Government Land, Ting Kok, Tai Po, New Territories

(Application No.:)



正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Title:

Drainage Proposal -
CATCHEMTN AREA PLAN

D02

Drawn by:

DM

Date:

14–3–2026

Check by:

DM

Scale:

– – – –

Project:

Proposed Filling and Excavation of Land for the Permitted Agricultural use Part of Lots 1517, 1525, 1535, 1536, 1538, 1540, 1545, 1553, 1554, 1575, 1576, 1581, 1582, 1584, 1585, 1586, 1587 and 1588. Whole Lot of Lots 1518, 1526, 1539, 1541, 1542RP, 1543, 1544, 1571S.A, 1571S.B, 1572, 1574, 1577, 1578, 1579, 1580 in D.D.17 and Adjoining Government Land, Ting Kok, Tai Po, New Territories

(Application No.:)

Start Point		
Start Point	C.L.	I.L.
Start Point 1	+32.00	+31.350
Start Point 2	+32.00	+31.500
Start Point 3	+34.00	+33.350

Catchpit Schedule		
Catchpit Number	C.L.	I.L.
CP1	+32.00	+31.300
CP2	+32.00	+31.033
CP3	+32.00	A1:+31.297, A2:+30.628, X1:+30.628
CP4	+32.00	+31.350
CP5	+34.00	+33.281
CP6	+31.00	+30.350
CP7	+29.00	+28.350
CP8	+28.50	A1:+27.850, A2:+27.850, X1:+27.850
CP9	+28.00	+27.350
CP10	+28.00	+27.042
CP11	+23.30	+22.650
CP12	+19.00	+18.350
CP13	+19.00	A1:+18.175, A2:+18.500, X1:+17.794
CP14	+20.00	+19.017
CP15	+20.00	+19.102
CP16	+20.00	+19.177
CP17	+20.00	+19.500
CP18	+22.00	+21.500
CP19	+23.00	+22.500
CP20	+24.00	+23.293
CP21	+24.00	+23.500
CP22	+25.00	+24.500
CP23	+26.00	+25.500
CP24	+26.60	+26.100
CP25	+28.00	+27.500
CP26	+29.00	+28.500
CP27	+30.00	+28.881
CP28	+30.00	+29.131
CP29	+30.00	+29.414
CP30	+30.00	+29.462
CP31	+30.00	+29.500

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Title:

Drainage Proposal -
Catcpit Schdule

D03

Drawn by:

DM

Date:

14–3–2026

Check by:

DM

Scale:

––––

Project:

Proposed Filling and Excavation of Land for the Permitted Agricultural use Part of Lots 1517，1525，1535，1536，1538，1540、1545，1553，1554，1575，1576，1581，1582，1584，1585，1586，1587 and 1588. Whole Lot of Lots 1518，1526，1539，1541，1542RP，1543，1544，1571S.A，1571S.B，1572，1574，1577，1578，1579，1580 in D.D.17 and Adjoining Government Land, Ting Kok, Tai Po, New Territories

(Application No.:)

Outside Catchment Area 1, Area	= 7169	m^2	(C= 0.25)	
Outside Catchment Area 2, Area	= 3244	m^2	(C= 0.25)	
THE SITE, Area	= 8093	m^2	(C= 0.95)	

Calculation of Design Runoff of the Proposed Development,
For the design of drains at the westerm boundary of the site, Outside Catchment Area 2+ The Site

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

$A = 3244+8093 = 11337 = 0.011337$ m^2 / km^2

$t = 0.14465\ L1/\ H^{0.2}A^{0.1}$
$= 0.14465*72/1^{0.2}*11337^{0.1}$
$= 4.095$ min

$i = 1.16*a/(t+b)^c$ (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (11.1% increase due to climate change)
$= 1.16*505.5/(4.095+3.29)^{0.355}$
$= 288.4$ mm/hr

Therefore, $Q = 0.278*0.25*288.4*0.003244+0.278*0.95*288.4*0.008093$
$= 0.8250$ m^3/sec
$= \underline{49500}$ lit/min

Provide 600UC (1:100) is OK

Calculation of Design Runoff of the Proposed Development,
For the design of drains at the easterm boundary of the site, Outside Catchment Area 1

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

$A = 7169 = 7169 = 0.007169$ m^2 / km^2

$t = 0.14465\ L2/\ H^{0.2}A^{0.1}$
$= 0.14465*73/1^{0.2}*7169^{0.1}$
$= 4.346$ min

$i = 1.16*a/(t+b)^c$ (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (11.1% increase due to climate change)
$= 1.16*505.5/(4.346+3.29)^{0.355}$
$= 284.9$ mm/hr

Therefore, $Q = 0.278*0.25*284.9*0.007169$
$= 0.1420$ m^3/sec
$= \underline{8518}$ lit/min

Provide 450UC (1:100) is OK

For Outfall

$\Sigma Q = 49500 + 8518$
$= \underline{58018}$ lit/min

Provide 2nos 600mm dia. concrete pipe (1:100) is OK

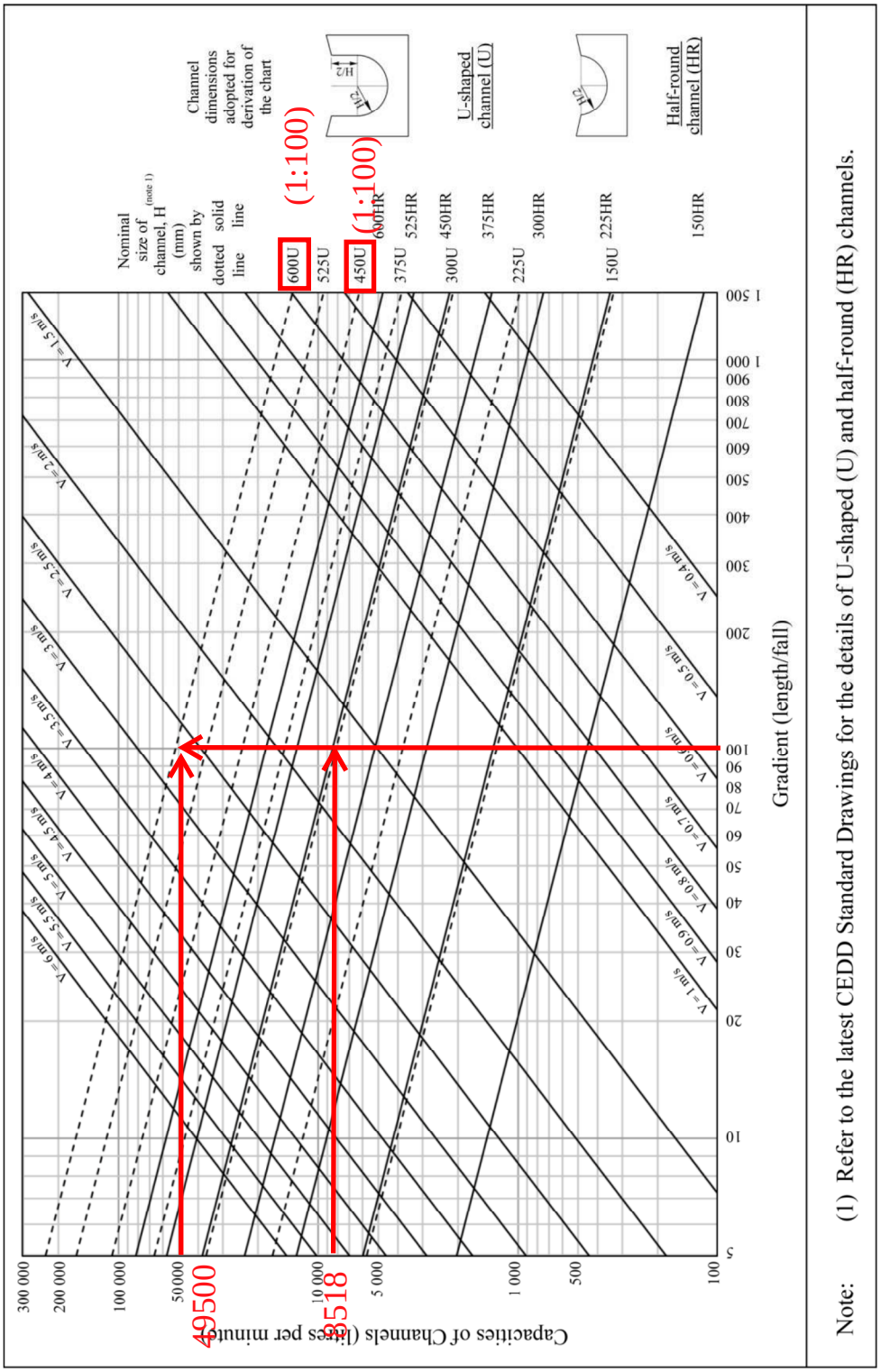


Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm

Note: (1) Refer to the latest CEDD Standard Drawings for the details of U-shaped (U) and half-round (HR) channels.

Check 2nos. 600mm 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/s2	gravitational acceleration (m/s2)	
D	=	0.6	m	internal pipe diameter (m)	
ks	=	0.0006	m	hydraulic pipeline roughness (m)	(Table14, from DSD SDM 2018, concrete pipe)
v	=	1.14E-06	m2/s	kinematic viscosity of fluid (m2/s)	
s	=	0.01		hydraulic gradient	

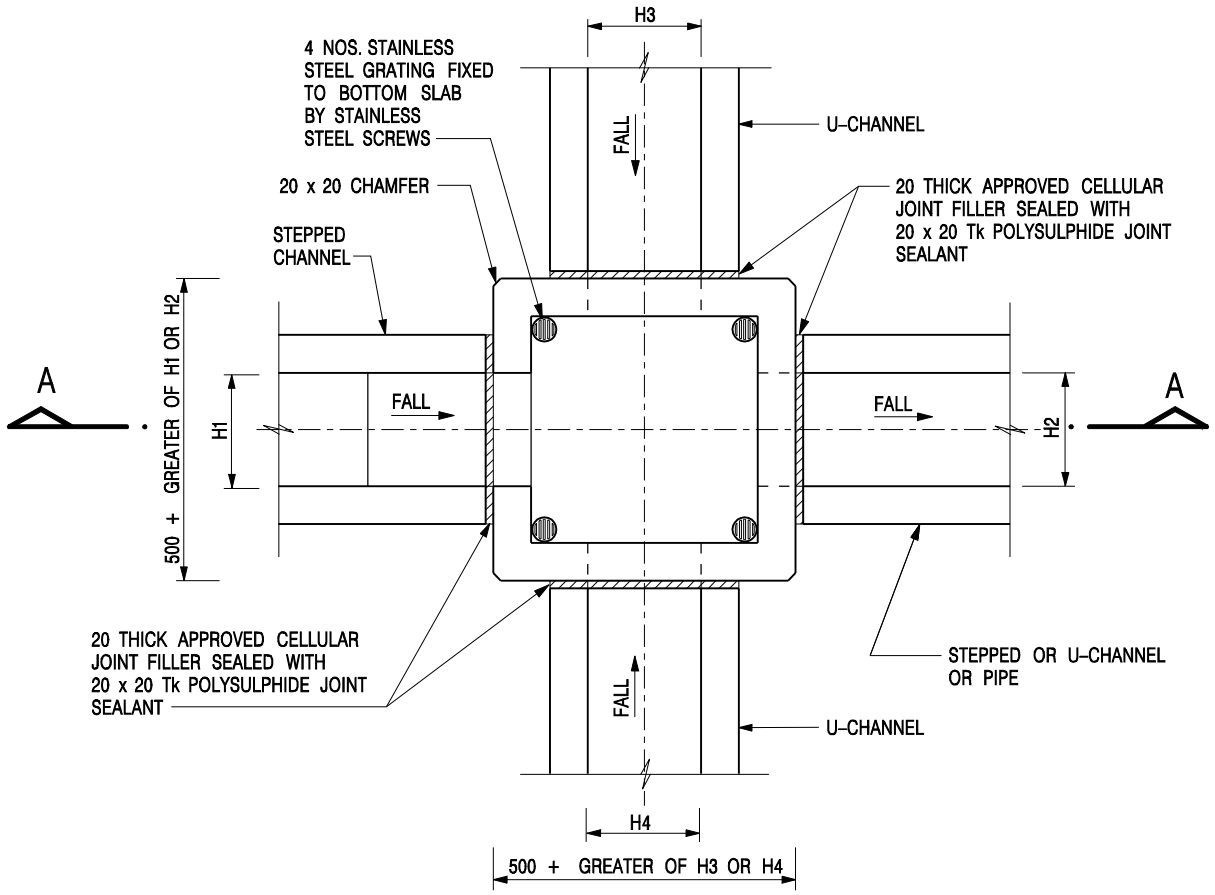
Therefore, design V of pipe capacity = 2.4336 m/s

Q= 2*0.8VA (0.8 factor for sedimentation)

= 1.101 m3/s

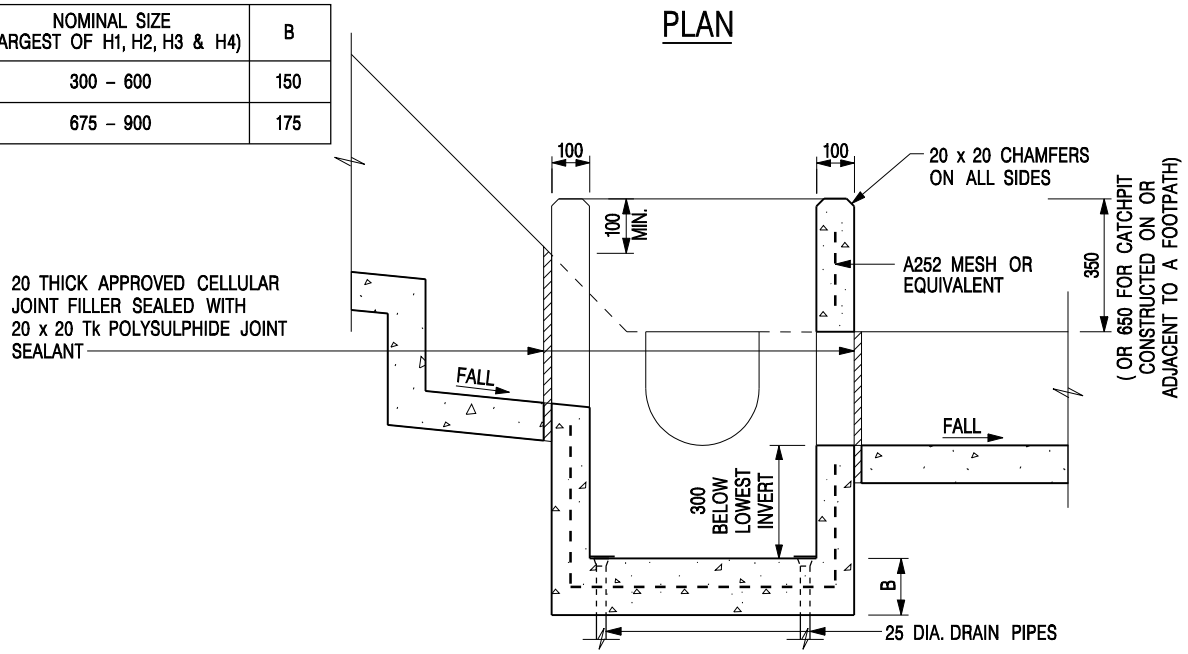
= 66056 lit/min

> 58018 lit/min Ok



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

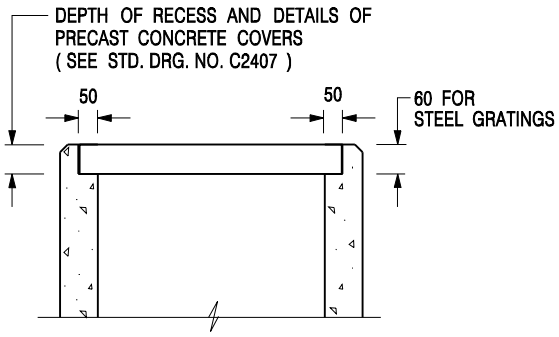
(SHEET 1 OF 2)

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 /2) OR CONCRETE COVERS (SEE STD. DRG. NO. C2407) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
9. IF INSTRUCTED BY THE ENGINEER, HANDRAILING (SEE DETAIL 'J' ON STD. DRG. NO. C2405 /5; EXCEPT ON THE UPSLOPE SIDE) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
10. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS (SEE DSD STD. DRG. NO. DS1043) AT 300 c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
11. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON STD. DRG. NO. C2405 /4.
12. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

REF.	REVISION	SIGNATURE	DATE
A	MINOR AMENDMENT.	Original Signed	04.2016
–	FORMER DRG. NO. C2406J.	Original Signed	03.2015

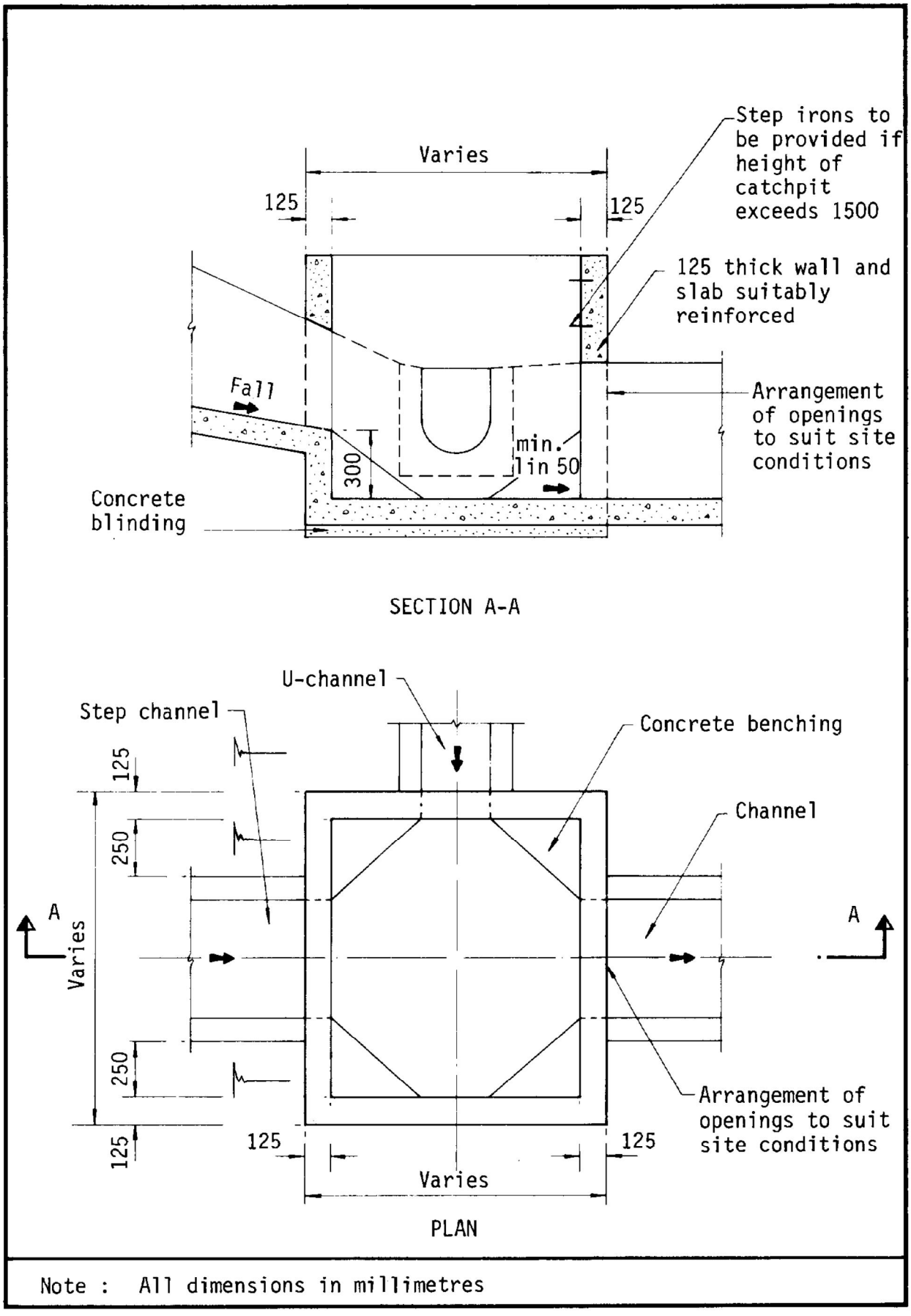
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

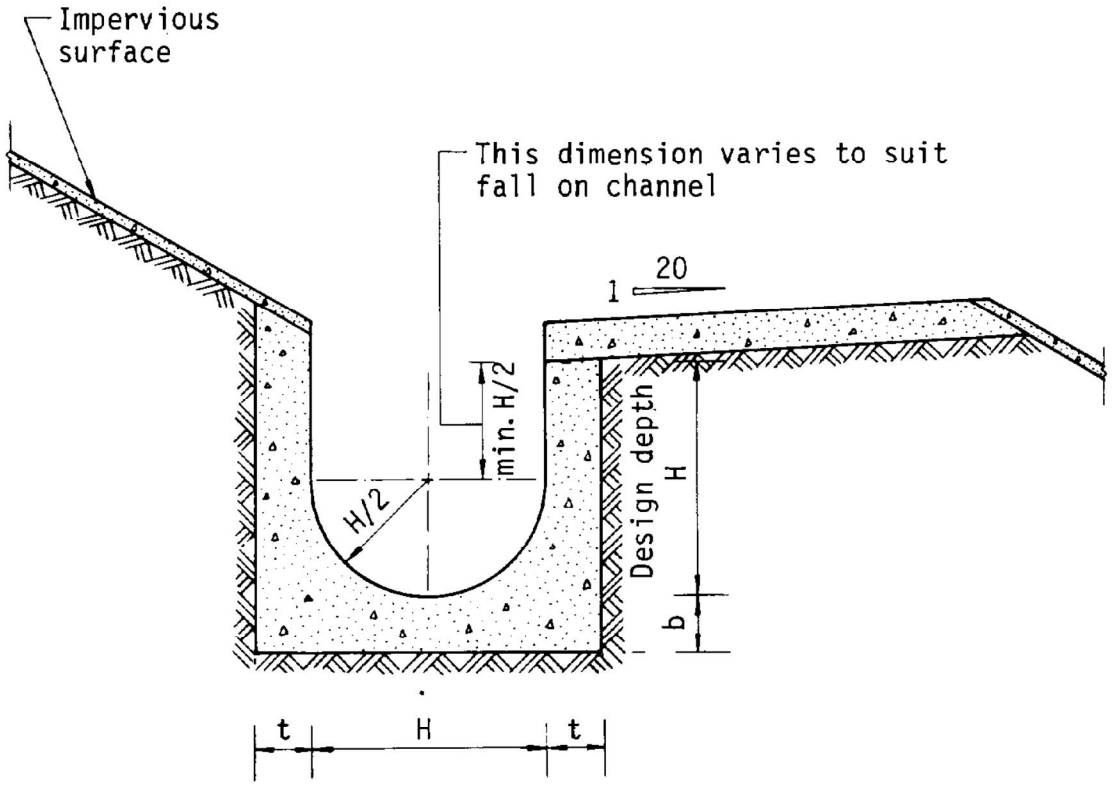
DATE JAN 1991

DRAWING NO. C2406 /2A



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