

DEVELOPMENT PARAMETERS

APPLICATION SITE AREA : 2,650 m² (ABOUT)
 COVERED AREA : 108 m² (ABOUT)
 UNCOVERED AREA : 2,542 m² (ABOUT)

PLOT RATIO : 0.08 (ABOUT)
 SITE COVERAGE : 4% (ABOUT)

NO. OF STRUCTURE : 1
 DOMESTIC GFA : N/A
 NON-DOMESTIC GFA : 216 m² (ABOUT)
 BUILDING HEIGHT : 7 m (ABOUT)
 NO. OF STOREY : 2

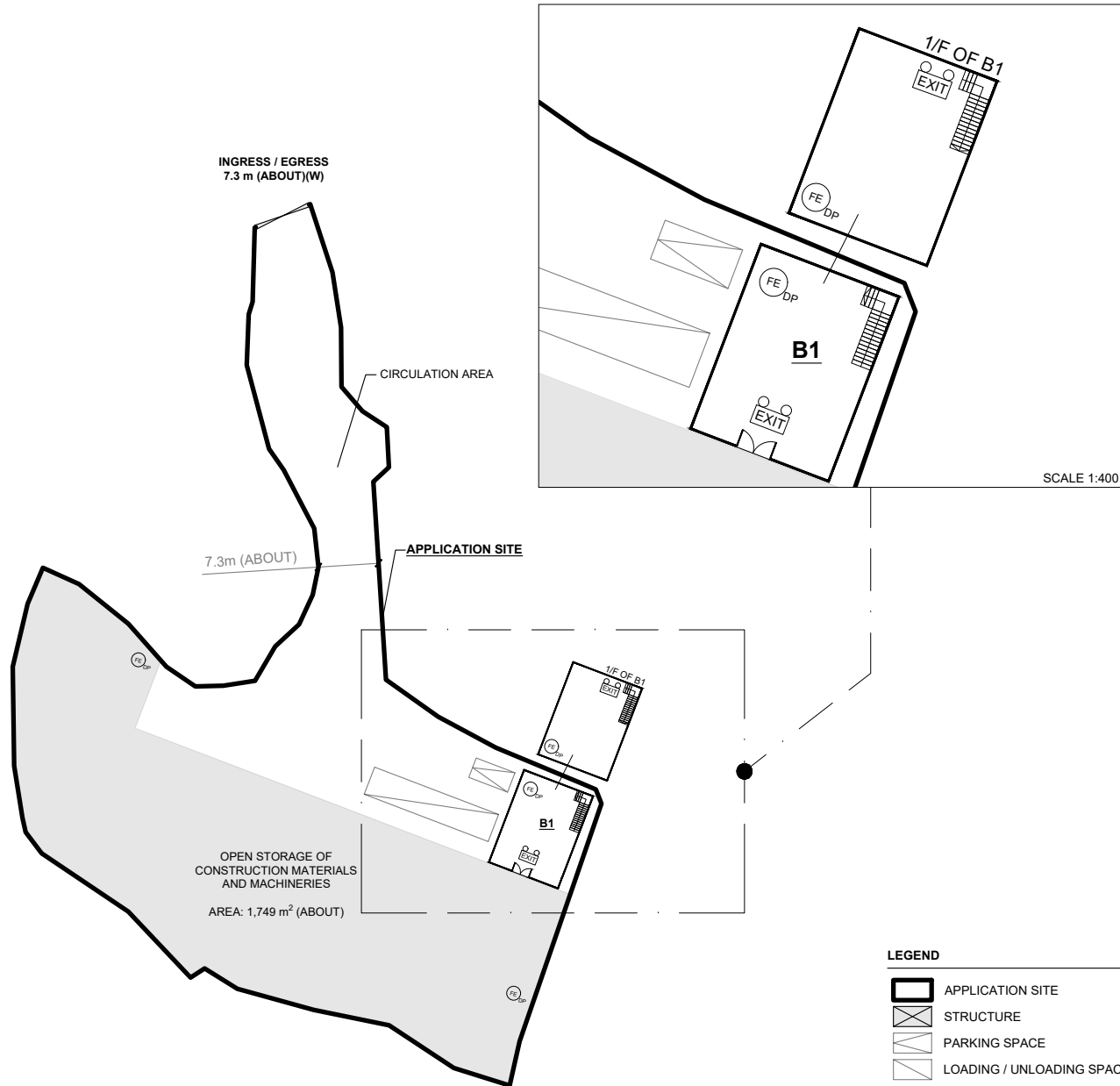
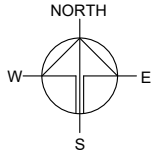
PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR : 1
 PARKING SPACE : 1
 DIMENSION OF PARKING SPACE : 5 m (L) x 2.5 m (W)

NO. OF L/U SPACE FOR MEDIUM GOODS VEHICLE : 1
 DIMENSION OF L/U SPACE : 11 m (L) x 3.5 m (W)

FIRE COMPARTMENT CALCULATION

STRUCTURE	USE	SQ.M	BUILDING HEIGHT	CU.M
B1	SITE OFFICE(G/F) WASHROOM, METER ROOM(1/F)	108m ² (ABOUT) 108m ² (ABOUT)	3.5m (ABOUT) 3.5m (ABOUT)	378m ³ (ABOUT) 378m ³ (ABOUT)



FIRE SERVICE INSTALLATIONS

- EXIT SIGN AND EMERGENCY LIGHT
- 4 KG DRY POWDER TYPE FIRE EXTINGUISHER

FS NOTES:

- SUFFICIENT EMERGENCY LIGHTING SHALL BE PROVIDED THROUGHOUT THE ENTIRE BUILDING IN ACCORDANCE WITH BS5266-1:2016 AND BS EN1838:2013 AND FSD CIRCULAR LETTER 6/2021
- SUFFICIENT DIRECTIONAL AND EXIT SIGN SHALL BE PROVIDED IN ACCORDANCE WITH BS5266: PART 1 AND FSD CIRCULAR LETTER 5/2008.
- PORTABLE HAND-OPERATED APPROVED APPLIANCE SHALL BE PROVIDED AS REQUIRED BY OCCUPANCY.
- ACCESS IS PROVIDED FOR EMERGENCY VEHICLE TO REACH 30m OF ALL PART OF STRUCTURES.

LEGEND

- APPLICATION SITE
- STRUCTURE
- PARKING SPACE
- LOADING / UNLOADING SPACE
- INGRESS / EGRESS

PLANNING CONSULTANT



PROJECT

TEMPORARY OPEN STORAGE OF CONSTRUCTION MATERIALS AND MACHINERIES WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND

SITE LOCATION

LOT 55 (PART) IN D.D. 108, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE

1 : 600 @ A4

DRAWN BY OL DATE 5.5.2023

REVISED BY MN DATE 16.11.2023

APPROVED BY DATE

DWG. TITLE
FSIs PROPOSAL

DWG NO. APPENDIX I VER. 002

Note:

- Catchpit (CP8) with desilting facility shall follow CEDD standard drawing No. C24061.
- Proposed Catchpit and UC follows Typical Details of Geotechnical Manual for Slope Fig.8.10 and Fig.8.11 respectively.
- The inverted level of the connection point shall be verified on site prior the commencement of work
- All proposed work shall be offset at least 3m from existing watercourse

- Legend:**
- Proposed UC (Gradient) with cast iron cover
 - Existing Drain
 - Proposed Catchpit

Company:

Project:
 LOT 55 (PART) IN D.D. 108, PAT HEUNG, YUEN LONG, NEW TERRITORIES (Drainage Proposal)

Appendix II

Title:
 Drainage layout

Dwg No: File:

Fig.1

Date:
 9 March 2024

3m offset from existing watercourse

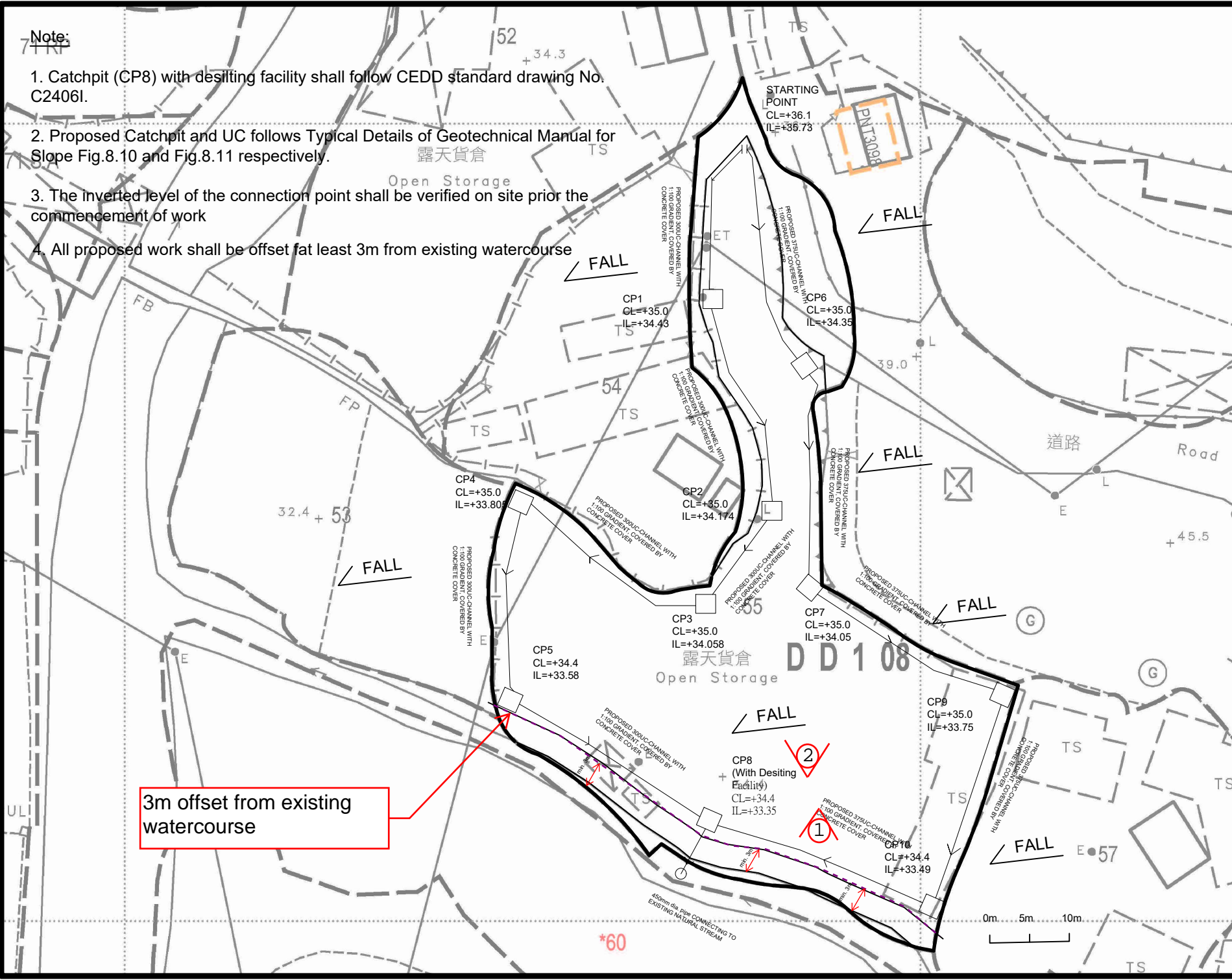




PHOTO1: EXISTING WATERCOURSE CONDITION



PHOTO 2: SITE CONDITION

Existing Stream



PHOTO3: AERIAL PHOTO of EXISTING WATERCOURSE CONDITION



PHOTO4: Proposed site beside existing stream (offset 3m frm existing stream is clear)

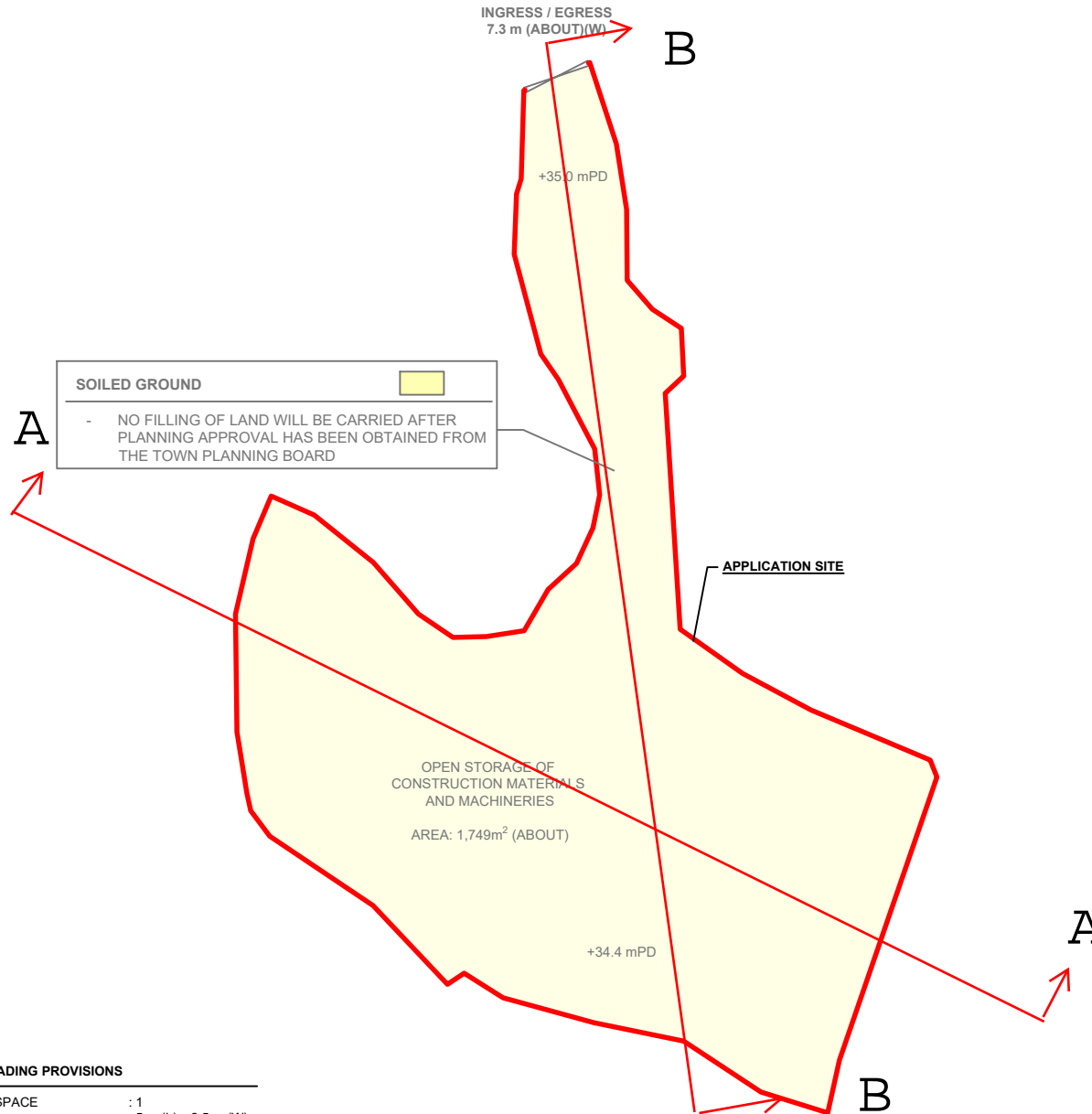
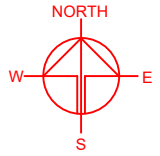


PHOTO5: Proposed site beside existing stream (offset 3m frm existing stream is clear)

EXISTING CONDITION OF THE APPLICATION SITE

APPLICATION SITE AREA : 2,650 m² (ABOUT)
 GROUND SURFACE : SOILED GROUND

STRUCTURE	USE	COVERED AREA	GFA	BUILDING HEIGHT
B1	SITE OFFICE WASHROOM METER ROOM	108m ² (ABOUT)	216m ² (ABOUT)	7m (ABOUT)(2-STOREY)
TOTAL		108m² (ABOUT)	216m² (ABOUT)	



PARKING AND LOADING / UNLOADING PROVISIONS

NO. OF PRIVATE CAR PARKING SPACE : 1
 DIMENSION OF PARKING SPACE : 5 m (L) x 2.5 m (W)
 NO. OF L/UL SPACE FOR CONTAINER : 1
 DIMENSION OF L/UL SPACE : 16 m (L) x 3.5 m (W)

LEGEND

- APPLICATION SITE
- INGRESS / EGRESS

PLANNING CONSULTANT



PROJECT

TEMPORARY OPEN STORAGE OF CONSTRUCTION MATERIALS AND MACHINERIES WITH ANCILLARY FACILITIES FOR A PERIOD OF 3 YEARS AND ASSOCIATED FILLING OF LAND

SITE LOCATION

LOT 55 (PART) IN D.D. 108, PAT HEUNG, YUEN LONG, NEW TERRITORIES

SCALE

1 : 700 @ A4

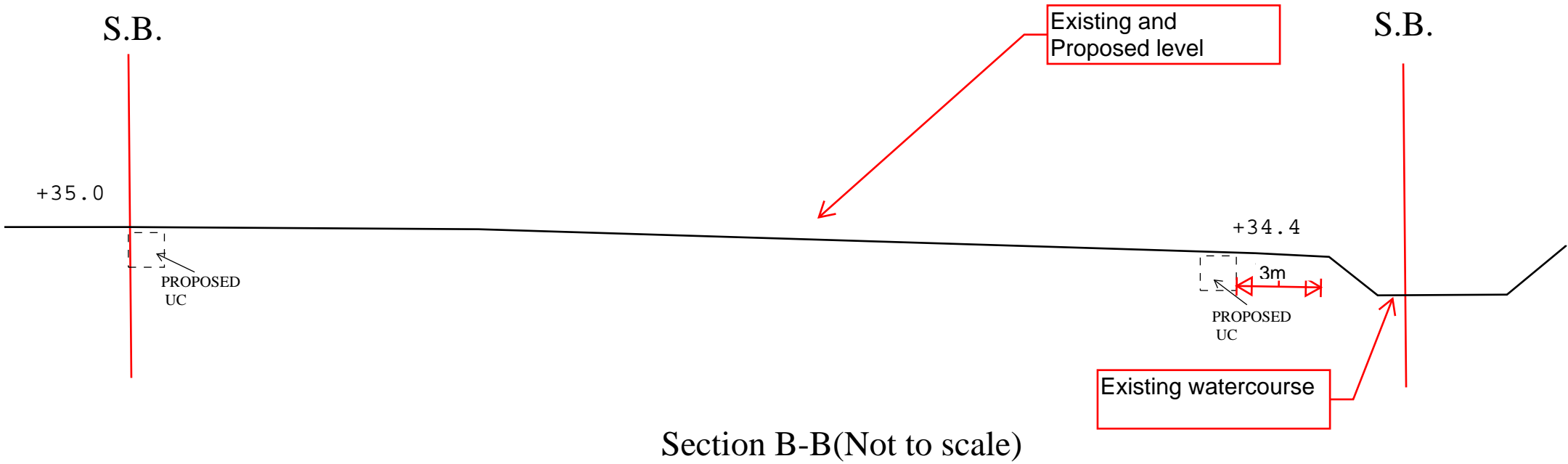
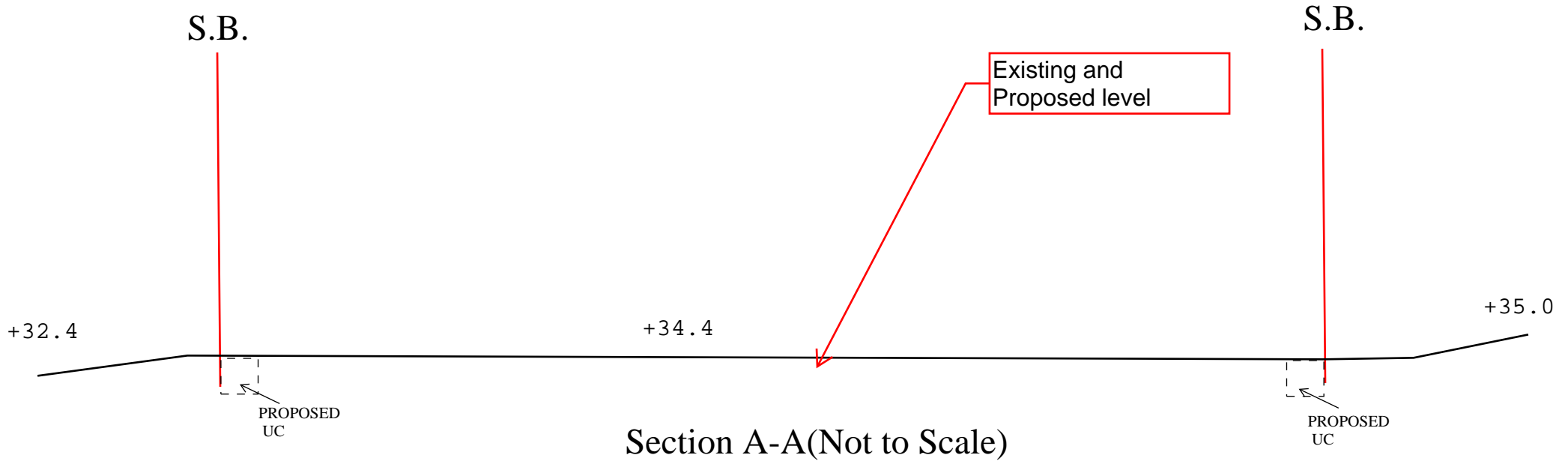
DRAWN BY	DATE
OL	15.6.2023

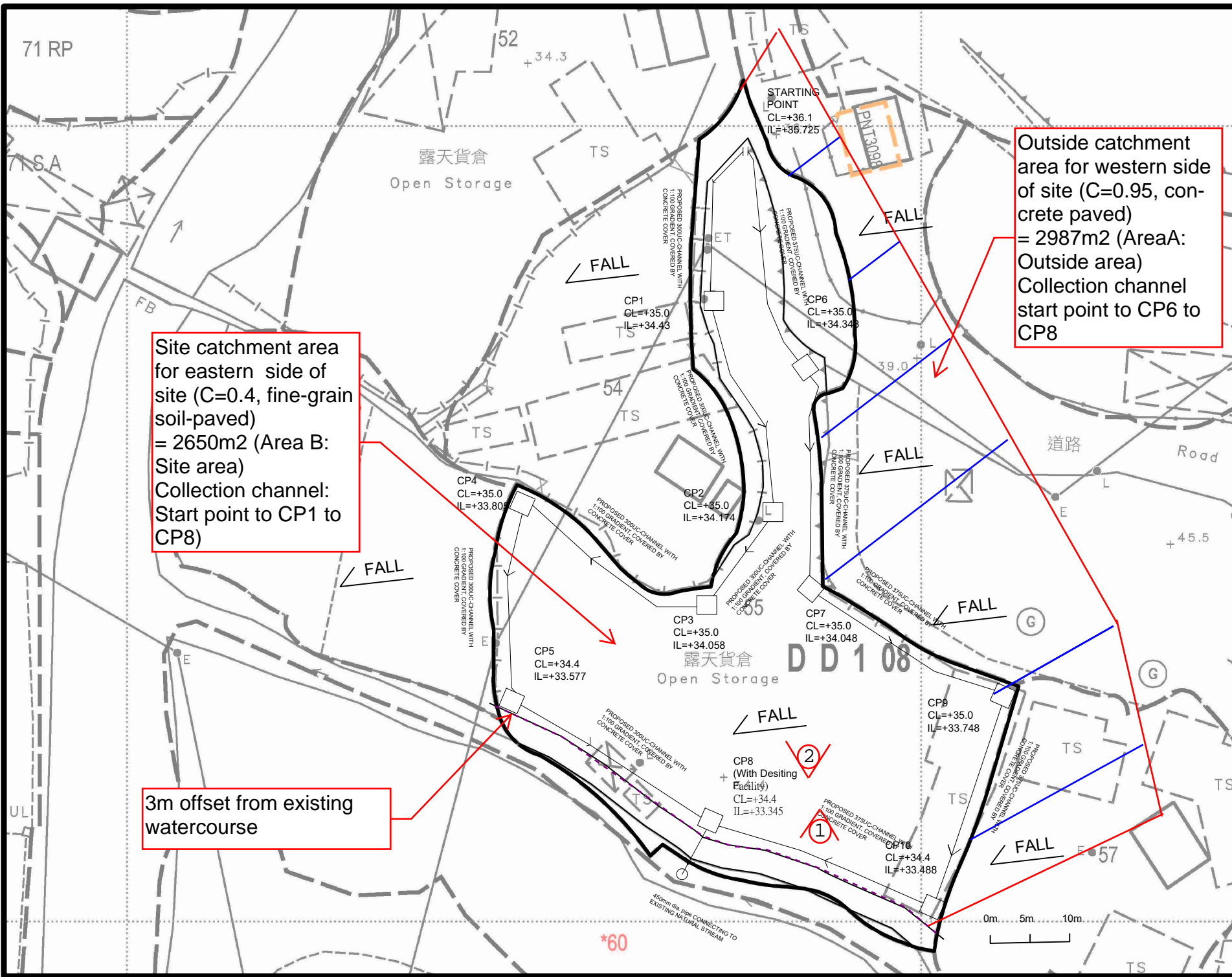
REVISED BY	DATE
LT	11.10.2023

APPROVED BY	DATE

DWG. TITLE
 LAND STATUS OF THE SITE (2/2)

DWG No.	VER.
PLAN 1	001





Legend:	
<ul style="list-style-type: none"> Proposed UC (Gradient) with cast iron cover Existing Drain Proposed Catchpit 	
Company:	
Project: LOT 55 (PART) IN D.D. 108, PAT HEUNG, YUEN LONG, NEW TERRITORIES (Drainage Proposal)	
Title: Drainage layout	
Dwg No:	File:
Fig.2	
Date: 9 March 2024	

Company:

Project :

Date:

Calculation for channels:

Catchment Area of site

$$\begin{aligned} \text{Area A} &= 2987 \text{ m}^2 \\ &= 0.002987 \text{ km}^2 \end{aligned}$$

$$\begin{aligned} \text{Peak runoff in m}^3/\text{s} &= 0.278 \times 0.95 \times 250 \text{ mm/hr} \times 0.002987 \text{ km}^2 \\ &= 0.197217 \text{ m}^3/\text{s} \\ &= 11833 \text{ liter/min} \end{aligned}$$

$$\begin{aligned} \text{Area B} &= 2650 \text{ m}^2 \\ &= 0.00265 \text{ km}^2 \end{aligned}$$

$$\begin{aligned} \text{Peak runoff in m}^3/\text{s} &= 0.278 \times 0.40 \times 250 \text{ mm/hr} \times 0.00265 \text{ km}^2 \\ &= 0.0737 \text{ m}^3/\text{s} \\ &= 4420.2 \text{ liter/min} \end{aligned}$$

According to (Figure 8.7 - Chart for the Rapid Design of Channels),
For gradient 1:100, 375UC will be suitable for the site at the western site.
For gradient 1:100, 300UC will be suitable for the site at eastern side.

$$\begin{aligned} \text{Total Peak Runoff of site area} &= 0.271 \text{ m}^3/\text{s} \\ &= 16255 \text{ liter/min} \end{aligned}$$

Check 450mm dia. Pipe by Colebrook-White Equation

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

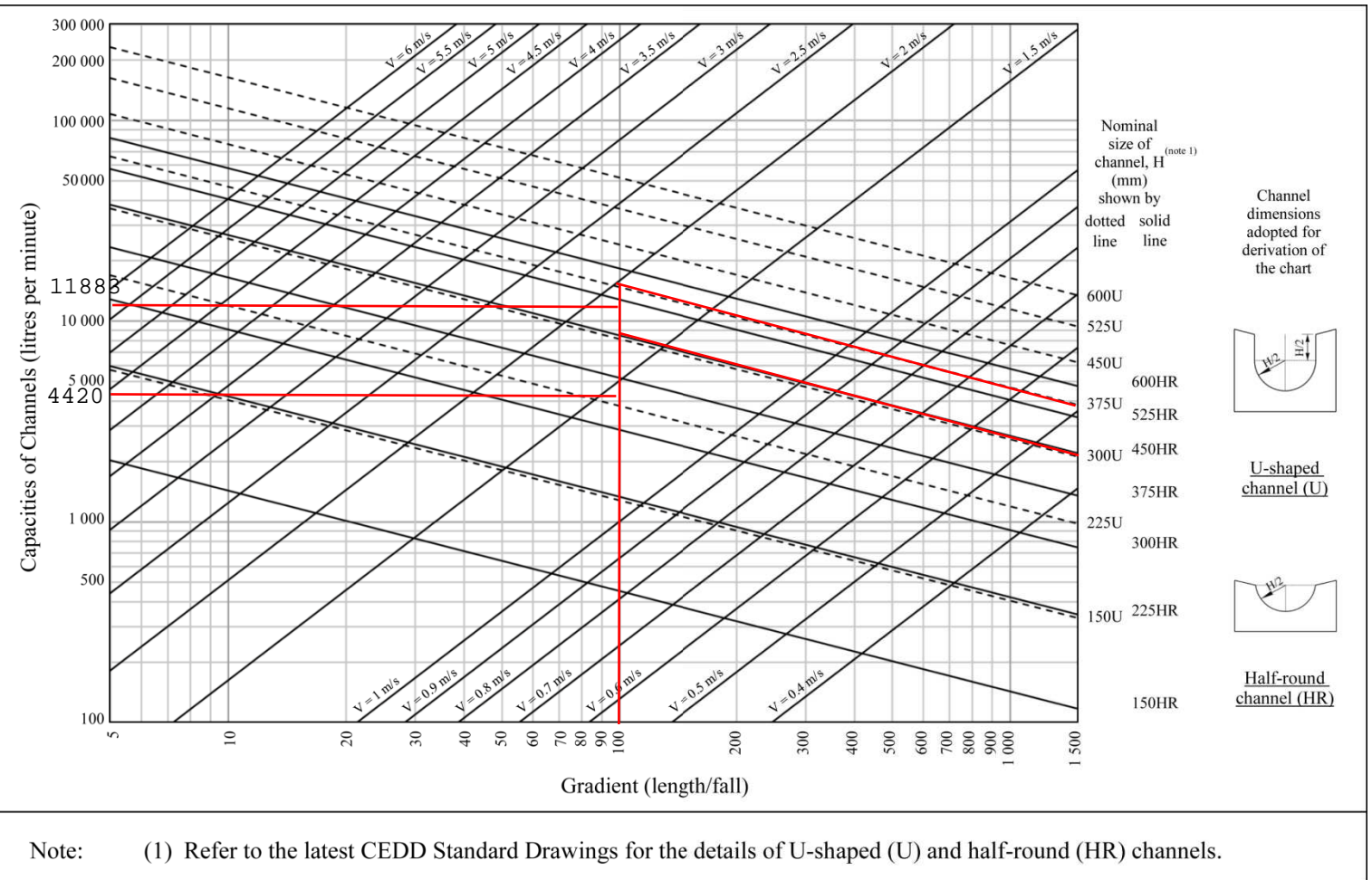
where :

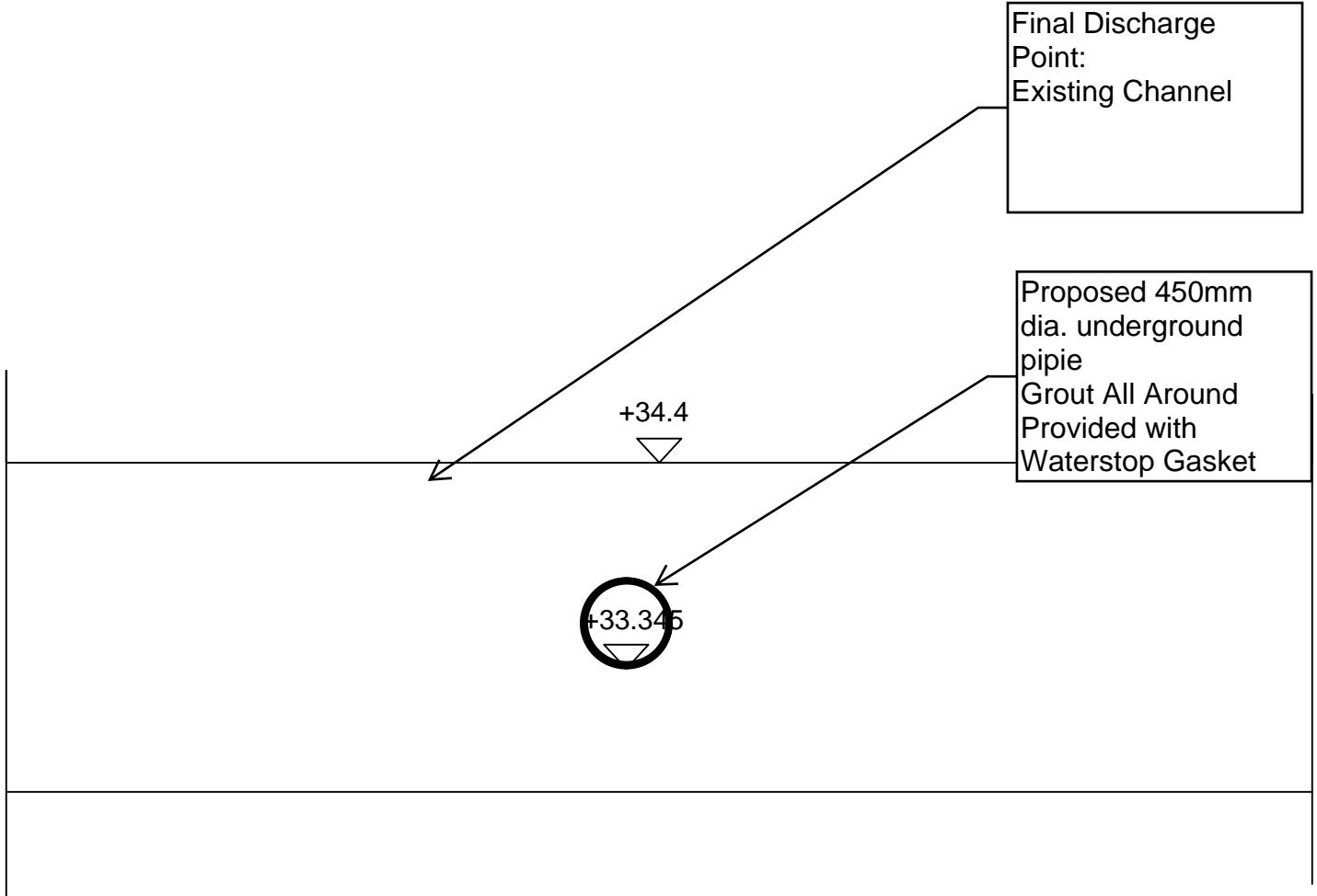
V	=		mean velocity (m/s)	
g	=	9.81	m/s ²	gravitational acceleration (m/s ²)
D	=	0.45	m	internal pipe diameter (m)
ks	=	0.000003	m	hydraulic pipeline roughness (m) (Table 5, from DSD Sewerage Manual, uPVC)
v	=	1.14E-06	m ² /s	kinematic viscosity of fluid (m ² /s)
s	=	0.01		hydraulic gradient

$$\begin{aligned} \text{Therefore, design V of pipe capacity} &= 2.7541 \text{ m/s} > \text{Design velocity from catchment area} &= 0.271 \text{ m}^3/\text{s} / 1.703 \text{ m/s} &= 0.45^2 * \pi/4 \\ &&&& \implies \mathbf{O.K.} \end{aligned}$$

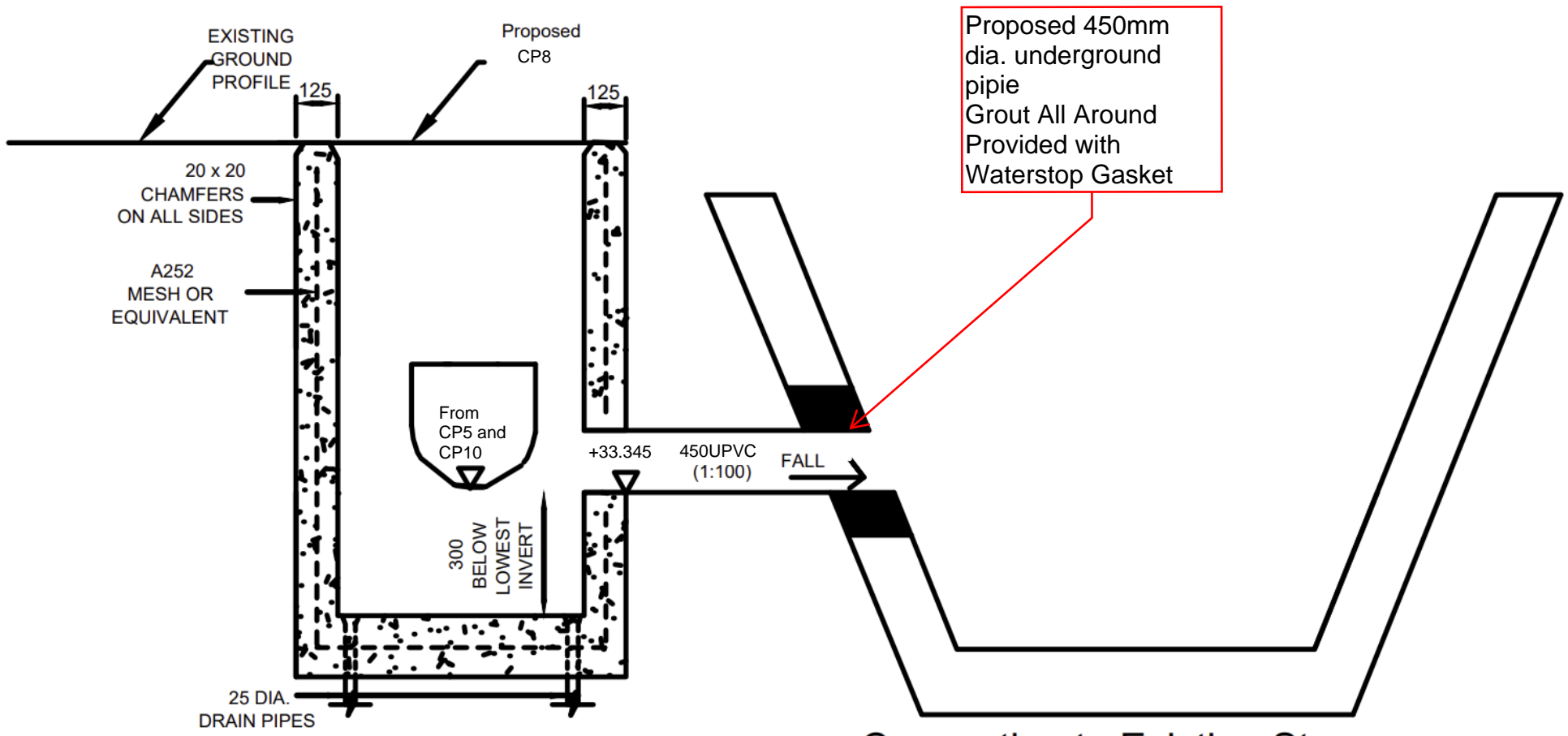
**GEO Technical Guidance Note No. 43 (TGN 43)
 Guidelines on Hydraulic Design of U-shaped and Half-round Channels on
 Slopes**

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



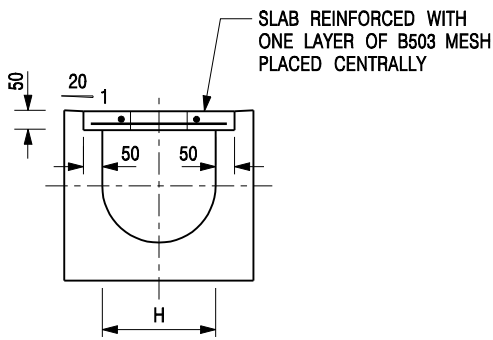


Connection Detail of Existing channel

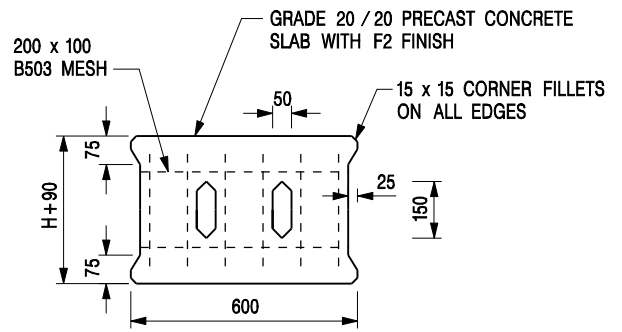


Catchpit With desilting facility

Connection to Existing Stream



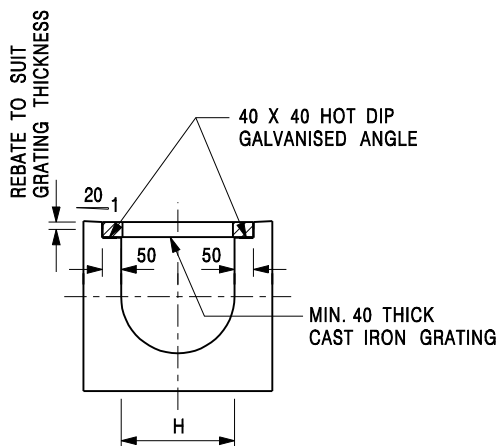
TYPICAL SECTION



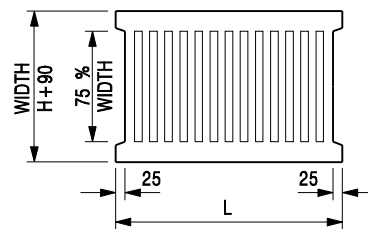
PLAN OF SLAB

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**



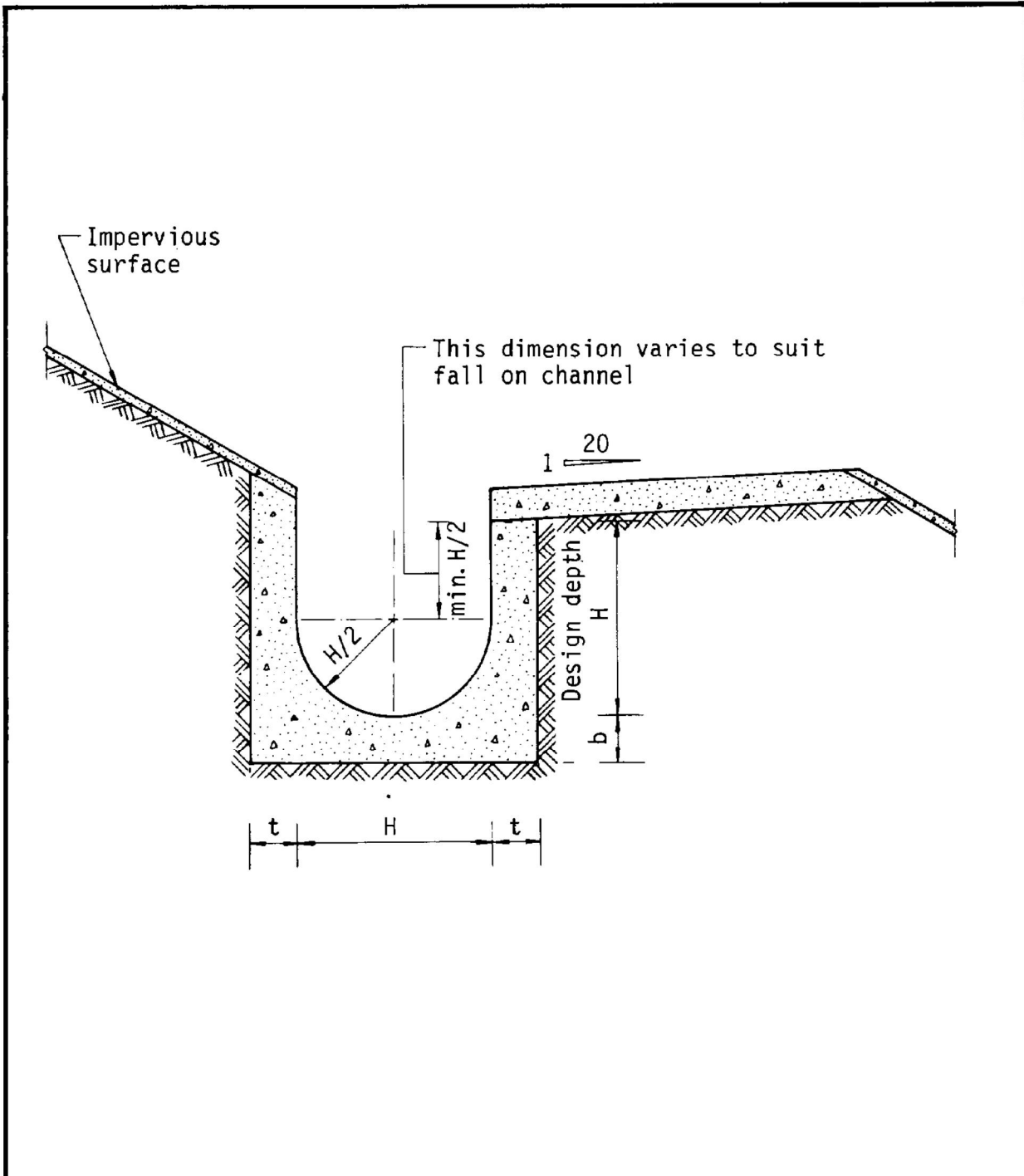
**CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT**

SCALE 1 : 20

DRAWING NO.

DATE JAN 1991

C2412E



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

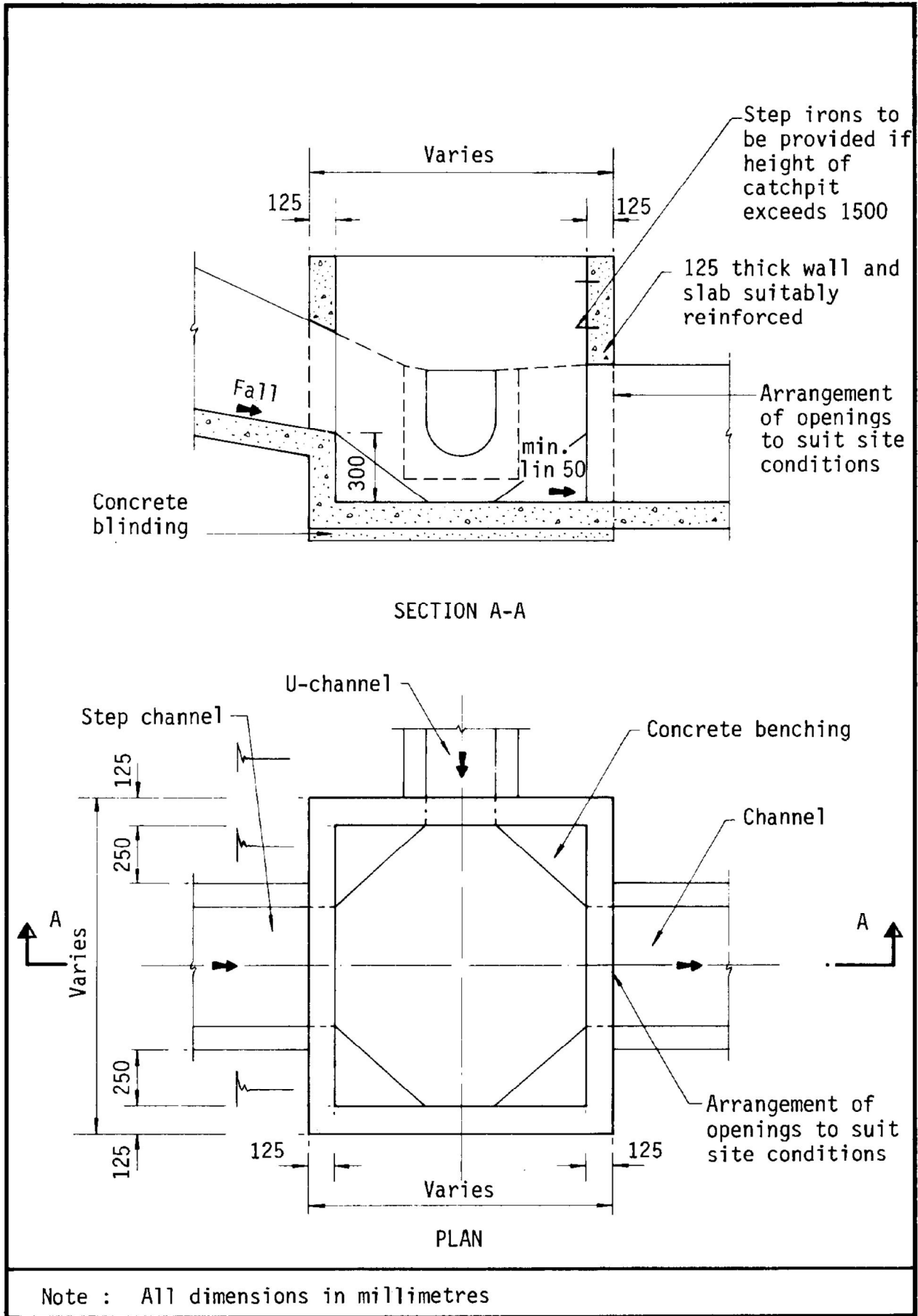
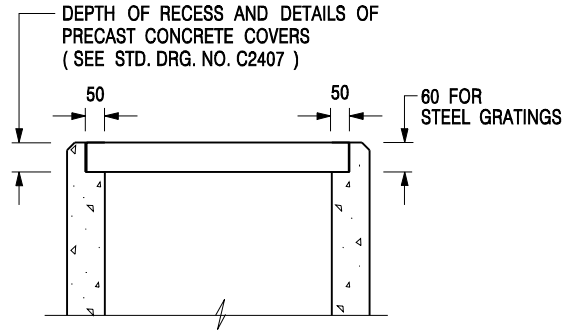


Figure 8.10 - Typical Details of Catchpits




**ALTERNATIVE TOP SECTION
FOR PRECAST CONCRETE COVERS / GRATINGS**

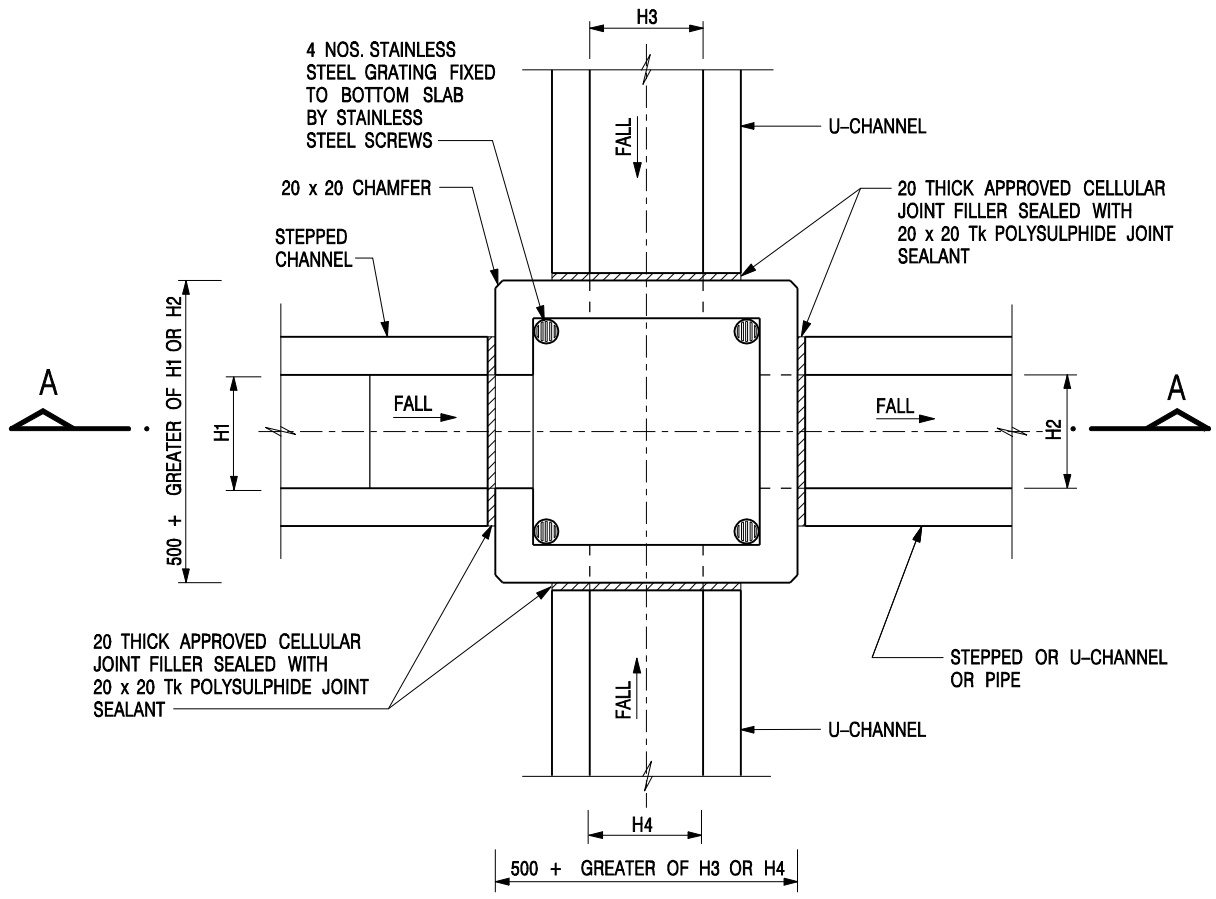
NOTES:

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.

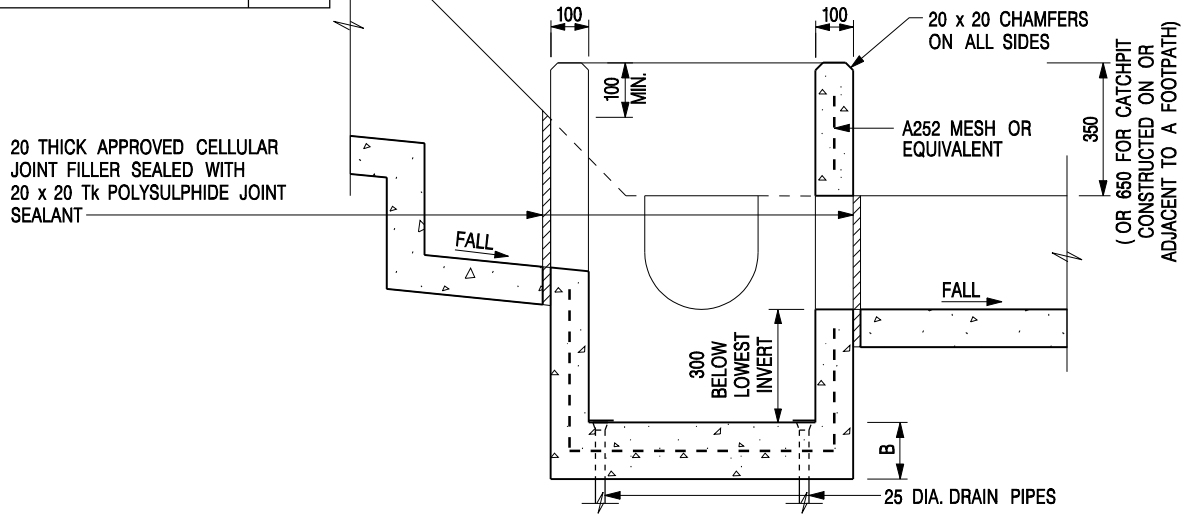
-	FORMER DRG. NO. C2406J.	Original Signed	03.2015
REF.	REVISION	SIGNATURE	DATE

**CATCHPIT WITH TRAP
(SHEET 2 OF 2)**

 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	
SCALE 1 : 20	DRAWING NO.
DATE JAN 1991	C2406 /2



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)



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