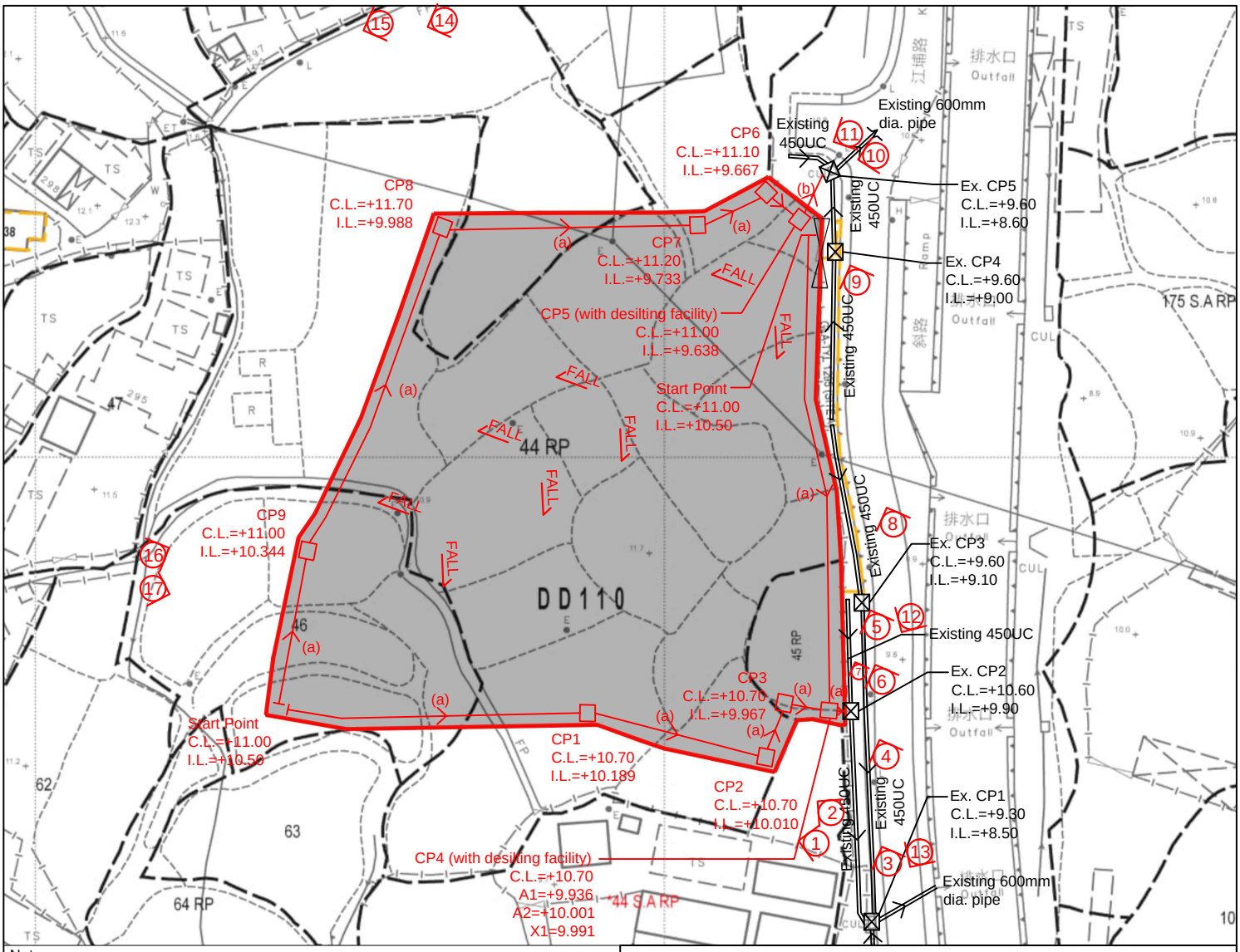
Appendix 1

Drainage Proposal

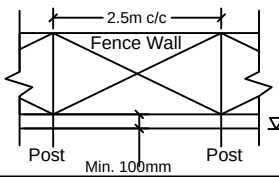


Note:

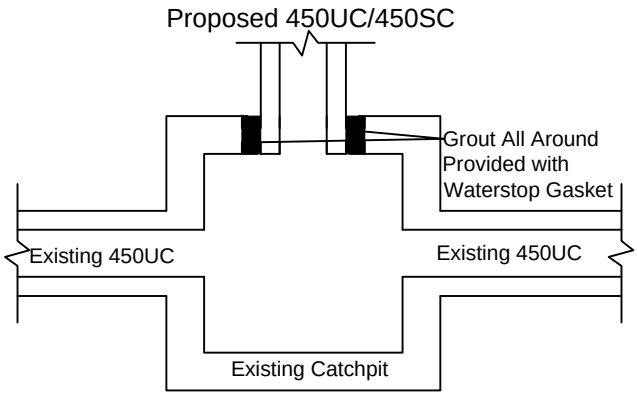
1. Catchpits (CP4 & CP5) with desilting facility shall follow CEDD standard drawing No. C2406I.
2. Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
3. Proposed 450SC shall follow TGN27.
4. Fence Wall to be erected (if any) shall be Open-bottom type.
5. Maximum 300mm filling for levelling the site.

LEGEND

☒CP	Existing Catchpit
⟶	Existing 450UC/ Ex. 600mm dia. pipe
□CP	Proposed CatchPit
(a) ⟶	Proposed 450UC (1:150) with Cast Iron Cover
(b) ⟶	Proposed 450SC
(1)	Photo Viewport



TYPICAL DETAIL OF OPEN-BOTTOM TYPE FENCE WALL



CONNECTION DETAILS

正宏工程顧問公司

CHING WAN ENGINEERING CONSULTANT COMPANY

Project:

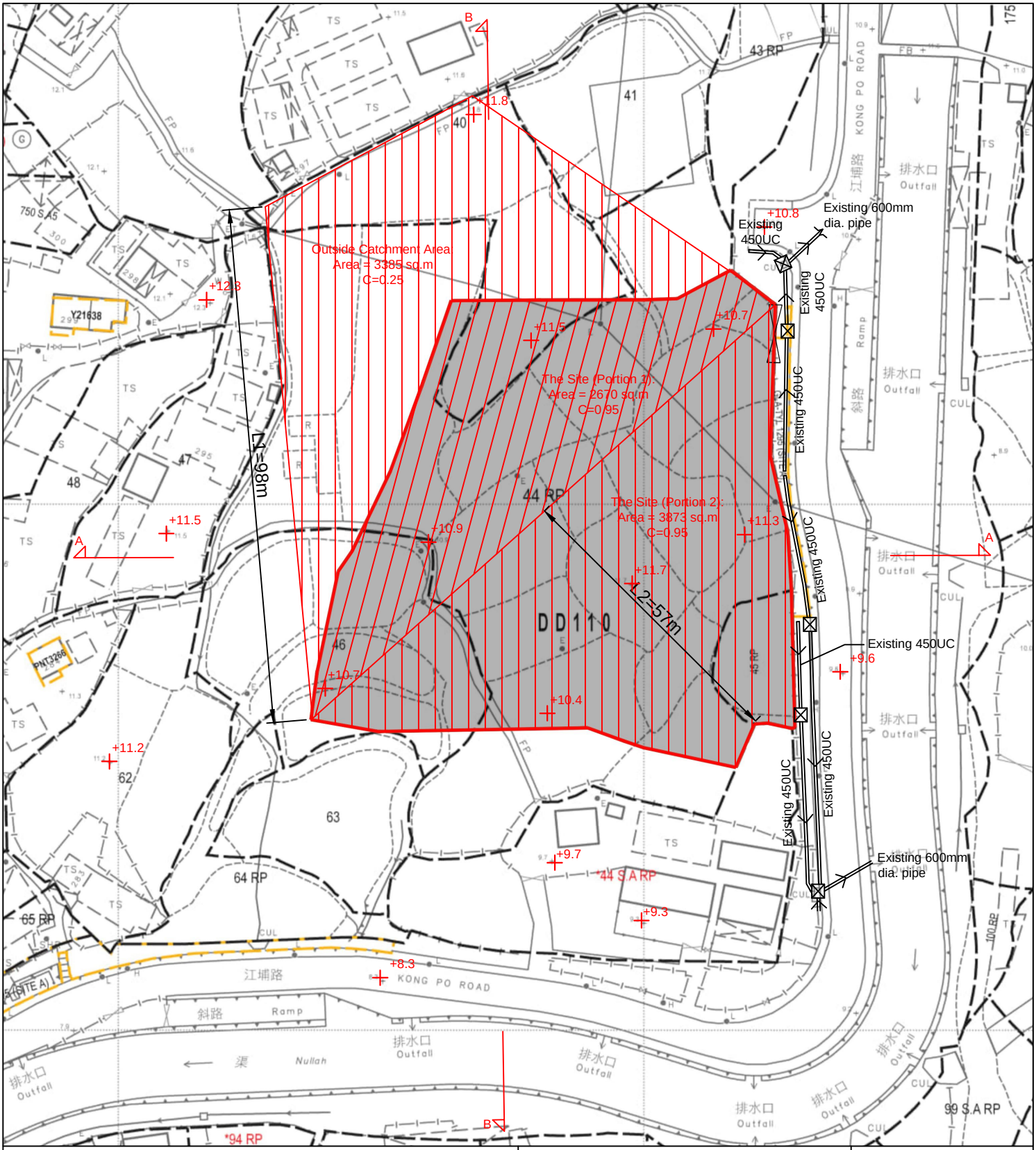
PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)WITH ANCILLARY FACILITIES AND ASSOCIATEDFILLING OF LAND FOR A PERIOD OF 3 YEARS at LOTS 40 (PART), 44 RP (PART), 45 RP AND46 (PART) IN D.D. 110, TAI KONG PO, YUEN LONG, NEW TERRITORIES

(Application Number:)

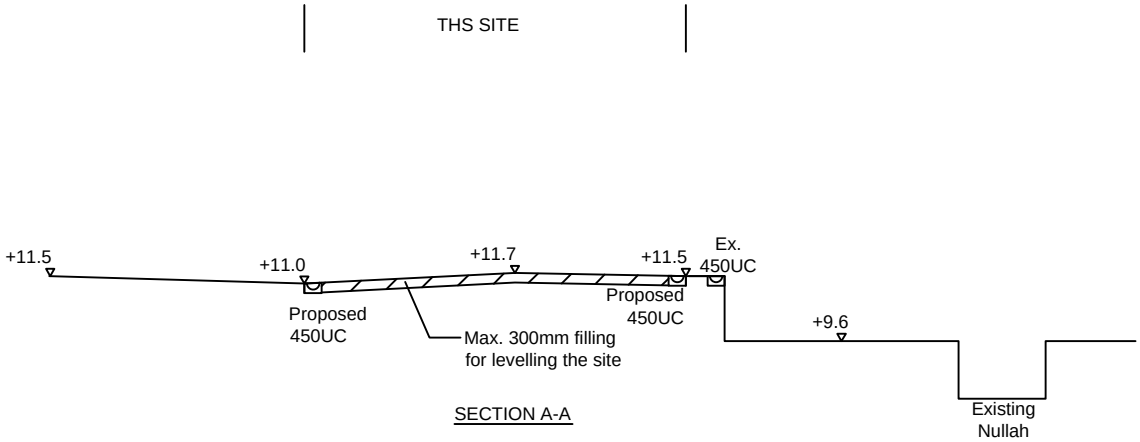
Title: Drainage Proposal - LAYOUT

D01–1

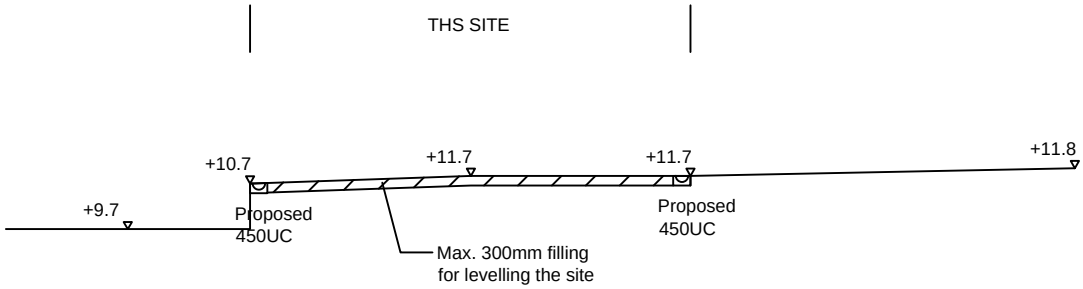
Drawn by:	Date:
DM	10–3–2026
Check by:	**Scale:**
DM	————



正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANT COMPANY	Title: Drainage Proposal - CATCHEMTN AREA PLAN	D02
	Drawn by: DM	Date: 10−3−2026
Project: **PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)WITH ANCILLARY FACILITIES AND ASSOCIATEDFILLING OF LAND FOR A PERIOD OF 3 YEARS at LOTS 40 (PART), 44 RP (PART), 45 RP AND46 (PART) IN D.D. 110, TAI KONG PO, YUEN LONG, NEW TERRITORIES** **(Application Number:)**	Check by: DM	Scale: −−−−



SECTION A-A



SECTION B-B

正宏工程顧問公司 CHING WAN ENGINEERING CONSULTANT COMPANY	Title: Drainage Proposal - SECTIONS	D03
	Drawn by: DM	Date: 10–3–2026
Project: **PROPOSED TEMPORARY WAREHOUSE (EXCLUDING DANGEROUS GOODS GODOWN)WITH ANCILLARY FACILITIES AND ASSOCIATEDFILLING OF LAND FOR A PERIOD OF 3 YEARS at LOTS 40 (PART), 44 RP (PART), 45 RP AND46 (PART) IN D.D. 110, TAI KONG PO, YUEN LONG, NEW TERRITORIES** **(Application Number:)**	Check by: DM	Scale: – – – –

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Outside Catchment Area, Area	=	3385	m^2	(C=	0.25	)	L1=	98 m
THE SITE (Portion 1), Area	=	2670	m^2	(C=	0.95	)	L2=	57 m
THE SITE (Portion 2), Area	=	3873	m^2	(C=	0.95	)		

Calculation of Design Runoff of the Proposed Development,
For the design of drains from Start Point to CP5, Consider The Site (Portion 1) + Outside Catchment Area

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

$A = 3385+2670\ m^2$
$= 6055$
$= 0.006055\ km^2$

$t = 0.14465\ L1/\ H^{0.2}A^{0.1}$
$= 0.14465*98/1^{0.2}*6055^{0.1}$
$= 5.934$ min

$i = 1.16*a/(t+b)^c$ (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (16% increase due to climate change)
$= 1.16*505.5/(2.718+3.29)^{0.355}$
$= 266.5$ mm/hr

Therefore, $Q1 = 0.278*0.25*310.3*0.002541+0.278*0.95*310.3*0.001401$
$= 0.2506\ m^3/sec$
$= \underline{15035}$ lit/min

Provide 450UC (1:150) OR 450SC is OK

Calculation of Design Runoff of the Proposed Development,
For the design of drains from Start Point to CP4, Consider The Site (Portion 2)

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

$A = 3873\ m^2$
$= 3873$
$= 0.003873\ km^2$

$t = 0.14465\ L2/\ H^{0.2}A^{0.1}$
$= 0.14465*57/1^{0.2}*3873^{0.1}$
$= 3.609$ min

$i = 1.16*a/(t+b)^c$ (50 yrs return period, Table 3a, Corrigendum 2024, SDM) and (16% increase due to climate change)
$= 1.16*505.5/(5.545+3.29)^{0.355}$
$= 295.4$ mm/hr

Therefore, $Q2 = 0.278*0.95*270.6*0.005685$
$= 0.3022\ m^3/sec$
$= \underline{18129}$ lit/min

Provide 450UC (1:150) is OK

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

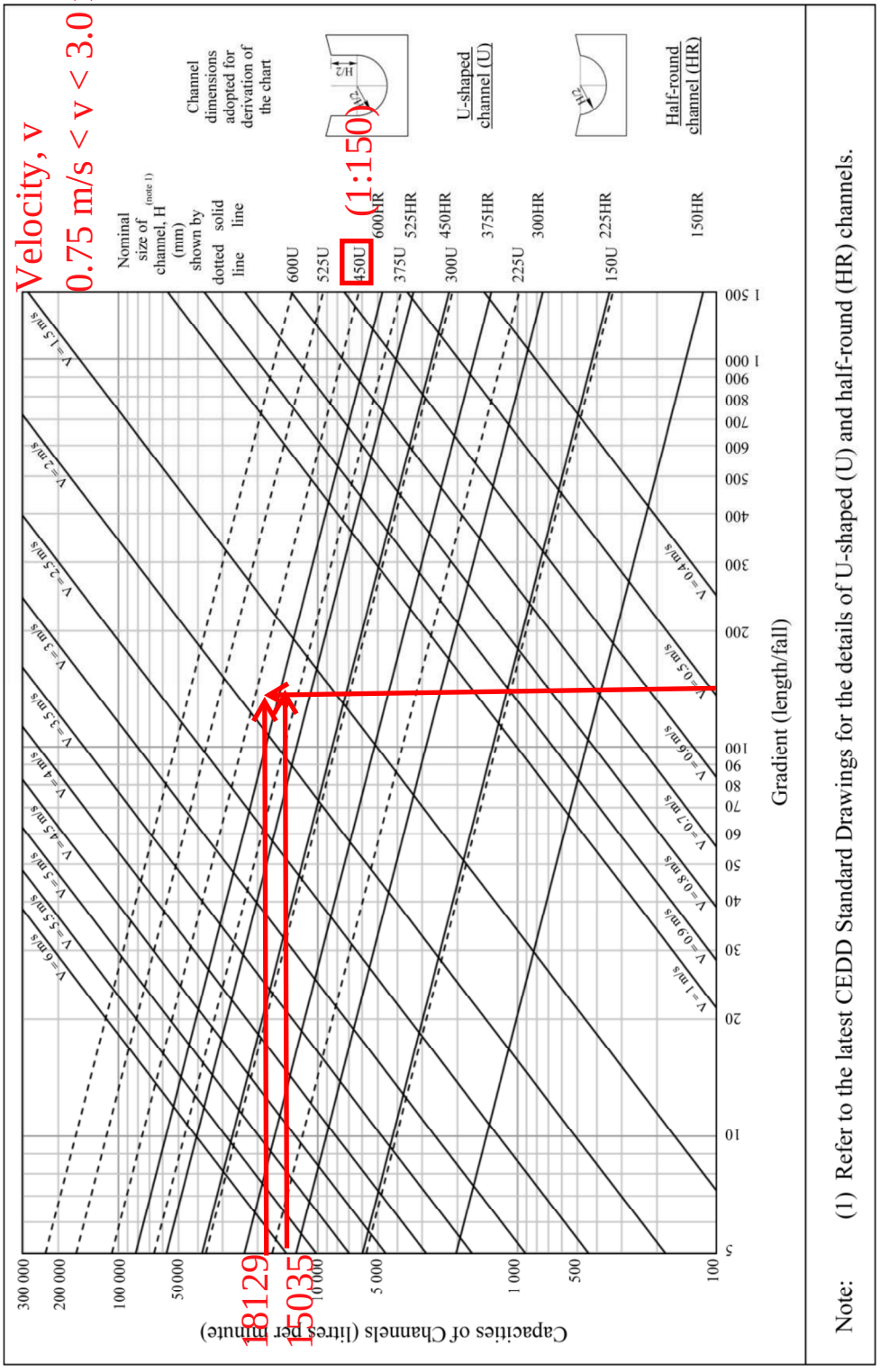
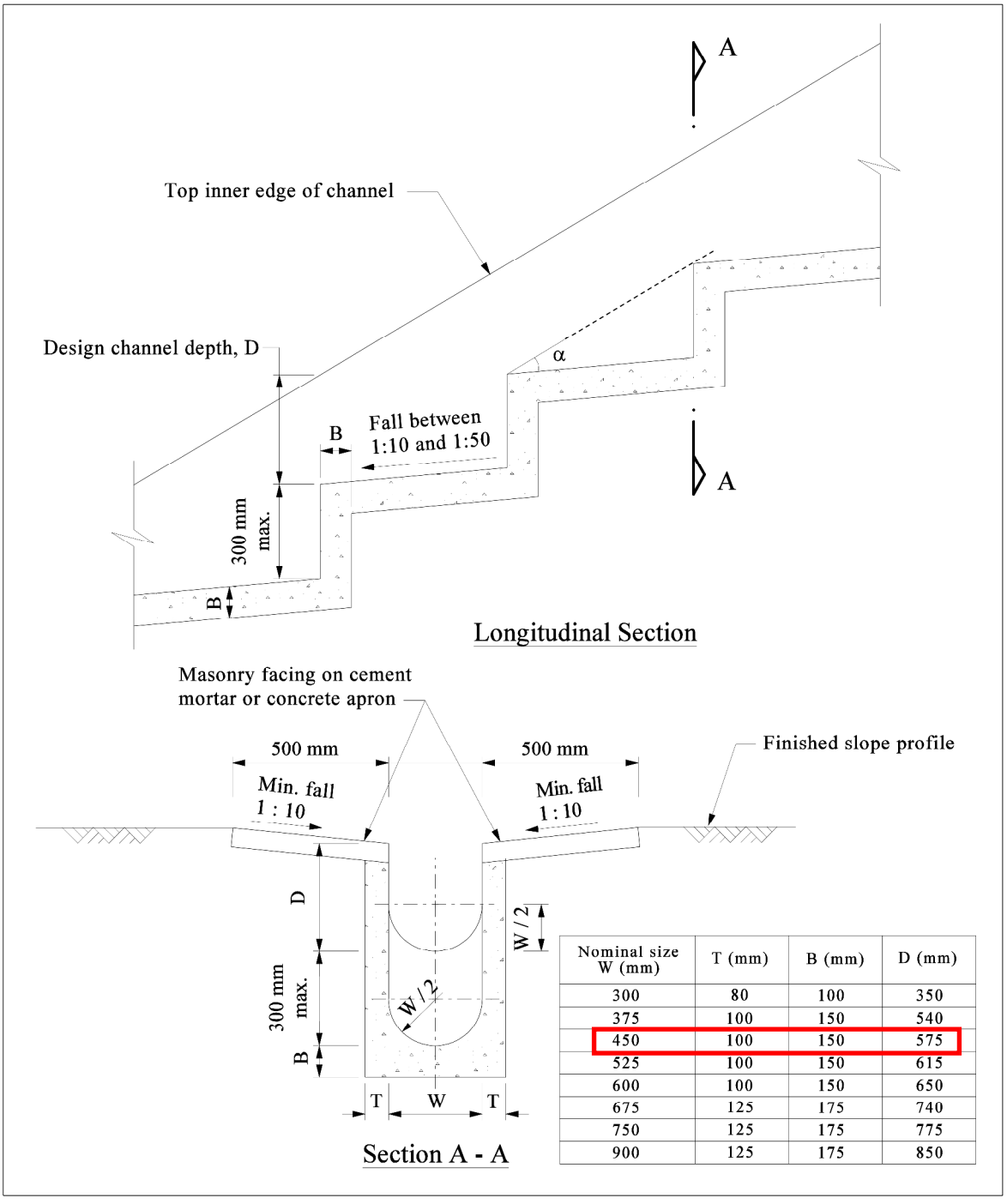


Figure 1 - Chart for the rapid design of U-shaped and half-round channels up to 600 mm

Figure 1 – Details of Standard Sized Stepped Channels



Nominal size W (mm)	T (mm)	B (mm)	D (mm)
300	80	100	350
375	100	150	540
450	100	150	575
525	100	150	615
600	100	150	650
675	125	175	740
750	125	175	775
900	125	175	850

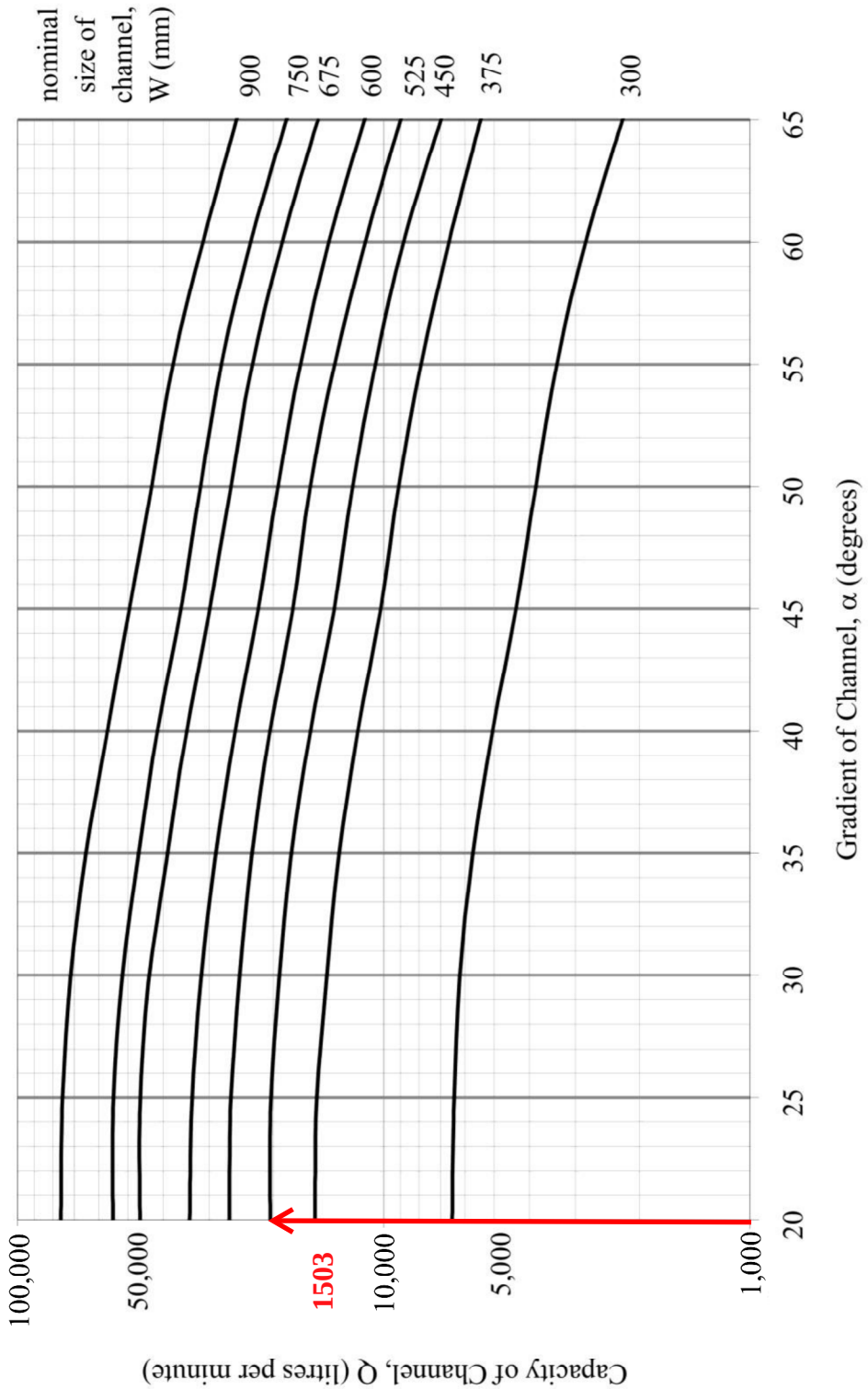
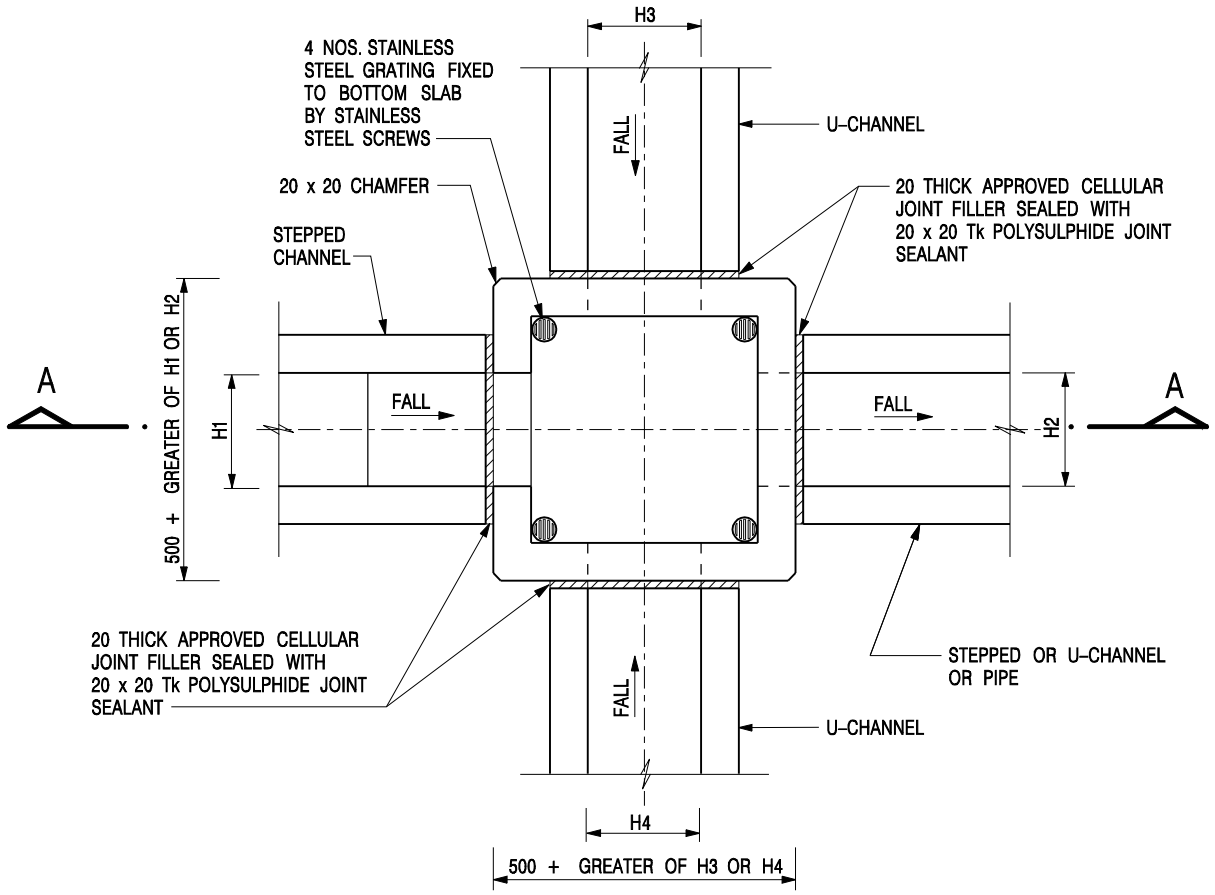
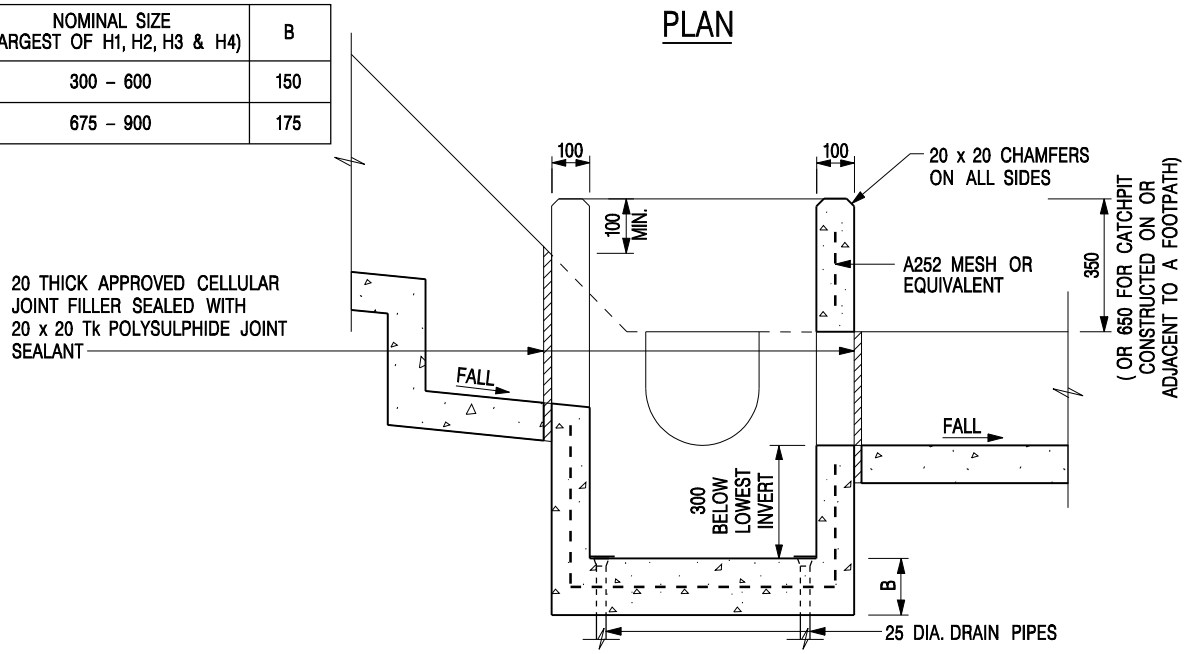


Figure 2 – Design Chart for Standard Sized Stepped Channels



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

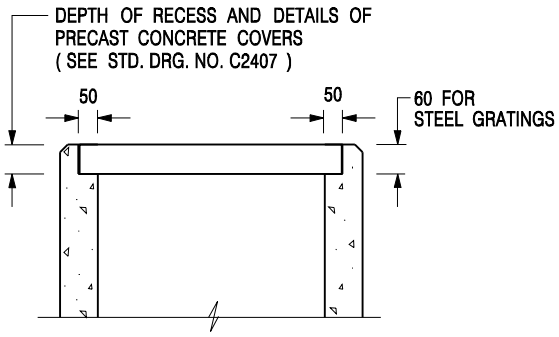
(SHEET 1 OF 2)

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 /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

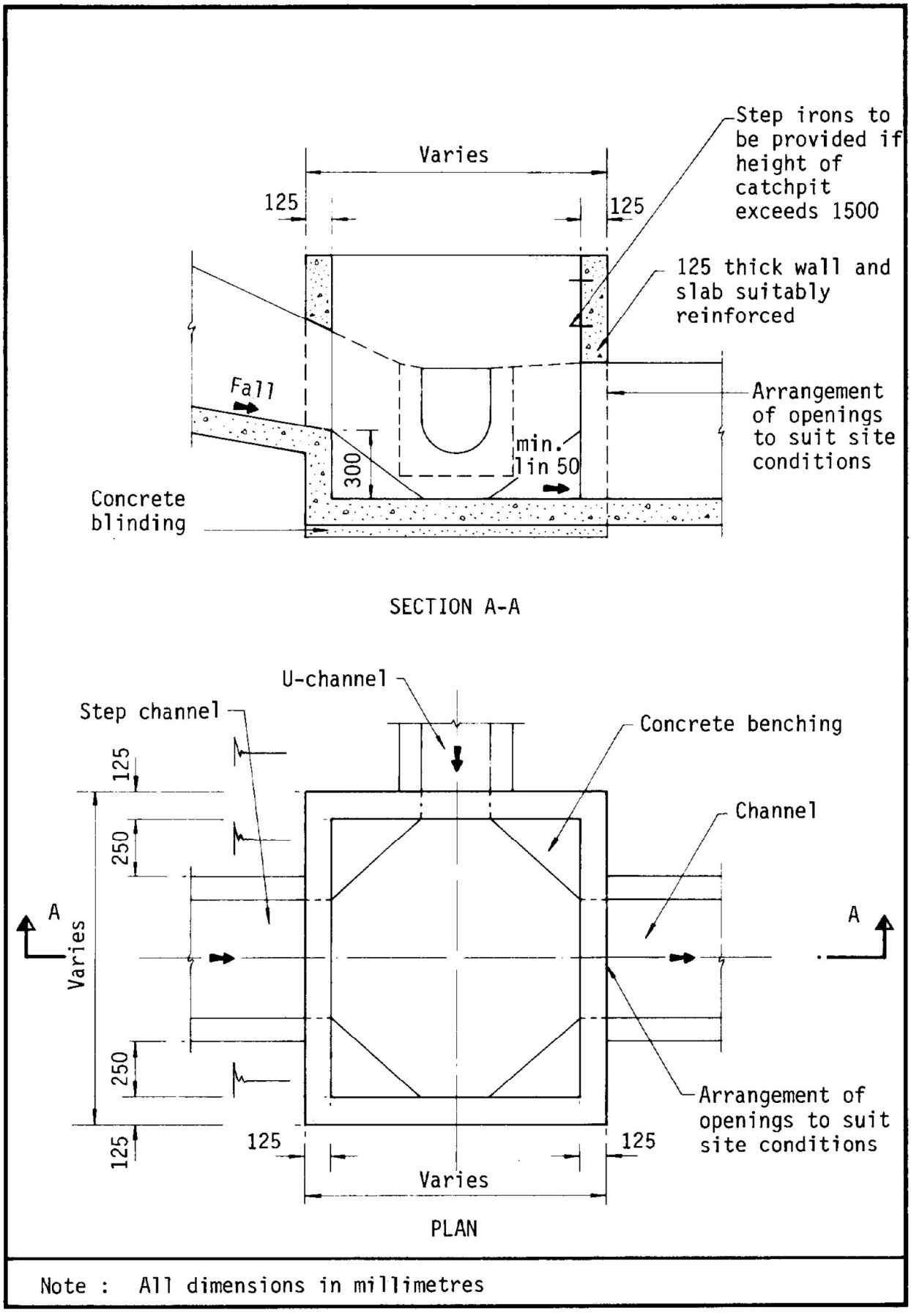
CATCHPIT WITH TRAP
(SHEET 2 OF 2)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

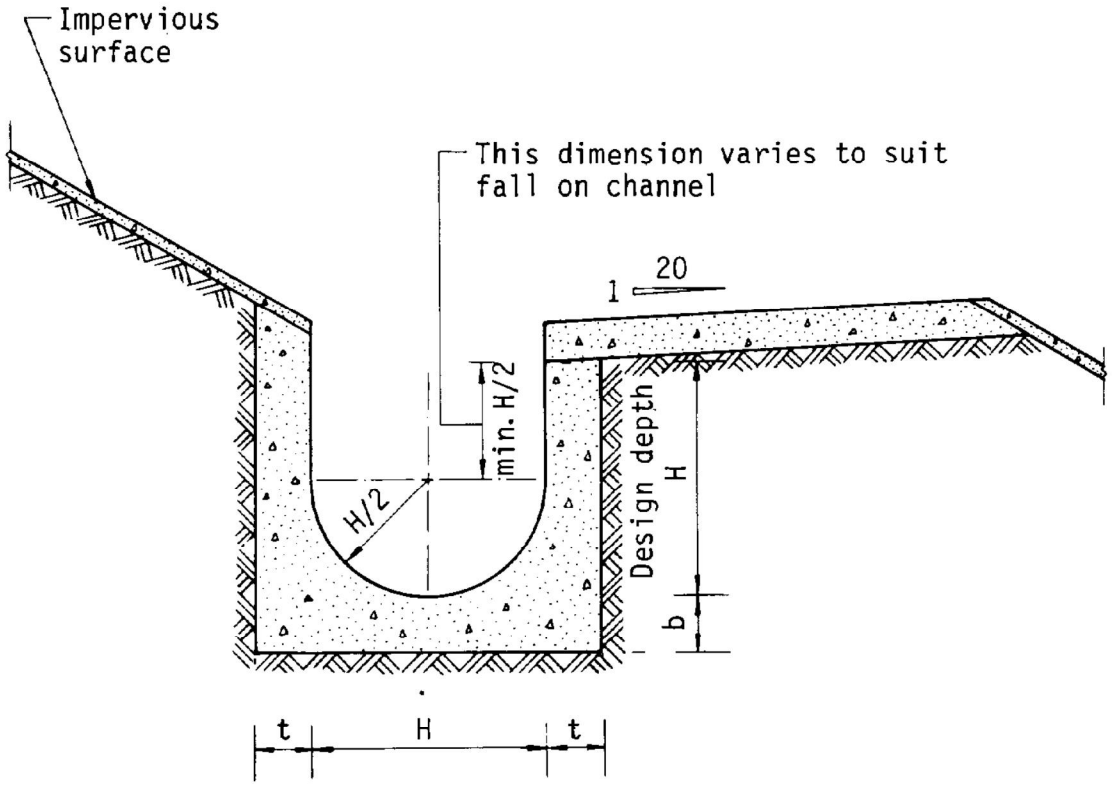
DATE JAN 1991

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