

Proposed Temporary Open Storage and Warehouse for Storage of Construction Machinery and Construction Materials for a Period of 3 Years

at

Lots 1311 S.A (Part), 1312 (Part), 1313, 1331 S.B ss.1 & 1331 S.B RP (Part) in D.D.119, Yuen Long, N.T.

Annex 1 Drainage Proposal

1.1 Existing Situation

A. Site particulars

1.1.1 The application site occupied an area of about 3,130m².

1.1.2 The area adjacent to the proposed development is mainly rural in nature. It is surrounded by vacant land and open storage yards. An open drain is found to the north of the site.

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

1.1.3 It has a gradient sloping from southeast to north from about +12.1mPD to +11.3mPD.

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

1.1.4 According to **Figure 4**, it is noted that the level of the application site is comparatively higher than the adjoining land except to the south. As such, an external catchment has been identified in **Figure 4**.

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 the north of the application site.

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 7,800m²;
- ii. For conservative reason, it is assumed that the value of run-off co-efficient (k) is taken as 1.

$$\text{Difference in Land Datum} = 12.2\text{m} - 11.3\text{m} = 0.9\text{m}$$

$$L = 105\text{m}$$

$$\therefore \text{Average fall} = 0.9\text{m in } 105\text{m} \text{ or } 1\text{m in } 116.67\text{m}$$

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

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

$$t_c = 0.14465 [105 / (0.86^{0.2} \times 7,800^{0.1})]$$

$$t_c = 6.39 \text{ minutes}$$

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 260 mm/hr

$$\text{By Rational Method, } Q_1 = 1 \times 260 \times 7,800 / 3,600$$

$$\therefore Q_1 = 563.33 \text{ l/s} = 33,800 \text{ l/min} = 0.56\text{m}^3/\text{s}$$

In accordance with the Chart or the Rapid Design of Channels in “Geotechnical Manual for Slopes”, for an approximate gradient of about 1:130 and 1:150 in order to follow the gradient of the application site, 600mm 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 600mm surface U-channel along the site periphery is adequate to intercept storm water passing through and generated at the application site (**Figure 4**).
- 1.3.2 Catchpit will be provided at the turning point of the surface U-channel. Sand trap or alike will be provided at the terminal catchpit.
- 1.3.3 The collected stormwater will then be dissipate to the open drain to the south of the application site.
- 1.3.4 All the proposed drainage facilities will be provided and maintained at the applicant’s own expense.
- 1.3.5 The provision of the proposed surface channel will follow the gradient of the application site.

- 1.3.6 Prior to the commencement of drainage works, the applicant will seek the consent of the District Lands Office/North and relevant registered land owner for works outside the application site or outside the jurisdiction of the applicant.
- 1.3.7 All proposed works at the site periphery would not obstruct the flow of surface runoff from the adjacent areas, 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. 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) 100mm opening will be reserved at the toe of the 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. It is situated amidst the ‘Agriculture’ (“AGR”) zone. According to the Town Planning Board Guideline 13G, the application site is categorized as ‘Category 2 Areas’ of which open storage use may be approved in the event that there is no objection from Government departments.
- 2.2 Also, the proposed two 7m x 3.5m loading/unloading spaces at the application site would only be opened to users with prior appointment. No visitors will be allowed to visit the proposed development.
- 2.3 The estimated average traffic generation and traffic generation rate at peak hours are as follow:

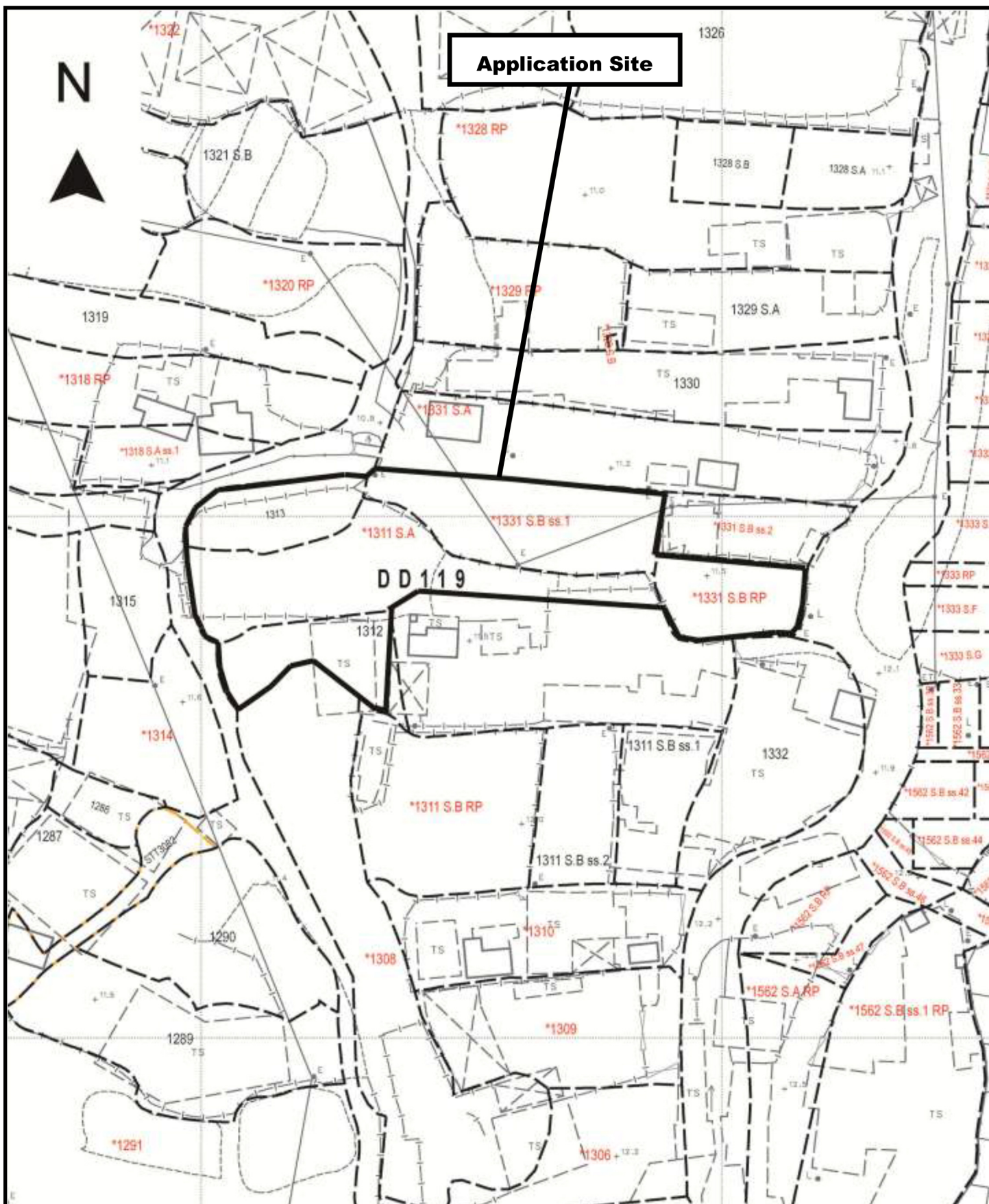
Type of Vehicle	<u>Average Traffic Generation Rate</u> (pcu/hr)	<u>Average Traffic Attraction Rate</u> (pcu/hr)	<u>Traffic Generation Rate at Peak Hours</u> (pcu/hr)	<u>Traffic Attraction Rate at Peak Hours</u> (pcu/hr)
Light goods vehicle	0.75	0.75	0	0

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 carried out on Sundays including 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.

- 2.4 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 the Kung Um Road. The negligible increase in traffic would not aggravate the traffic condition of nearby road networks.



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Drawing Title 圖目:

Application Site

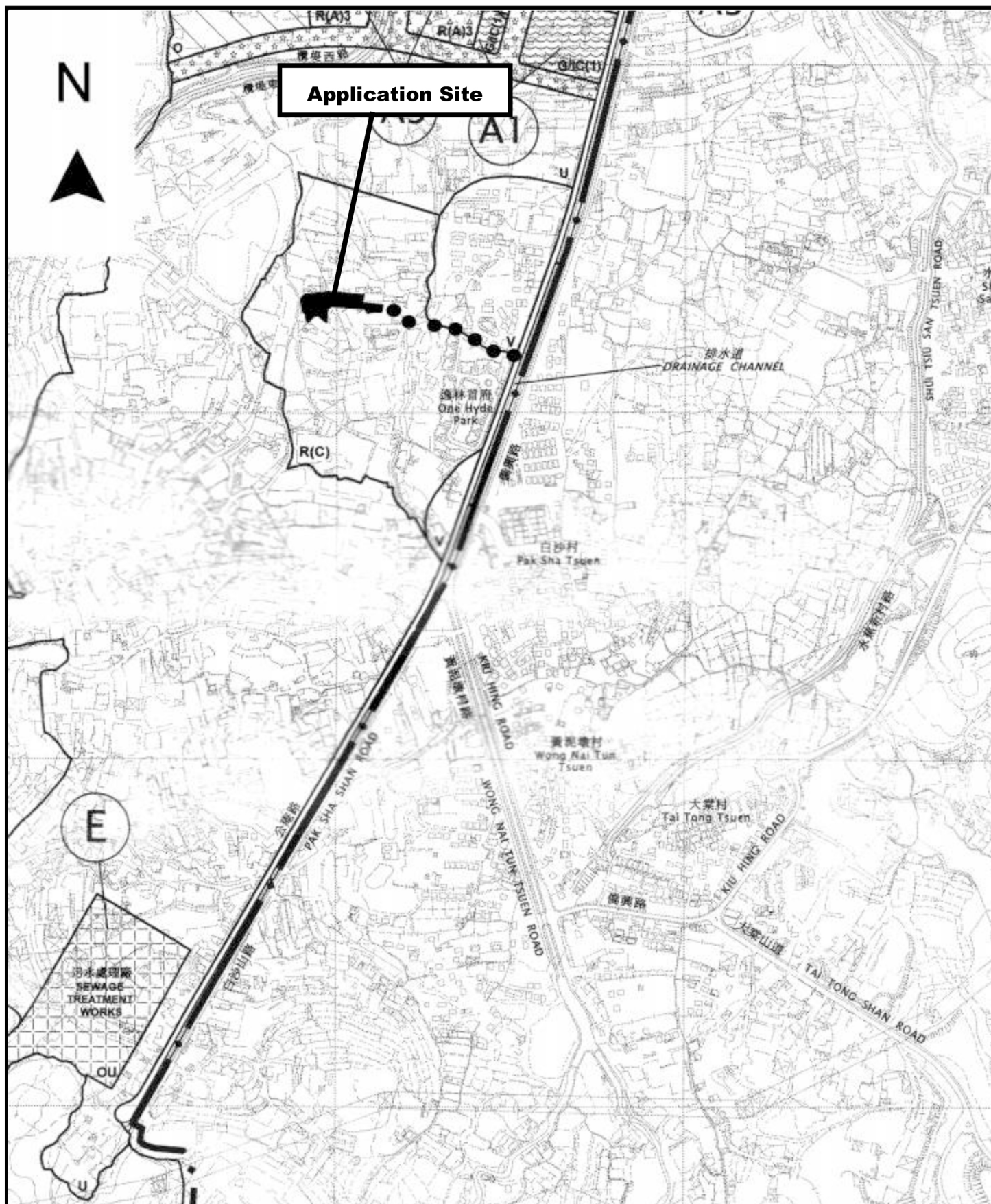
Drawing No. 圖號:

Figure 1

Remarks 備註:

Scale 比例:

1:1000



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Drawing Title 圖目:

Location Plan

Drawing No. 圖號:

Figure 2

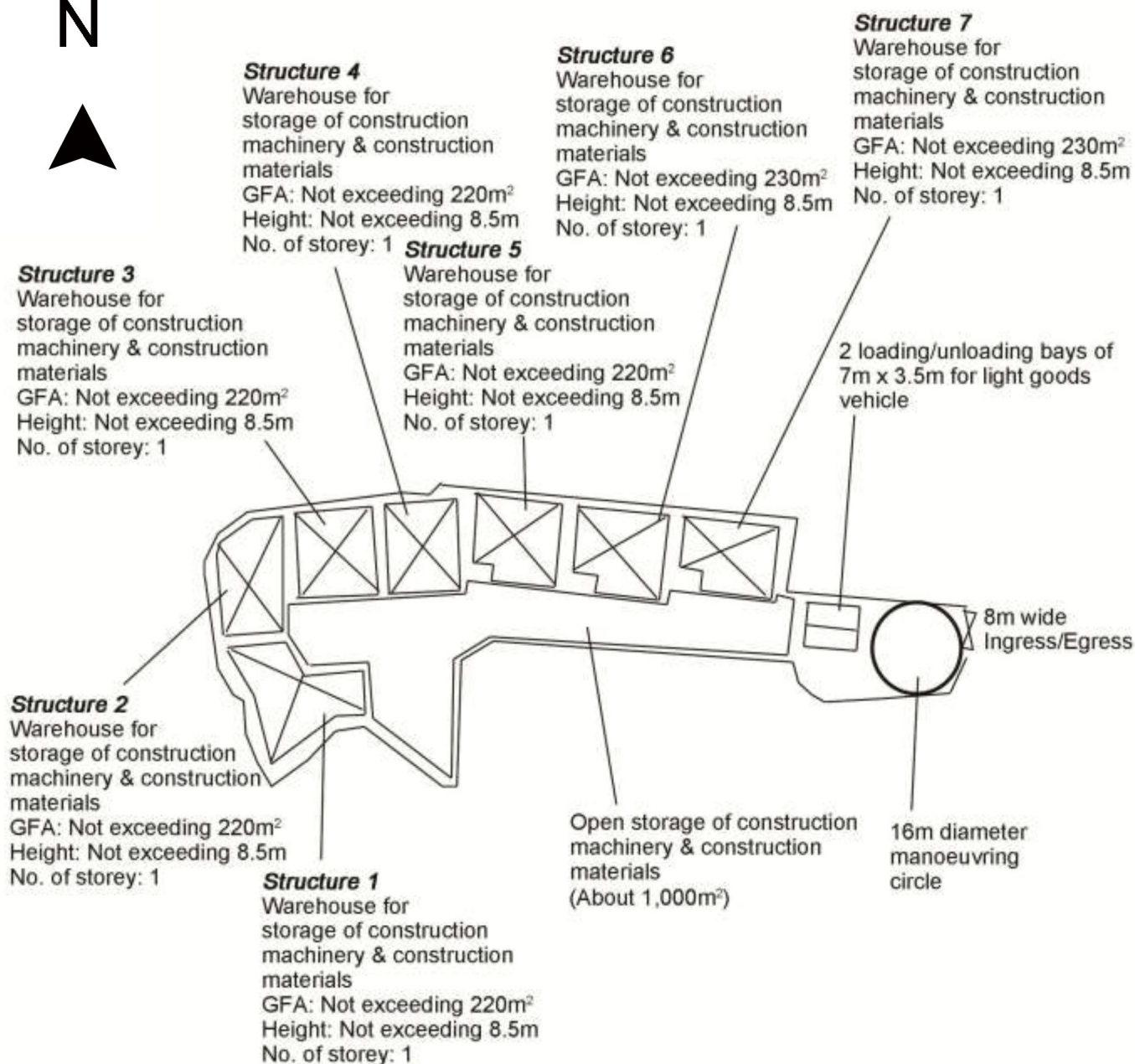
Remarks 備註:

- Vehicular access leading from Kung Um Road

Scale 比例:

1:7500

N



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Drawing Title 圖目:

Proposed Layout Plan

Remarks 備註:

Drawing No. 圖號:

Figure 3

Scale 比例:

1:1000

