[redacted]

Reference: A/NE-YTT/2
Our Ref: SMT/Drainage/02
Date: 12 June 2022

Chief District Planner
Shatin, Tai Po & North District Planning Office
13/F, Sha Tin ; Government Office
1 Sheung Wo Che Road
Shatin, NT

Attn: Mr Kelvin Lau, STP/STN

Dear Sir,

Proposed Ancillary Vehicle Park for a Period of 3 years
Lot 70(part) in DD 27 and Adjoining Government Land
Yim Tsai, Tai Po, NT
Drainage Proposal

Further to my letter dated 4 May 2022 to Drainage Service Department, which was copied to Planning Department, additional site inspections have been carried out. Discharge point for surface water was identified. The conclusion and recommendation for the drainage proposal which was based on the situation that no discharge is available, is no longer reasonable. The current proposal shall replace the proposal submitted on 4 May 2022.

Discharge point

A suitable discharge point is present as shown in Drawing No Topo/TP/0822. A 450 mm diameter concrete pipe is present below the ground surface. Photos showing the location and close up detail of the discharge point is attached. At this moment, the surface runoff for the proposed parking area is not discharged to this pipe.

Drainage Proposal

A 300mm U-Channel (covered) is proposed close to the South-East boundary of the parking area. The design of the Channel is attached. From the calculation, 225mm U-Channel is adequate to carry the surface water, however, for ease of maintenance, 300mm U-Channel is proposed. Alignment and details of the 300mm U-Channel are attached.

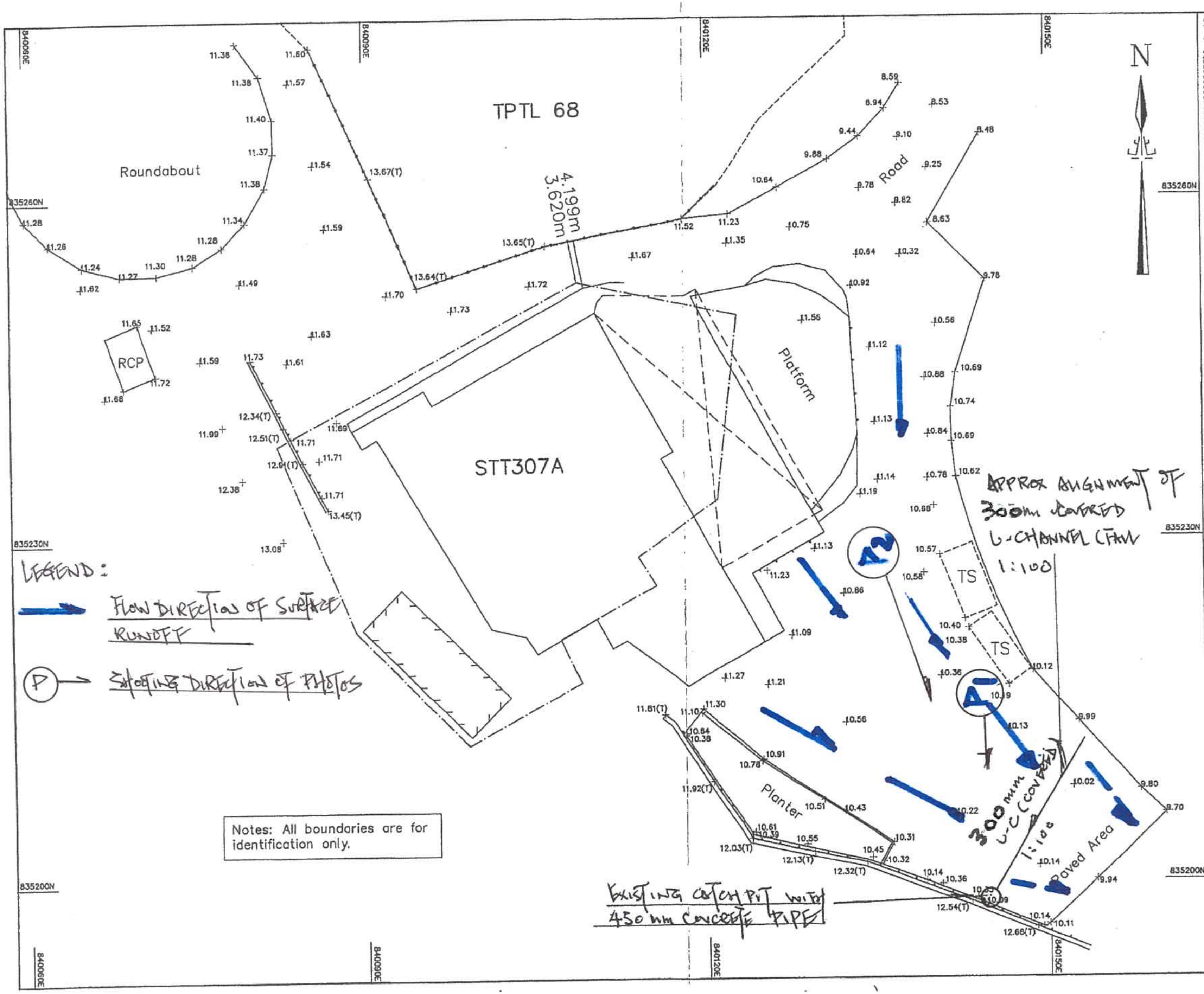
I hope the drainage proposal is acceptable. If further information is needed, I am available for discussion anytime at 94923949..

Yours faithfully,

CHUNG KWOK-FAI, EDWIN
MASc. B Eng FHKIE
Registered Structural Engineer
Registered Geotechnical Engineer
Registered Professional Engineer

Encl

CC. DSD Attn; Ms Ho Mei Ying
Operator of restaurant



	Name	Date
Surveyed	C F Chan	July, 2021
Checked	T K Chan	July, 2021
Drawn	C F Chan	July, 2021

Approved by :

Contract no.

File no.

Project no.

Drawing Title

TOPOGRAPHIC SURVEY
NEAR STT No. 307A IN D.D. 27
AT YIM TIN TSAI, TAI PO

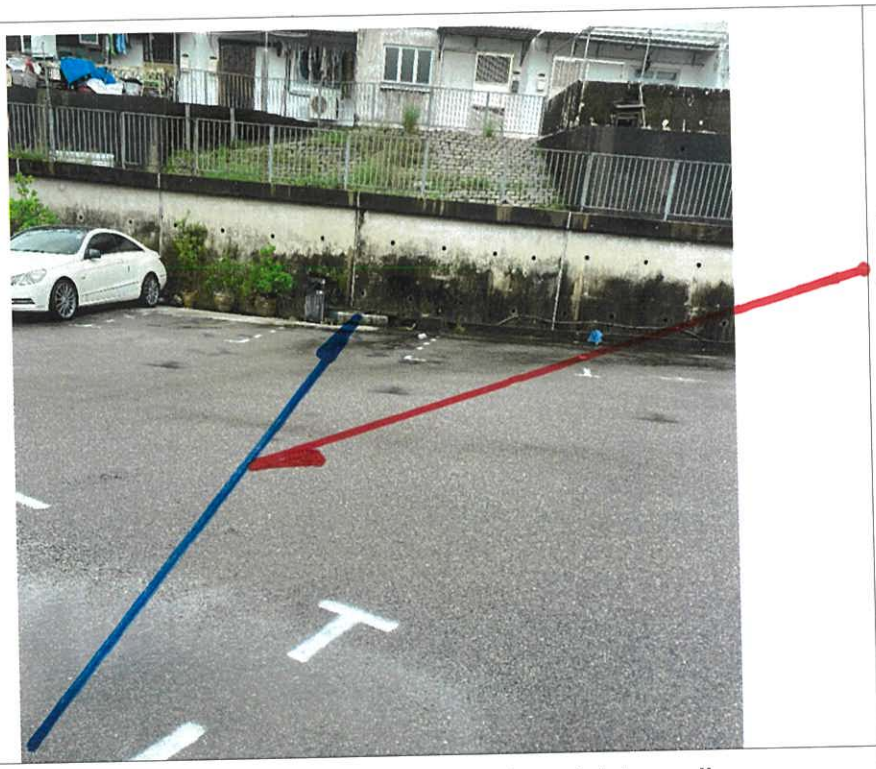
SCALE 1 : 300

Drawing no. TOPO/TP/0822

Rev.

T.H. & Associates Limited

Photos showing location of Discharge manhole



Approx. alignment of the proposed 300mm U-C

P1: shows location of manhole in front of the existing retaining wall

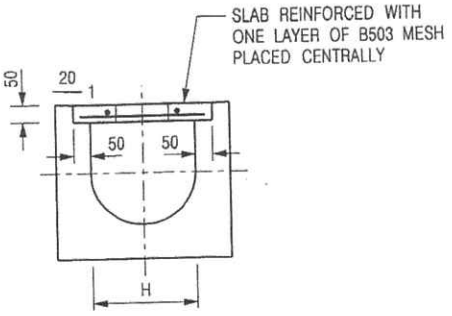
Alignment of the Proposed 300mm U-C

P2; shows the proposed 300 mm U-C intercepts the surface runoff from the parking area of the manhole

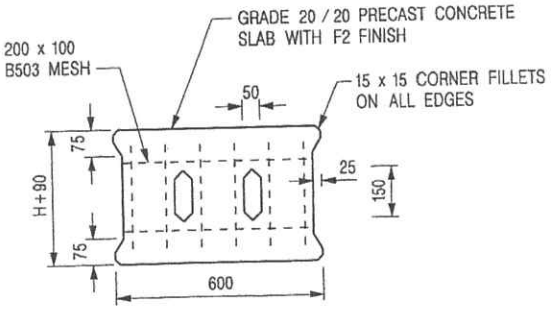
Photos showing site conditions

P3: shows the concrete pipe discharge

P4: Shows the approx. dimension of concrete pipe,



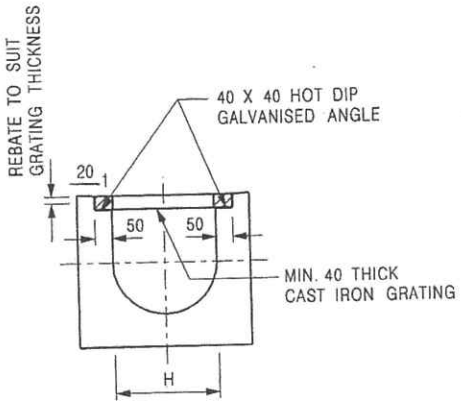
TYPICAL SECTION



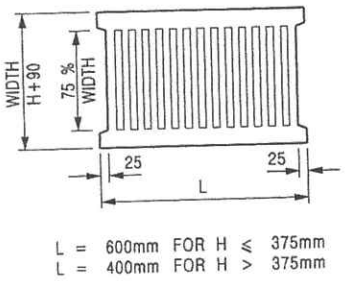
PLAN OF SLAB

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.

REF.	REVISION	SIGNATURE	DATE
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

COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

Channel Design

Rational Method is adopted

The formula is

$$Q = \frac{k \cdot i \cdot A}{3600}$$

where

Q = maximum runoff (litres/sec)

i = design mean intensity of rainfall (mm/hr) which is dependant upon the time of concentration.

A = area in (m^2) and

k = runoff coefficient.

Assuming a return period of 50 yrs & $t_c \geq 1$ $i = 350$ mm/hr

Catchment area is $15 \times 25 + 15 \times 8 = 490\ m^2$

$$Q = \frac{1 \times 350 \times 490}{3600} (l/sec) \text{ or } 48\ l/sec \sim 2{,}900\ l/min$$

Based on Figure 8.7 attached

225 mm U-C with gradient of 1:100 is adequate

However for easy maintenance of the drain

300 mm U-C (covered) with gradient of 1:100 is proposed.

Computed by | Checked by | Distribution | Filed in

Date | Date

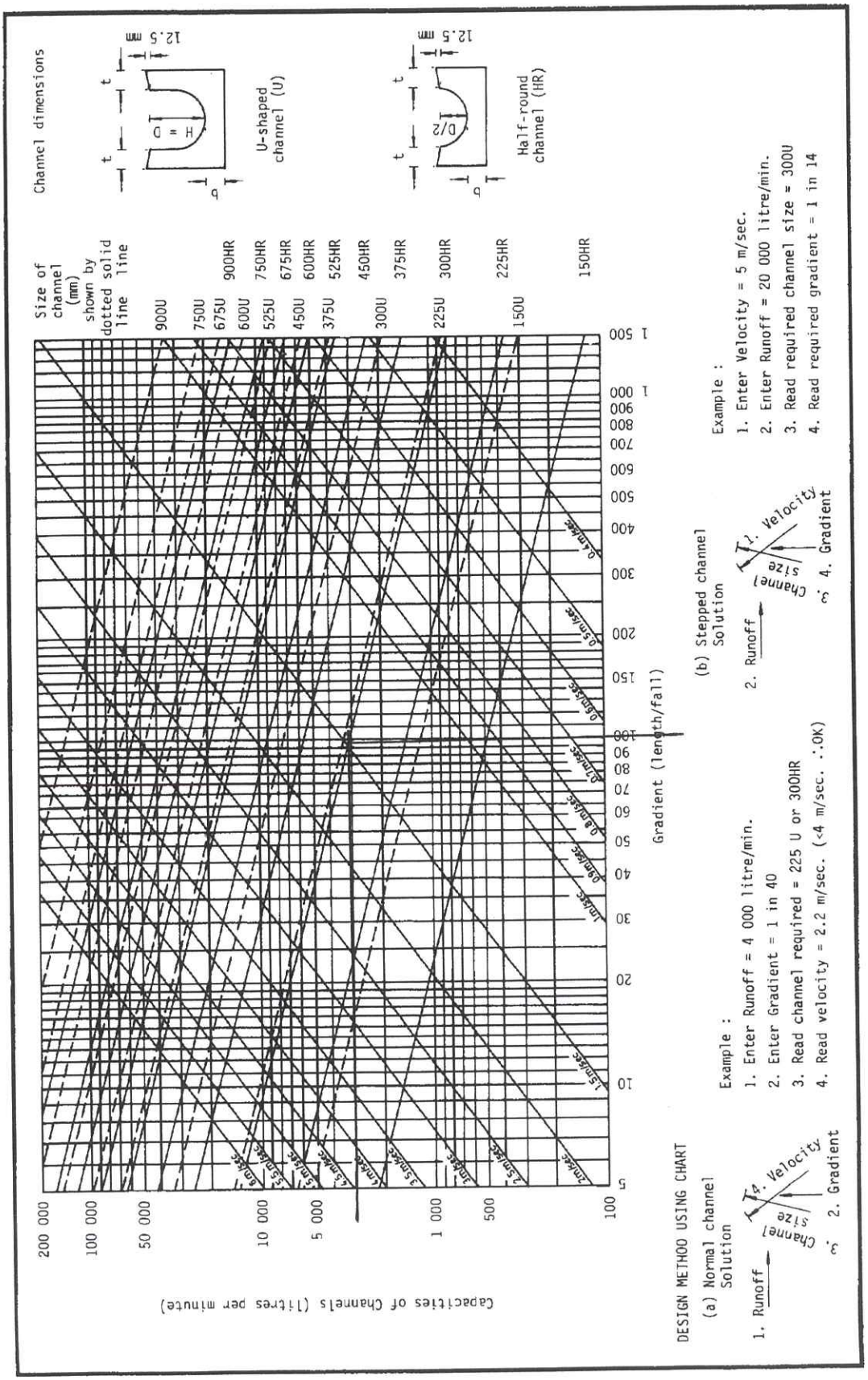
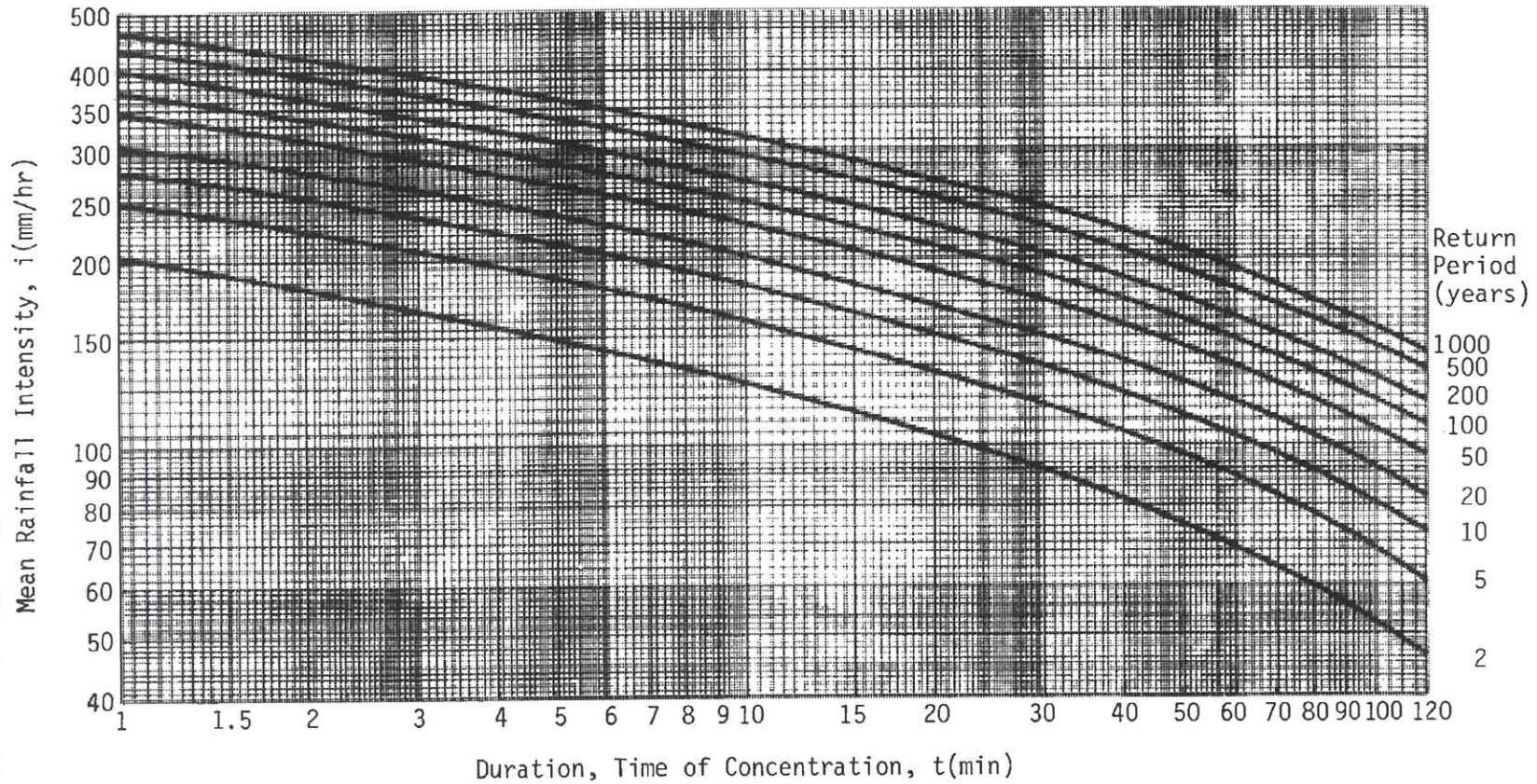


Figure 8.7 - Chart for the Rapid Design of Channels



Note : The intensity-duration rainfall curves are from Peterson & Kwong (1981) - A design rainstorm profile for Hong Kong, Technical Note No. 58, Royal Observatory, Hong Kong. Data from tilting siphon records 1947-1980 (Royal Observatory) and instantaneous rate-of-rainfall records 1952-1980 (King's Park).

Figure 8.2 - Curves Showing Duration and Intensity of Rainfall in Hong Kong for Various Return Periods