

**Temporary Warehouse for Storage of Furniture for a Period of 3 Years
at
Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.**

Annex 1 DRAINAGE PROPOSAL

1.1 Existing Situation

A. Site particulars

- 1.1.1 The application site had been paved. The application site occupies an area of about 401m².
- 1.1.2 The area adjacent to the proposed development is mainly rural in nature. It is surrounded by other open storage yards and warehouses to the north, west, south and east. The northern site boundary is abutting a vehicular track leading from Kung Um Road.

B. Level and gradient of the subject site & proposed surface channel

- 1.1.3 It has a gradient sloping from north to south from about +20.7mPD to +19.7mPD. **(Figure 4)**

C. Catchment area of the proposed drainage provision at the subject site

- 1.1.4 According to **Figure 4**, the application site is slightly higher than the land to the north, east, west and south.
- 1.1.5 As such, no external catchment has been identified.

D. Particulars of the existing drainage facilities to accept the surface runoff collected at the application site

- 1.1.6 As shown in **Figure 4**, an existing open drain is found to the immediate south of the application site. The collected surface runoff will be dissipated to this open drain.

1.2 Runoff Estimation

1.2.1 Rational method is adopted for estimating the designed run-off

$$Q = k \times i \times A / 3,600$$

Assuming that:

- i. The area of the entire catchment is approximately 401m²;
- ii. The application site has been fully paved. It is assumed that the value of run-off co-efficient (k) is taken as 1.

$$\text{Difference in Land Datum} = 20.7\text{m} - 19.7\text{m} = 1\text{m}$$

$$L = 52\text{m}$$

$$\therefore \text{Average fall} = 1\text{m in } 52\text{m}$$

According to the Brandsby-Williams Equation adopted from the “Stormwater Drainage Manual – Planning, Design and Management” published by the Drainage Services Department (DSD),

$$\text{Time of Concentration (t}_c\text{)} = 0.14465 [L / (H^{0.2} \times A^{0.1})]$$

$$t_c = 0.14465 [52 / (1.92^{0.2} \times 401^{0.1})]$$

$$t_c = 3.62 \text{ minutes}$$

With reference to the Intensity-Duration-Frequency Curves provided in the abovementioned manual, the mean rainfall intensity (i) for 1 in 50 recurrent flooding period is found to be 300 mm/hr

$$\text{By Rational Method, } Q_1 = 1 \times 300 \times 401 / 3,600$$

$$\therefore Q_1 = 33.42 \text{ l/s} = 2,005 \text{ l/min} = 0.034\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in “Geotechnical Manual for Slopes”, for an approximate gradient of about 1:55 and 1:60 in order to follow the gradient of the application site, 225mm surface U-channel at the uncovered area as shown in Figure 4 is considered adequate to dissipate all the stormwater accrued by the application site.

1.3 Proposed Drainage Facilities

- 1.3.1 Subject to the calculations in 1.2 above, it is determined that proposed 225mm concrete surface U-channel at the uncovered part of the application site is adequate to intercept storm water passing through and generated at the application site (**Figure 4**).
- 1.3.2 The collected stormwater will then be discharged to the existing open drain to the south of the application site.
- 1.3.3 All the proposed drainage facilities will be provided and maintained at the applicant's own expense. Also, sand trap and surface U-channel will be cleaned at regular interval to avoid the accumulation of rubbish/debris which would affect the dissipation of storm water.
- 1.3.4 The provision of the proposed surface channel will follow the gradient of the application site. All the proposed drainage facilities will be constructed and maintained at the expense of the applicant.
- 1.3.5 Prior to the commencement of the drainage works, the applicant will seek consent from District Lands Office/Yuen Long and relevant land owners for the provision of drainage facilities outside the application site.
- 1.3.6 The proposed development would not affect the existing ditches, drains and obstruct the flow of the flow of surface runoff.
- 1.3.7 The provision of surface channel at site boundary is detailed hereunder:
- (a) Soil excavation at site periphery, although at minimal scale, is inevitably for the provision of surface channel and landscaping. In the reason that the accumulation of excavated soil at the site periphery would obstruct the free flow of the surface runoff from the surroundings, the soil will be cleared at the soonest possible after the completion of the excavation process.
 - (b) In view of that soil excavation may be continued for several working days, surface channel will be dug in short sections and all soil excavated will be cleared before the excavation of another short section.
 - (c) No leveling work will be carried at the site periphery. The level of the site periphery will be maintained during and after the works. As such, the works at the site periphery would not either alter or obstructed the flow of surface runoff from adjacent areas.
 - (d) Some holes will be provided at the toe of the site hoarding so as not to interrupt the free flowing of the surface runoff from adjacent land.

Annex 2 Estimated Traffic Generation

- 2.1 The application site is abutting and serviced by Kung Um Road. Having mentioned that the site is intended for storage of furniture in only 401m², traffic generated by the proposed development is extremely insignificant.
- 2.2 The estimated average traffic generation and traffic generation rate at peak hours are as follow:

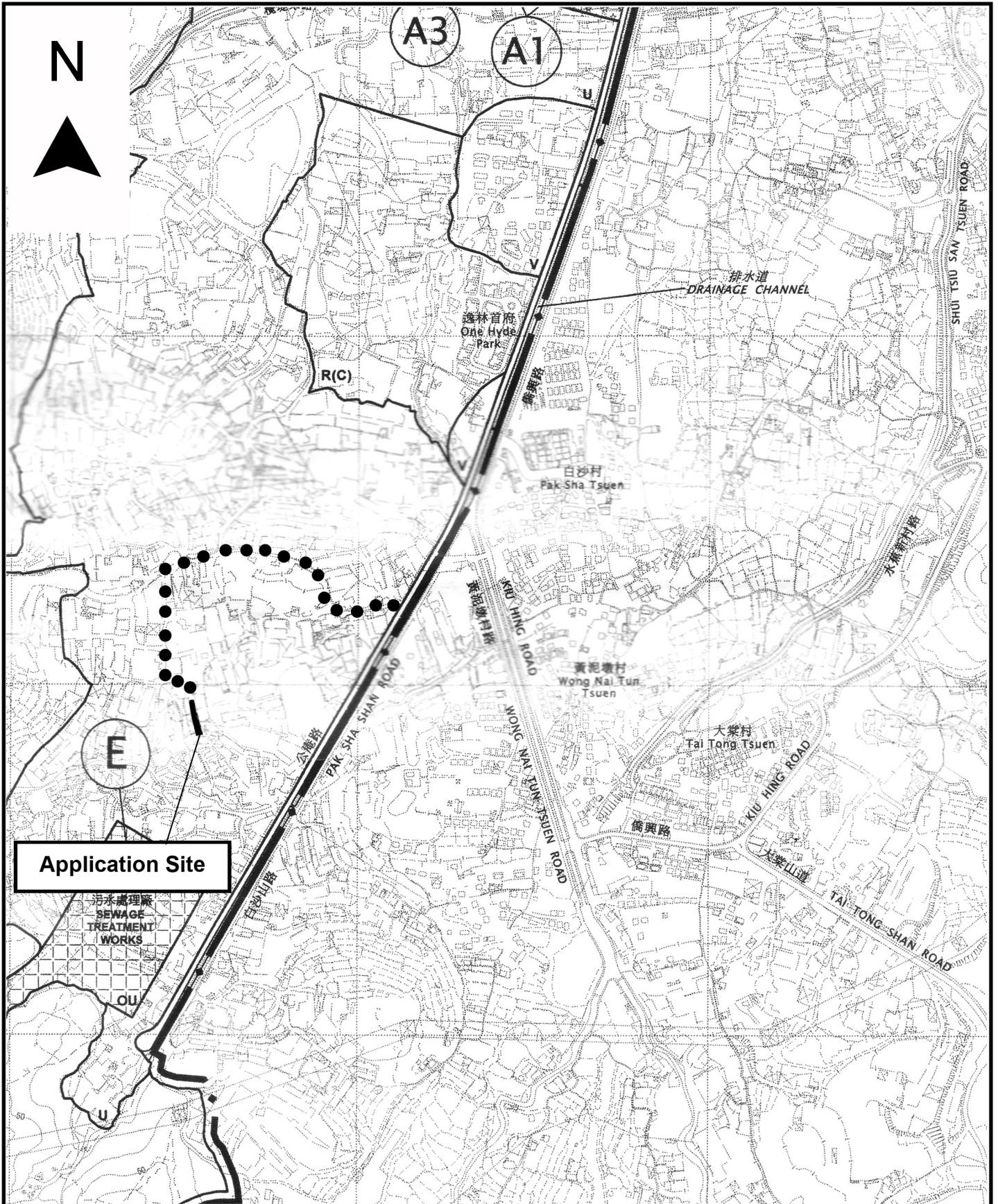
Type of Vehicle	<u>Average Traffic Generation Rate</u> (pcu/hr)	<u>Average Traffic Attraction Rate</u> (pcu/hr)	<u>Traffic Generation Rate at Peak Hours</u> (pcu/hr)	<u>Traffic Attraction Rate at Peak Hours</u> (pcu/hr)
Light goods vehicle	0.19	0.19	0	0

Note 1: The opening hour of the proposed development is restricted to 9:00 a.m. to 5:00 p.m. from Mondays to Saturdays. No operation will be held on Sundays and public holidays.

Note 2: The pcu of light goods vehicle is taken as 1.5.

Note 3: Morning peak is defined as 7:00a.m. to 9:00a.m. whereas afternoon peak is defined as 5:00p.m. to 7:00p.m.

- 2.3 As shown in the above estimation, it is estimated that the proposed development would not generate significant amount of traffic. It would not affect the traffic condition of Kung Um Road.
- 2.4 In association with the intended purpose, adequate space for manoeuvring of vehicle would be provided within the application site and queueing up of traffic would not be the result especially that the traffic generated is insignificant. The negligible increase in traffic would not aggravate the traffic condition of Kung Um Road and nearby road networks.



Project 項目名稱:

Proposed Temporary Warehouse for Storage of Furniture for a Period of 3 Years at Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.

Drawing Title 圖目:

Location Plan

Drawing No. 圖號:

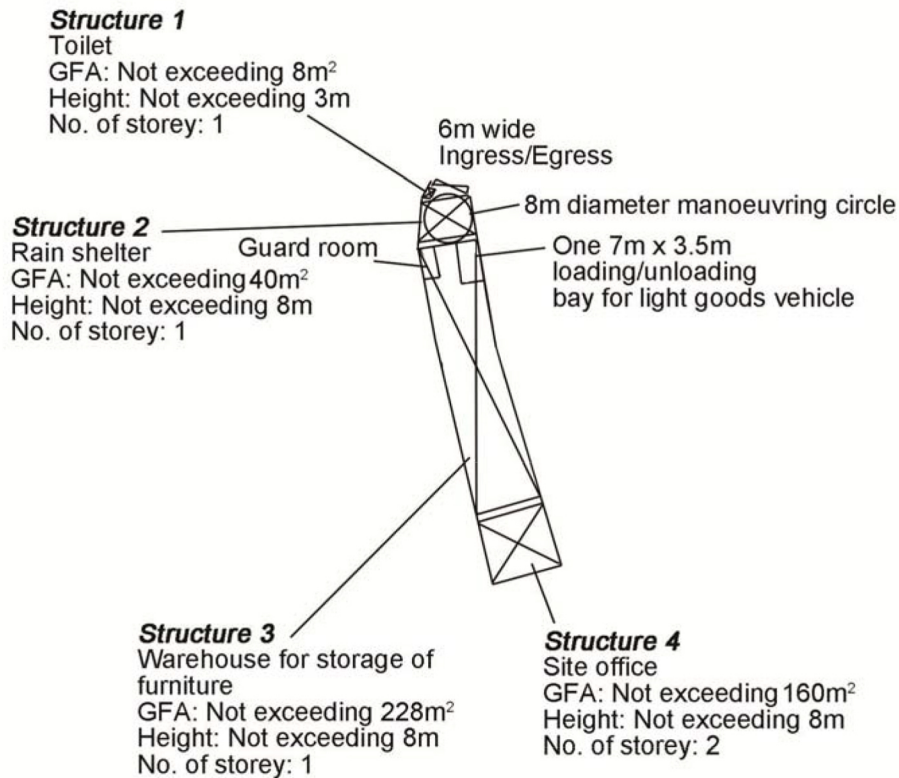
Figure 2

Remarks 備註:

- Vehicular access leading from Kung Um Road

Scale 比例:

1:7500



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Proposed Temporary Warehouse for Storage of Furniture for a Period of 3 Years at Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.

Drawing Title 圖目:

Proposed Layout Plan

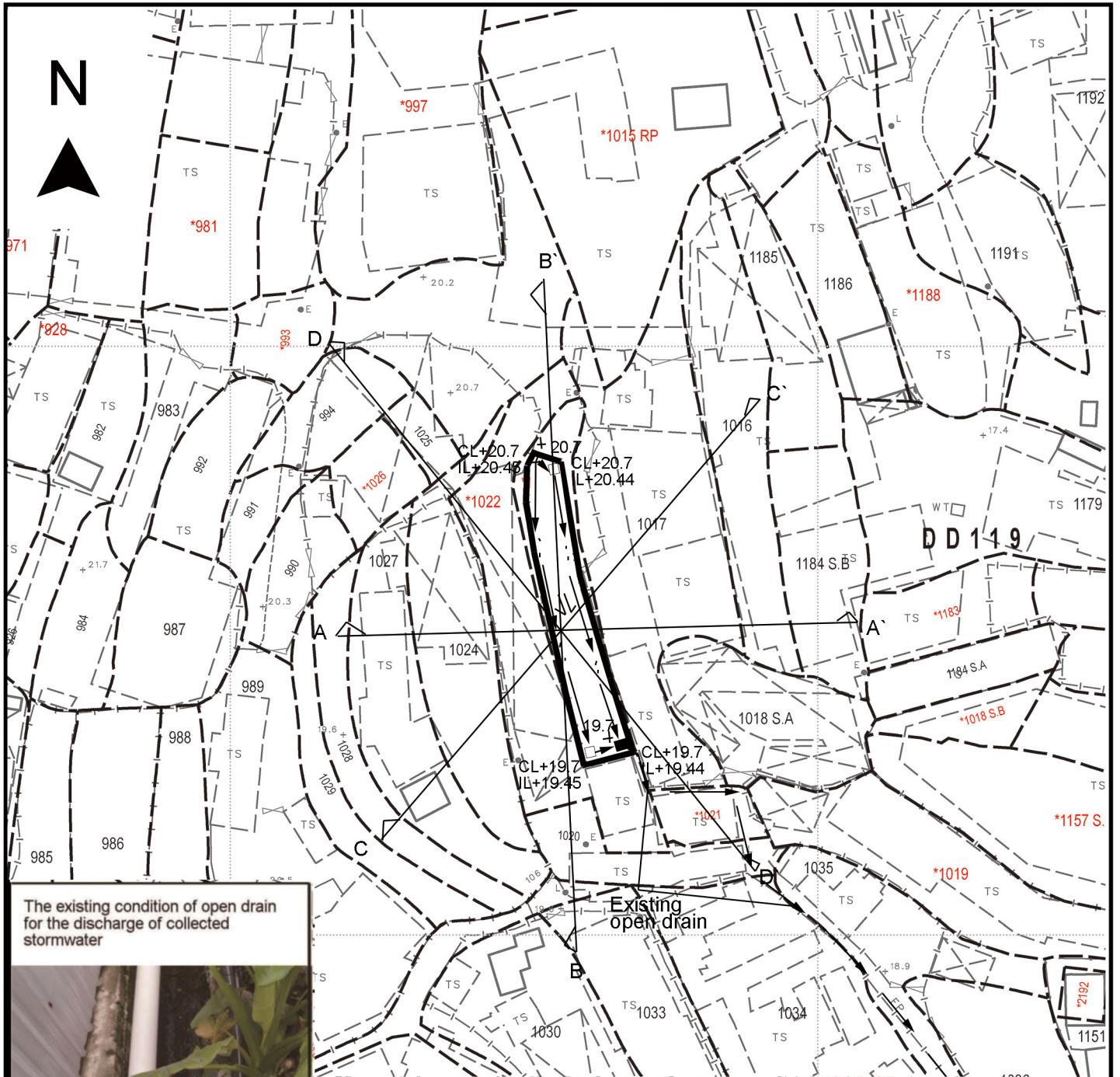
Remarks 備註:

Drawing No. 圖號:

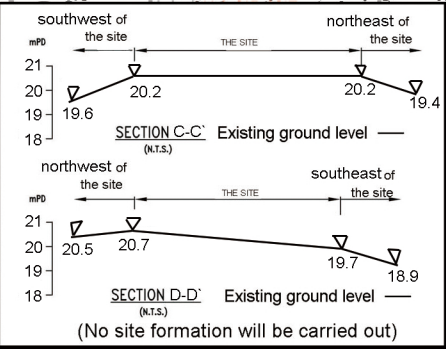
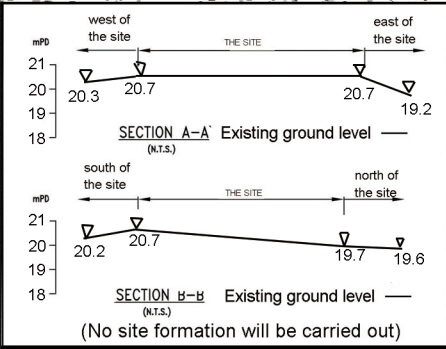
Figure 3

Scale 比例:

1:1000



The existing condition of open drain for the discharge of collected stormwater



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Drawing Title 圖目:

Proposed Drainage Plan

Drawing No. 圖號:

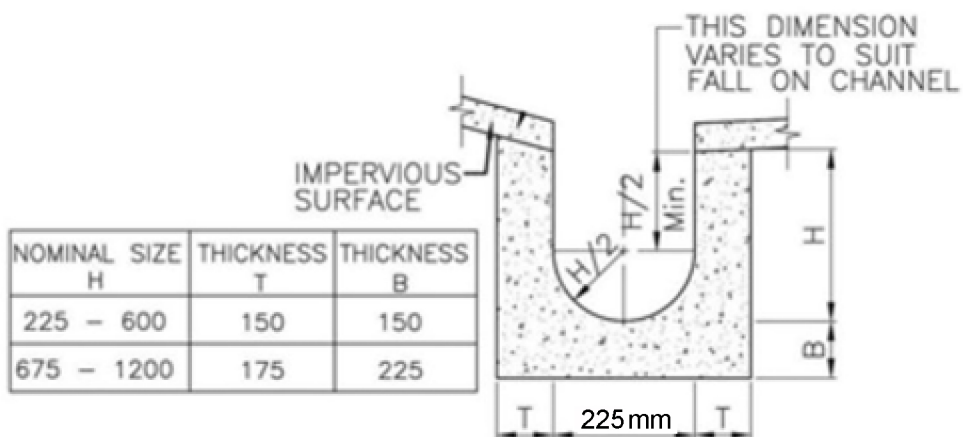
Figure 4

Remarks 備註:

- +20.7 Level (in mPD)
- Existing structure
- Flow of surface runoff
- Proposed catchpit

Scale 比例:

1:1000



DETAILS OF U-CHANNEL
 (REFERENCE : FIG. 8.11 OF
 GEOTECHNICAL MANUAL FOR SLOPES)
 (N.T.S.)

Project 項目名稱:

Proposed Temporary Warehouse for Storage of Furniture for a Period of 3 Years at Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.

Drawing Title 圖目:

Details of Proposed Surface U-channel

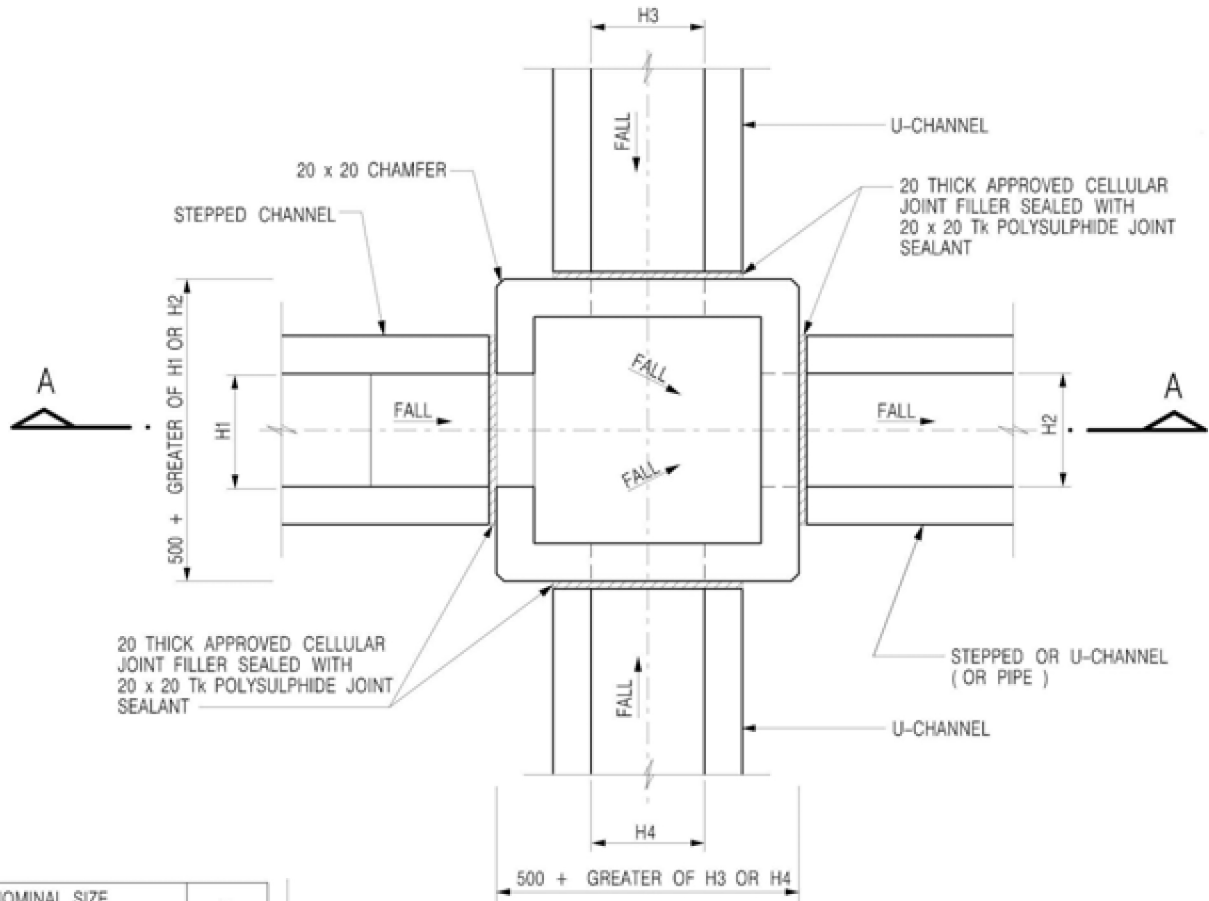
Remarks 備註:

Drawing No. 圖號:

Figure 5

Scale 比例:

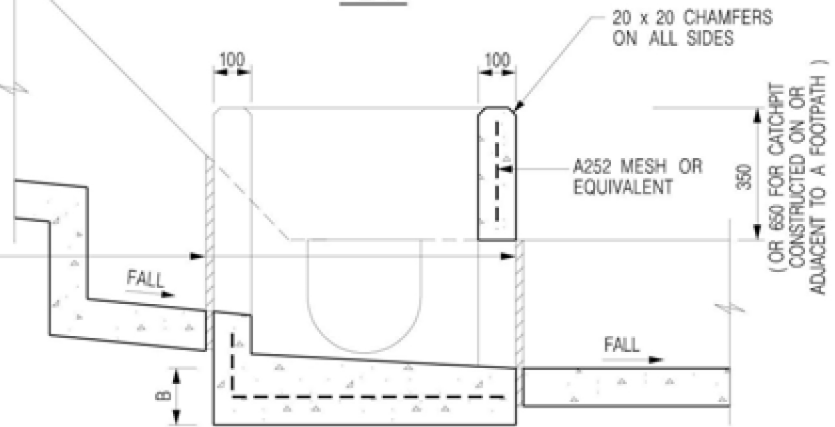
Not to scale



PLAN

NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT

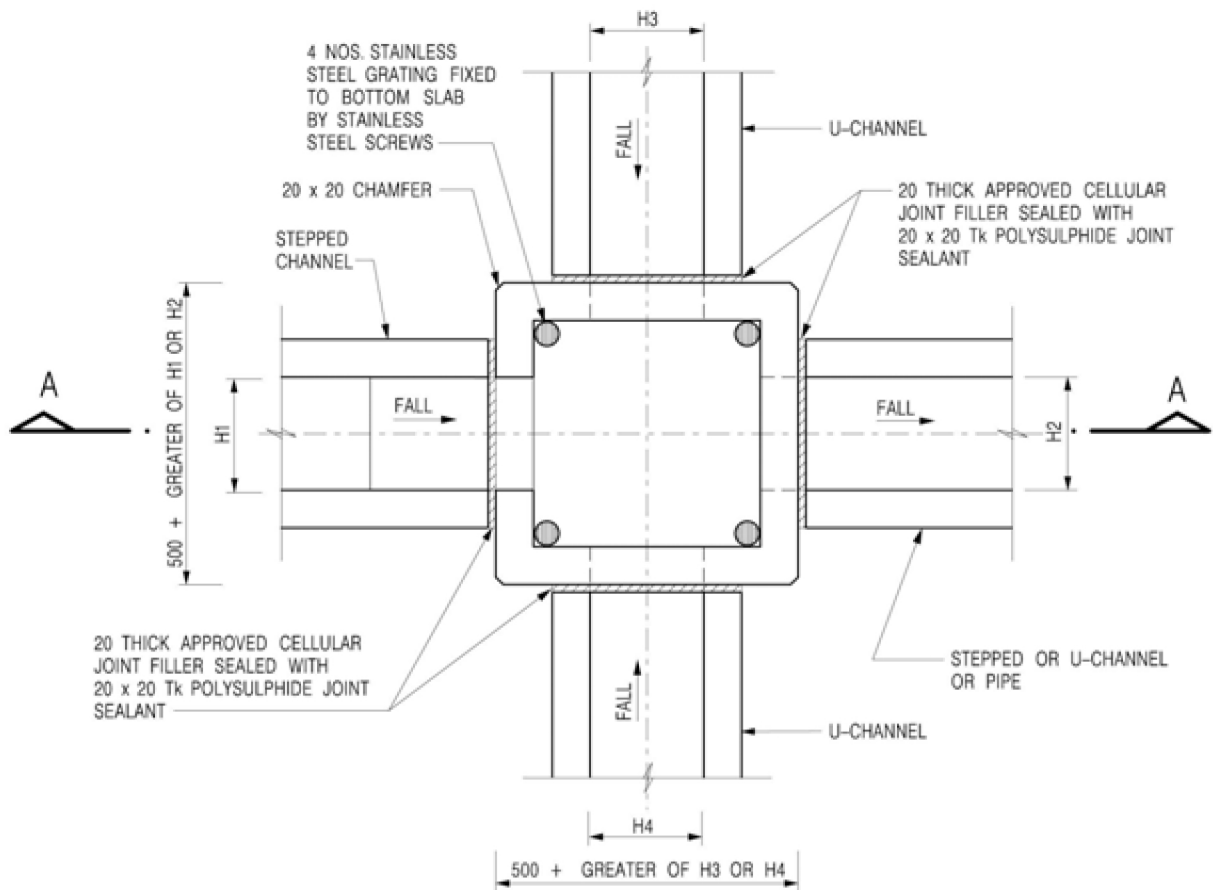


SECTION A - A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

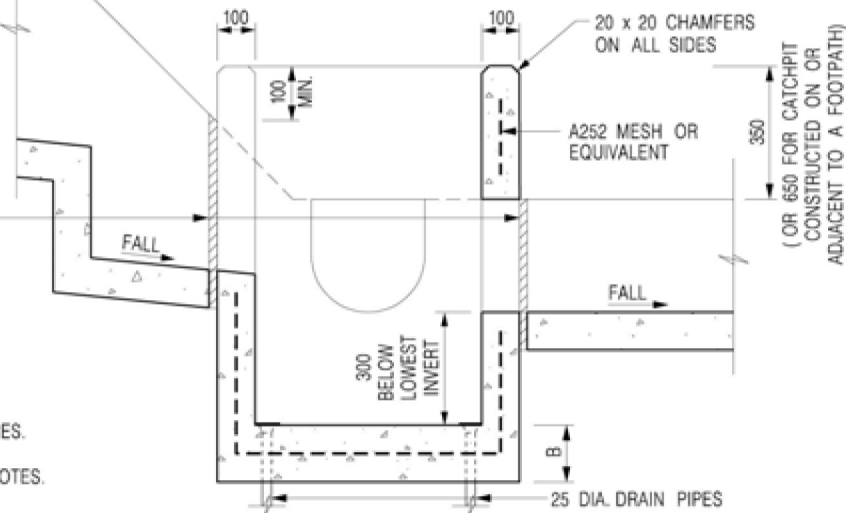
Project 項目名稱: Proposed Temporary Warehouse for Storage of Furniture for a Period of 3 Years at Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.	Drawing Title 圖目: The Details of the Proposed Catchpit	Remarks 備註:
	Drawing No. 圖號: Figure 6	Scale 比例: Not to scale



PLAN

NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4)	B
300 - 600	150
675 - 900	175

20 THICK APPROVED CELLULAR JOINT FILLER SEALED WITH 20 x 20 Tk POLYSULPHIDE JOINT SEALANT



SECTION A - A

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 2 FOR OTHER NOTES.

Project 項目名稱:

Proposed Temporary Warehouse for Storage of Furniture for a Period of 3 Years at Lot 1023 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, N.T.

Drawing Title 圖名:

The Details of Catchpit with Desilting Function

Remarks 備註:

Drawing No. 圖號:

Figure 7

Scale 比例:

Not to scale