**Proposed Filling and Excavation of Land for Permitted Development of New Territories Exempted House (NTEH)**
**at**
**Lot 143 S.B RP in D.D. 112, Shek Kong, Yuen Long, N.T.**

## Annex 1 Estimated Traffic Generation

1.1 The application site is not accessible by vehicular track. As such, it would not generate any traffic to and from the application site.

1.2 As shown in the attached Figure 5, the nearest public transport available is about 100m away from the application site. It means that the application site is well served by the public transport including red mini-bus and green mini-bus and it could be accessible from the nearest public transport point by foot.

# Annex 2 Drainage Assessment

## 2. Existing Situation

A. Site particulars

2.1.1 The subject site possesses an area of about 290m$^2$.

2.1.2 The site is vacant at the moment. A good number of village houses are found to the east and west of the application site.

2.1.3 It is proposed to fill the application site with concrete ranging from 0.32m to 0.8m.

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

2.1.4 In order to follow the topography of the subject site, the proposed surface U-channel will be constructed following the gradient of the site. As demonstrated in the calculation in succeeding paragraphs, 300mm surface U-channel will be capable to drain surface runoff accrued at the subject site and the said passing through the site from adjacent area.

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

2.1.5 The level of the site is basically lower than the adjacent land to the east because a wall is found to the east of the site before the proposed filling work. No external catchment is found after the proposed site filling.

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

2.1.6 According to recent site inspection and the 1:1000 map, there is a public cacthpit to the northwest of the application site (**Figure 2**).

## 2.2 Runoff Estimation for the Catchment

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

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

Assuming that:

i. The size of catchment (site to be filled) is 290m$^2$.
ii. The catchment is hard paved, it is assumed that the value of run-off co-efficient (k) is taken as 1.

| | Catchment |
|---|---|
| Difference in Land Datum | = 28.48m – 28m<br>= 0.48m |
| L | = 23m |
| ∴ Average fall | = 1m in 47.92m |

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

| | Catchment |
|---|---|
| Time of Concentration ($t_c$) | = 0.14465 [ L/($H^{0.2} \times A^{0.1}$) ]<br><br>$t_c$ = 0.14465 [23/ ($2.09^{0.2} \times 290^{0.1}$) ]<br><br>$t_c$ = 1.63 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 the following:

***By Rational Method***, $Q_1 = 1 \times 335 \times 290 / 3,600$

$$\therefore Q_1 = 26.99 \text{ l/s} = 1,619.17 \text{ l/min}$$

2.2.2 In accordance with the Chart or the Rapid Design of Channels in "Geotechnical Manual for Slopes", for an approximate gradient as shown in the proposed drainage plan, the proposed 225mm surface channel in gradient 1:95 and 1:105 is considered adequate to dissipate all the stormwater accrued by the application site.

## 2.3 Proposed Drainage Facilities

2.3.1 Subject to the above calculations, it is determined that the proposed 225mm surface channel along the inner site periphery is adequate to intercept storm water passing through and generate at the subject site (**Figure 2**).

2.3.2 The intercepted stormwater at catchment will be dissipated to the existing public catchpit to the west of the subject site through adjoining lot and government land. (**Figure 2**)

2.3.3 All the proposed drainage facilities will be provided and maintained at the applicant's own expense.

2.3.4 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.

2.3.5 All proposed works at the site periphery would not obstruct the flow of surface runoff from the adjacent areas, the provision of trees and surface channel at site boundary is detailed hereunder:

(a) 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.

(b) The proposed development would neither alter nor obstruct the flow of surface runoff from adjacent areas.

(c) Adequate reserve, say, 10cm, will be provided at the toe of the site hoarding to be provided at the application site.