Proposed Temporary Warehouse for Storage of Construction Materials for a Period of 3 Years
at
Lot 1190 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, New Territories

Annex 1 Drainage Proposal

1.1 Existing Situation

A. Site particulars

1.1.1 The application site occupies an area of about 950m^2.

1.1.2 The site is serviced by a vehicular access leading from Kung Um Road. The area adjacent to the proposed development is mainly rural in nature and many temporary structures for storage use adjacent to the site.

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

1.1.3 It has a gradient sloping from northwest to southeast from about +18.2mPD to +17.6mPD. (**Figure 4**)

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

1.1.4 The land to the east, north and south is found lower in level than the application site. Although the land to the west of the site is found higher than the application site, a temporary stricture is found immediately adjoining the western site periphery of the application site which totally blocks the surface runoff from the west. As such, no external catchment is identified.

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

1.1.5 As shown in **Figure 4,** an open drain is found to east of the application site. The stormwater intercepted by the proposed surface channel at the application site will be dissipated to the said open drain and dissipate to the public drain along Kung Um Road.

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 catchment is approximately 950m^2; (**Figure 4**)
ii. It is assumed that the value of run-off co-efficient (k) is taken as 1 for conservative reason.

Difference in Land Datum = 18.2m – 17.6m = 0.6m

L = 53m

∴ Average fall = 0.6m in 53m or 1m in 88.33m

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

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

$t_c = 0.14465 [53/ 1.13^{0.2} \times 950^{0.1})]$

$t_c = 3.76$ 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

By Rational Method,

$Q_1 = 1 \times 300 \times 950 / 3,600$

$\therefore Q_1 = 79.17$ l/s = 4,750 l/min = 0.079m^3/s

In accordance with the Chart or the Rapid Design of Channels in "Geotechnical Manual for Slopes", for an approximate gradient of about 1:115 and 1:150 in order to follow the gradient of the application site, 375mm surface U-channel 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 375mm surface U-channel is adequate to intercept storm water generated at the application site (**Figure 4**).

1.3.2 The collected stormwater will then be discharged directly to the existing open drain to the east of the application site as shown in **Figure 4**.

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 underground drain at site boundary is detailed hereunder:

(a) Soil excavation at site periphery, is inevitably for the provision of underground drain. The accumulation of excavated soil at the site periphery would obstruct the free flow of the surface runoff from the surroundings. Hence, 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. The works at the site periphery would not either alter the flow of surface runoff from adjacent areas.

(d) 100mm gap will be provided at the toe of site hoarding to allow unobstructed flow of surface runoff.

Annex 2 Estimated Traffic Generation

2.1 The application site is serviced by a vehicular track leading from Kung Um Road. Having mentioned that the site is intended for warehouse use, traffic generated by the proposed development is not significant.

2.2 The proposed loading/unloading space at the application site would only be opened to visitors with prior appointment.

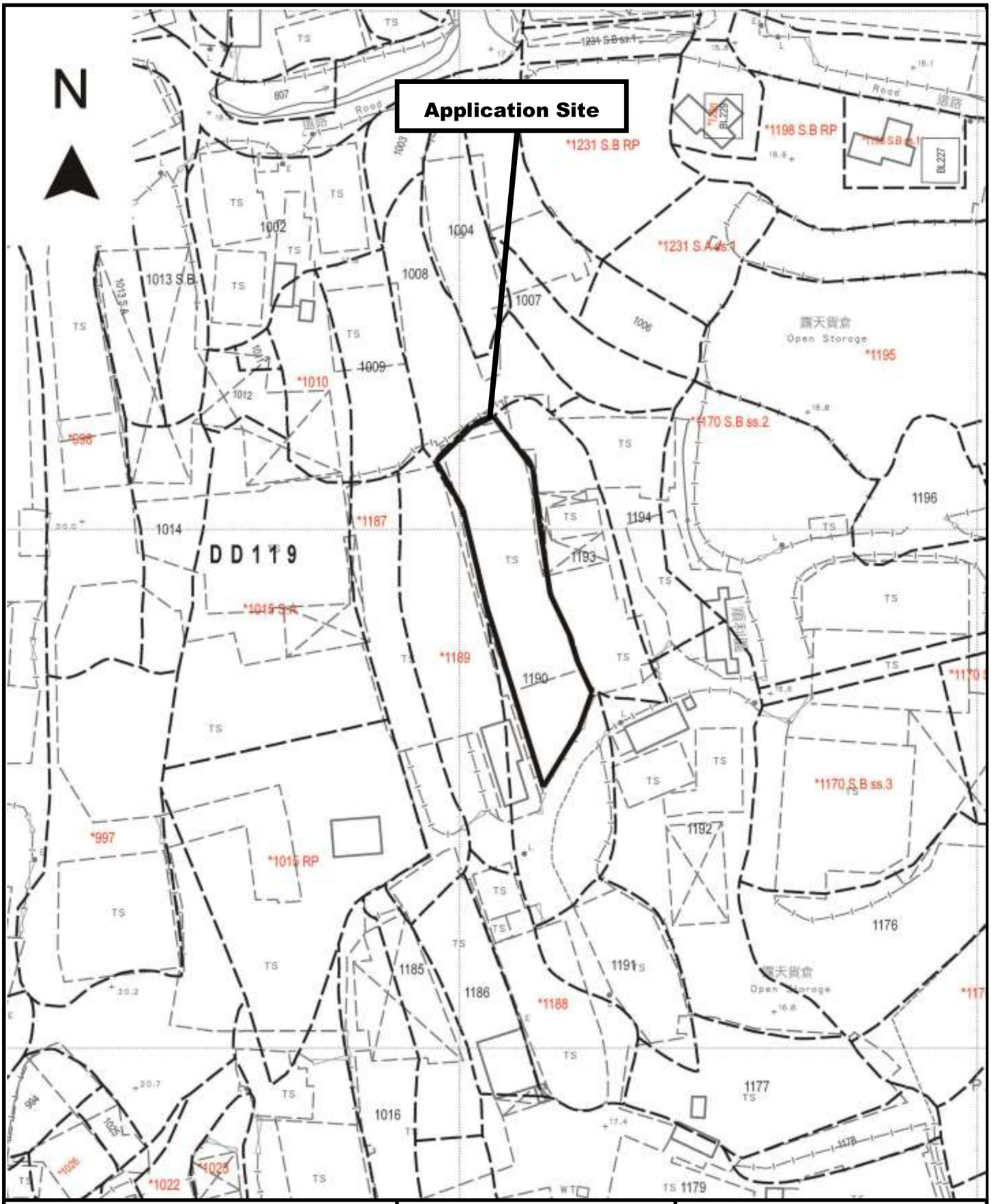
2.3 There will be one loading/unloading space of 7m x 3.5m for light goods vehicle. The estimated traffic generation/attraction rate is shown below:

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

Note:

1. The operation hours of the proposed development is from 9:00a.m. to 5:00p.m. from Mondays to Saturdays. No operation will be held on Sundays and public holidays.
2. The pcu of light goods vehicle is taken as 1.5; &
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.

2.4 In association with the intended purpose, adequate space for manoeuvring would be provided within the application site. Sufficient space within the application site is provided so that no queueing up of vehicle would be occurred outside the application site.



Project 項目名稱:

Proposed Temporary Warehouse for Storage of Construction Materials for a Period of 3 Years at Lot 1190 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, New Territories

Drawing Title 圖目:

Application Site

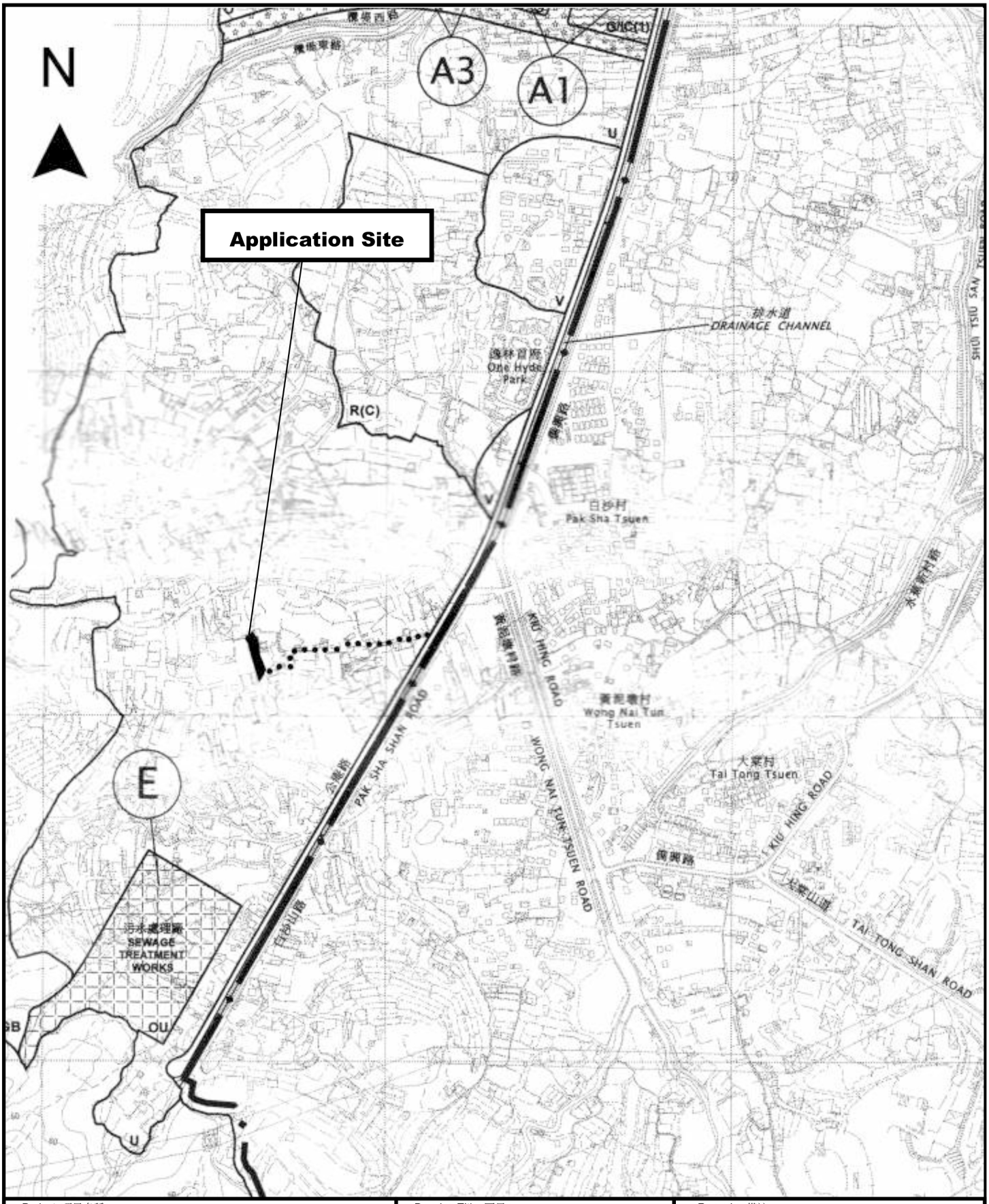
Drawing No. 圖號:

Figure 1

Remarks 備註:

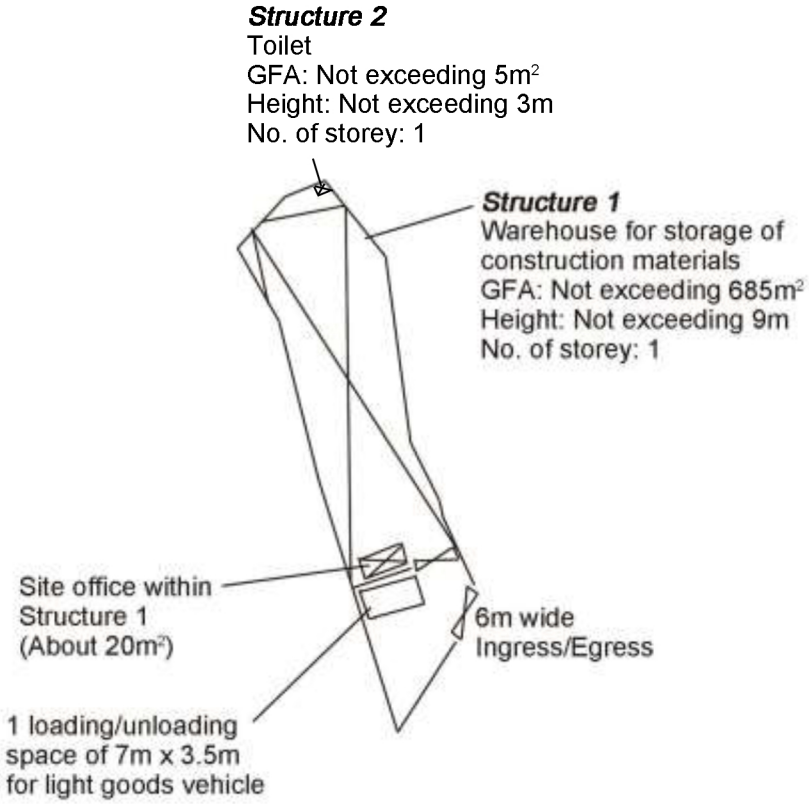
Scale 比例:

1:1000

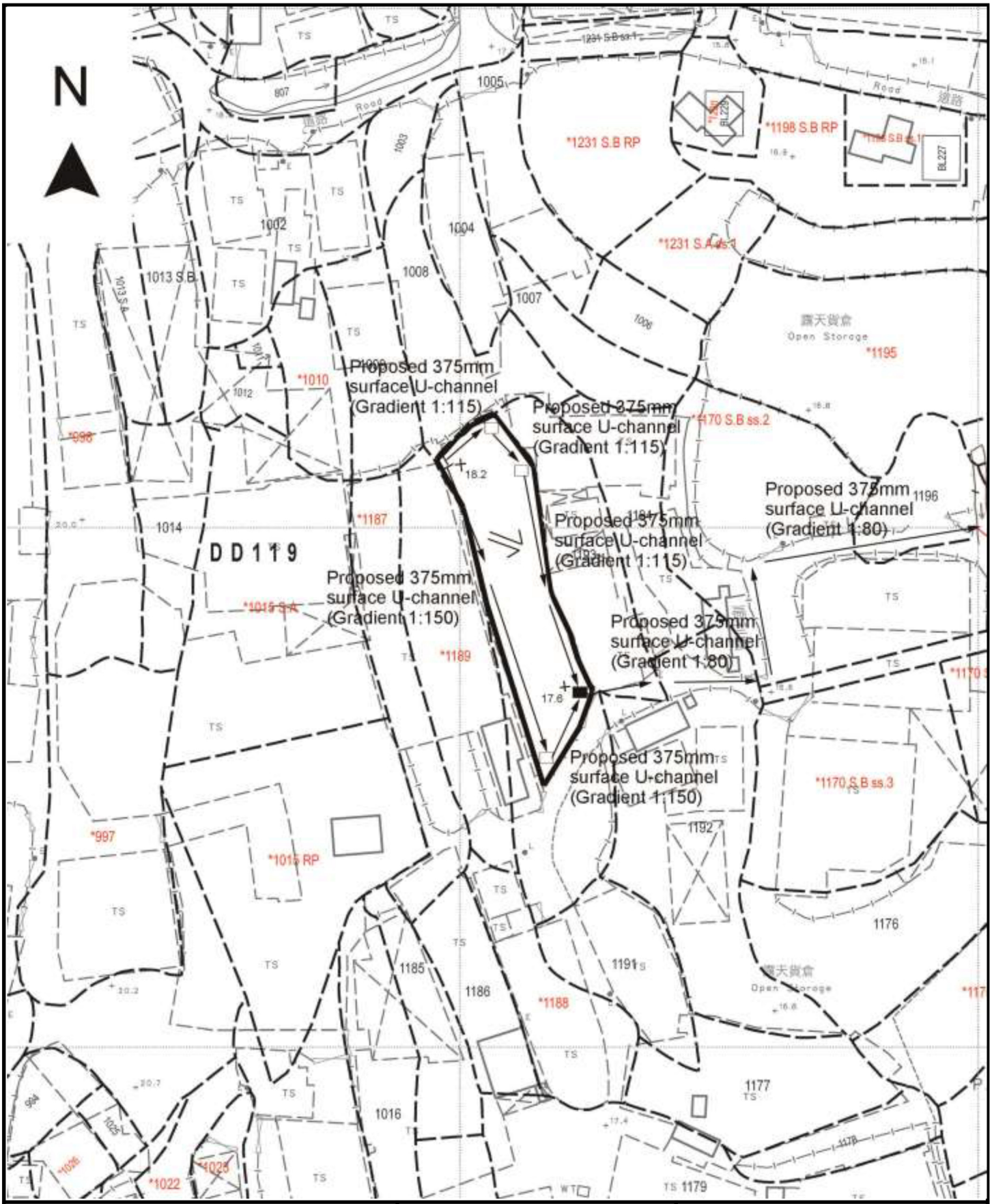


Project 項目名稱: Proposed Temporary Warehouse for Storage of Construction Materials for a Period of 3 Years at Lot 1190 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, New Territories	Drawing Title 圖目: Location Plan	Remarks 備註: ●●● Vehicular access leading from Kung Um Road
	Drawing No. 圖號: Figure 2	Scale 比例: 1:7500

N



Project 項目名稱:	Drawing Title 圖目:	Remarks 備註:
Proposed Temporary Warehouse for Storage of Construction Materials for a Period of 3 Years at Lot 1190 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, New Territories	Proposed Layout Plan	
	Drawing No. 圖號: Figure 3	Scale 比例: 1:1000



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Proposed Temporary Warehouse for Storage of Construction Materials for a Period of 3 Years at Lot 1190 (Part) in D.D. 119, Pak Sha Tsuen, Yuen Long, New Territories

Drawing Title 圖目:

Proposed Drainage Plan

Drawing No. 圖號:

Figure 4

Remarks 備註:

+18.2 Level (in mPD)

⇐ Flow of surface runoff

□ Proposed catchpit

■ Catchpit with sand trap

Scale 比例:

1:1000