

FACTUAL REPORT ON HONG KONG RAINFALL AND LANDSLIDES IN 2005

GEO REPORT No. 223

H.S.W. Kong & A.F.H. Ng

**GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION**

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PREFACE

In keeping with our policy of releasing information which may be of general interest to the geotechnical profession and the public, we make available selected internal reports in a series of publications termed the GEO Report series. The GEO Reports can be downloaded from the website of the Civil Engineering and Development Department (<http://www.cedd.gov.hk>) on the Internet. Printed copies are also available for some GEO Reports. For printed copies, a charge is made to cover the cost of printing.

The Geotechnical Engineering Office also produces documents specifically for publication. These include guidance documents and results of comprehensive reviews. These publications and the printed GEO Reports may be obtained from the Government's Information Services Department. Information on how to purchase these documents is given on the second last page of this report.



R.K.S. Chan
Head, Geotechnical Engineering Office
May 2008

FOREWORD

This report presents a summary of the factual information on rainfall and landslides in Hong Kong throughout 2005. Details of most of the landslides were obtained from the records of incidents reported to the Geotechnical Engineering Office (GEO). Supplementary information was collected from the Agriculture, Fisheries and Conservation Department, Architectural Services Department, Drainage Services Department, Fire Services Department, Highways Department, Housing Department, Lands Department, Water Supplies Department and the GEO's landslide investigation consultants. The Hong Kong Observatory provided weather and rainfall information. The Standards and Testing Division carried out a review of the available rainfall records and rainfall analysis, and prepared Section 2 of this report. All contributions are gratefully acknowledged.

A handwritten signature in blue ink, consisting of a large, stylized initial 'H' followed by a series of connected loops and a final horizontal stroke.

K.K.S. Ho
Chief Geotechnical Engineer/LPM Division 1

ABSTRACT

This report presents a summary of the factual information on rainfall and landslides in Hong Kong throughout 2005. Rainfall information was obtained from the Hong Kong Observatory (HKO) to supplement the information available in the Geotechnical Engineering Office (GEO). Details of the landslides were obtained from the records of incidents reported to the GEO. Supplementary information was provided by the Agriculture, Fisheries and Conservation Department, Architectural Services Department, Drainage Services Department, Fire Services Department, Highways Department, Housing Department, Lands Department, Water Supplies Department and the GEO's landslide investigation consultants, namely Fugro Scott Wilson Joint Venture and Maunsell Geotechnical Services Limited.

Rainfall at the HKO's Principal Raingauge at Tsim Sha Tsui in 2005 amounted to 3214.5 mm, which was about 45.2% above the mean rainfall of 2214 mm recorded between 1961 and 1990. It was the third wettest year in Hong Kong since records began in 1884, and June and August 2005 was the fourth and the second wettest months respectively. The rainfall in these two months (1865.2 mm) amounted to about 84% of the normal annual rainfall. One Red Rainstorm Warning was issued on 24 June 2005, and 16 Amber Rainstorm Warnings were issued between 8 May 2005 and 20 August 2005.

Two Landslip Warnings were issued on 24 June 2005 and 19 August 2005 respectively. A total of 487 incidents that occurred in 2005 were reported to the Government. Of these, 481 were classified as genuine landslides. Of the 481 genuine landslides, 82 were major failures (i.e. with a failure volume of 50 m³ or more, or where a fatality has occurred).

One fatality was reported as a result of a landslide incident. Other notable consequences of the landslides included the evacuation of 42 squatter dwellings and 12 buildings. Sixty-two landslides resulted in the temporary closure of sections of roads and another 46 landslides resulted in the temporary closure of sections of pedestrian pavements, footpaths or other forms of minor access. Thirty-nine landslides affected catchwaters, two of which had significant knock-on effects on existing developments, resulting in serious consequences.

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1. INTRODUCTION

This report presents a summary of the factual information on rainfall and landslides that occurred in Hong Kong throughout 2005. Rainfall information was obtained from the Hong Kong Observatory (HKO) to supplement the information available in the Geotechnical Engineering Office (GEO). Details of the landslide were obtained from the records of incidents reported to the GEO. Supplementary information was provided by the Agriculture, Fisheries and Conservation Department (AFCD), Architectural Services Department (Arch SD), Drainage Services Department (DSD), Fire Services Department (FSD), Highways Department (HyD), Housing Department (HD), Lands Department (Lands D), Water Supplies Department (WSD) and the GEO's landslide investigation consultants, namely Fugro Scott Wilson Joint Venture and Maunsell Geotechnical Services Limited under Agreements Nos. CE 29/2003 (GE) and CE 15/2004 (GE) respectively.

In this report, a landslide is defined as the detachment or excessive displacement of soil or rock mass, and includes failure of fill slope, cut slope, retaining wall, natural hillside, disturbed terrain, together with rockfall and boulder fall. A 'major' landslide is defined as a failure in which the estimated/recorded volume of the detached or displaced mass is $\geq 50 \text{ m}^3$ or where a fatality has occurred. A 'very minor' landslide is defined as a failure that is small in scale (i.e. $\leq 5 \text{ m}^3$ for failure involving soil or $\leq 0.1 \text{ m}^3$ for rockfall/boulder fall), and does not give rise to notable consequences (e.g. casualty, 'near-miss', evacuation of buildings or squatter dwellings, road closure, nuisance to the public, etc.). Landslides that are not classified as 'major' or 'very minor' are taken as 'minor'.

2. RAINFALL

2.1 The Raingauge System

The GEO, in cooperation with the HKO, operates an automatic raingauge system that transmits real-time rainfall data through either telephone lines or General Packet Radio Service (GPRS), viz. a wireless transmission technology, to the GEO and the HKO at five-minute intervals. During 2005, this system comprised 86 GEO raingauges and 24 HKO raingauges. The locations of the raingauges are shown in Figure 1. The raingauges are of the tipping-bucket type, tipping every 0.5 mm of rainfall.

2.2 Rainfall Records

The data from the raingauge system are checked, verified and stored by the GEO in a database, from which they can be extracted for analysis. This report presents a selection of rainfall parameters for the year, for individual months and individual rainstorms.

The weather in 2005 was described by the HKO, in the Monthly Weather Summary for December 2005 (HKO, 2006), as follows:

“Weatherwise, 2005 was an eventful year globally speaking. Most notably, there were severe drought in parts of Africa, western Europe and Australia, record-breaking heavy rain in India, and an extremely active hurricane season in northern

Atlantic. Locally in Hong Kong, 2005 was the third wettest year on record, mostly due to a very active southwest monsoon in June and August bringing in plenty of moisture. The total rainfall of 3214.5 millimetres was 45.2 percent above normal. June 2005 was the 4th wettest since records began in 1884, and August 2005 the 2nd wettest. The rainfall in these two months alone amounted to 1865.2 mm, about 84 percent of the normal annual rainfall.”

“While an unprecedented number of 27 named storms occurred in northern Atlantic against a normal of about 10, the year 2005 fell in a period of low tropical cyclone activity in the western North Pacific and the South China Sea, where only 26 tropical cyclones formed in the year, compared with the normal of 31. Three tropical cyclones affected Hong Kong in 2005, roughly half the normal figure. The first tropical cyclone warning signal of the year was issued on 12 August, the latest in post-war years.”

“2005 was also a hazy year. For 27.8 percent of the time, reduced visibility of 8 kilometres or below was observed at the Hong Kong International Airport, breaking the previous record of 23.6 percent set in 2004. Despite a very wet June and August, below normal rainfall and hence a lack of washout processes was recorded in many other months, contributing to more frequent occurrence of haze.”

“January was drier than normal. With haze occurring on most of the days in the month, the number of hours of reduced visibility observed at the Hong Kong International Airport reached an all-time high value of 484 hours.”

“February was gloomier and more humid than usual. The monthly mean relative humidity of 86 percent was the fourth highest for February.”

“March and April were drier than usual.”

“With the monsoon trough lingering near the south China coast, the weather of May was marked by heavy rain, active thunderstorms and severe squalls. The Amber Rainstorm Warning was issued seven times in the month, a new record for May since the warning system was introduced in 1998. During a rainstorm on 9 May severe gusts with speed reaching 135 kilometres per hour toppled stacked containers at container terminals in Kwai Chung and Tsing Yi, resulting in one death and two other injured. There were also over 100 reports of fallen trees and scaffoldings in different parts of the territory.”

“Very wet weather continued in June. A total of 893.9 millimetres of rainfall was recorded, more than double the normal

monthly figure of 376 millimetres. The first Red Rainstorm Warning of the year was also issued during the torrential rain on 24 June.”

“July was warmer and sunnier than normal. There were reports of hail in Tsing Yi on 21 July amidst severe squally thunderstorms.”

“August was much wetter than normal. The total rainfall was 971.3 millimetres, almost two and a half times the normal figure of 391.4 millimetres. The Standby Tropical Cyclone Warning Signal No. 1 was issued for the first time in the year on the approach of Severe Tropical Storm Sanvu.”

“September was marked by the hazy weather associated with the relatively weak northeast monsoon and distant tropical cyclones east of Hong Kong. The number of hours of reduced visibility observed at the Hong Kong International Airport reached 237 hours in the month, the highest for September since record began in 1997. The Standby Signal No.1 was issued during the approach of Tropical Storm Vicente. Typhoon Damrey necessitated the issuance of the first and only Strong Wind Signal No. 3 in the year.”

“October and November were drier and much warmer than normal. The mean minimum temperature of November was 21.4 degrees, the same as the record high set in 1998.”

“December was cooler and drier than normal. Frost was reported in the New Territories on 23 December.”

The cumulative rainfall for 2005 of 3214.5 mm as recorded at the HKO was about 45% above the mean rainfall (2214 mm) recorded between 1961 and 1990. The cumulative rainfall for 2005 is compared with the highest, lowest and mean rainfall in Figure 2.

Figures 3a, 3b, 3c and 3d show the total monthly rainfall distribution in 2005.

Figure 4 shows the total annual rainfall distribution during 2005, together with the locations of the reported landslides.

2.3 Rainstorms in 2005

The maximum 24-hour, five-hour and one-hour rolling rainfall (with five-minute basic units) for the 13 rainstorms in 2005 during which time the daily rainfall exceeded 50 mm at the HKO are given in Table 1, together with the maximum amounts at any of the GEO raingauges. Also included in Table 1 are the 4-day and 15-day antecedent rainfall at the HKO, the number of reported landslides as well as the Landslide Potential Index (LPI). The LPI of a rainstorm depicts the relative severity of the rainstorm in comparison with the most severe rainstorm since

1984 in terms of the number of landslides that the rainstorm could lead to. Similar data from selected major rainstorms in recent years are included for comparison.

Figures 5 to 17 show the isohyets of the maximum rolling 24-hour rainfall during the above 13 rainstorms, together with the landslide locations and the locations and values of maximum rainfall for durations ranging from five minutes to 48 hours.

Two storms generated significant numbers of landslides. The storms of 21 to 25 June 2005, and 16 to 21 August 2005 generated 66 and 229 reported landslides respectively. No other storms resulted in more than 15 reported landslides.

There were 18 storms that generated more than 50 mm of rainfall in 24 hours if all the GEO raingauges are considered (including the 13 storms summarised in Table 1). The corresponding rainfall parameters for these 18 storms are shown in Appendix A, Table A1.

2.4 Warnings Issued by the Hong Kong Observatory

Table 2 summarises the details of the Thunderstorm, Flood, Landslip, Tropical Cyclone and Rainstorm Warnings issued by the HKO and the GEO in 2005. One Red Rainstorm Warning was issued on 24 June 2005. Sixteen Amber Rainstorm Warnings were issued between 8 May 2005 and 20 August 2005. Two Landslip Warnings were issued between 24 June 2005 and 19 August 2005.

3. LANDSLIDES

3.1 Landslide Occurrence in 2005

Landslide incidents reported to the GEO and other Government departments in 2005 are summarised in Table 3.

A total of 487 landslide incidents were reported to the various Government departments. These include 443 incidents reported to the GEO, nine of which were identified by FSW and MGS during a catchwater inspection project, and 44 incidents reported only to other Government departments (i.e. AFCD, Arch SD, DSD, FSD, HyD, HD, Lands D and WSD). Of these 487 reported incidents, 481 were classified as genuine landslides (see details in Appendix B). The other reported incidents either were non-landslide events (e.g. tree fall) or were very small erosion or washout due to surface water flow with no geotechnical concern.

Of the 481 landslides, 82 (17%) were major landslides (see Table B1 in Appendix B), 355 were minor landslides, and 44 were very minor landslides with negligible consequence.

Selected notable landslides are presented in Section 4 and illustrated in Plates 1 to 15. For those landslide incidents inspected by the GEO, the information on the landslides was recorded in Incident Reports (and also in Landslip Cards for major landslides). For those landslide incidents attended to by other Government departments responsible for slope maintenance, landslide incident reports were prepared by the respective departments to document the relevant information. The above information, together with the scanned images of all the Incident Reports and Landslip Cards prepared by the GEO and other Government

departments, has been uploaded onto the Slope Information System (SIS) which is accessible by the general public through computer terminals in the GEO. Further details of these failures can be found in the incident files of the three District Divisions and the Landslip Preventive Measures Division 1 of the GEO.

Wherever possible, the dates and times of the landslides were assessed by geotechnical professionals of the GEO. Some incidents were not reported to the GEO or other Government departments until several days or weeks after they had occurred. For these incidents, it is difficult to establish the exact time of occurrence. Of the 481 landslides, the times of occurrences were determined to within a day for 351 incidents.

It should be noted that almost certainly some other landslides had not been reported to the Government, such as those probably occurred in remote areas with no immediate consequences.

3.2 Consequence of Landslides

3.2.1 General

The consequence of landslides in terms of the number of landslide incidents affecting various types of facilities (e.g. buildings, roads, squatter dwellings, catchwaters, etc.) in different regions is summarised in Table 4. It should be noted that a failure might affect more than one type of facility.

Significant consequences of landslides (e.g. casualties, evacuation of buildings or squatter dwellings, closure of roads, etc.), as classified with respect to the type of slope failure, are shown in Table 5. Table 6 presents the distribution of the different facility groups affected by major landslides. Further descriptions of selected notable landslides are presented in Section 4 below.

3.2.2 Buildings

Thirty landslides, nine of which were major, affected buildings. Of the 30 landslides, one resulted in temporary closure of a nurses' quarter, one resulted in temporary evacuation of a primary school as well as temporary closure of two unoccupied residential buildings, and seven resulted in temporary evacuation of a total of eight buildings. Landslide Incidents Nos. 2005/8/0304, 2005/8/0320, 2005/8/0368, 2005/8/0417 and 2005/8/0464 are described in Section 4.

3.2.3 Roads and Transport Facilities

Ninety-two landslides, 22 of which were major, affected sections of roads. Sixty-two landslides resulted in temporary closure of road sections. Landslide Incidents Nos. 2005/8/0279, 2005/8/0299, 2005/8/0304, 2005/8/0308, 2005/8/0326, 2005/8/0338, 2005/8/0331, 2005/8/0351A, 2005/8/0381 and 2005/8/0428 are described in Section 4.

3.2.4 Squatter Dwellings

Forty landslides, eight of which were major, affected squatter dwellings (i.e. dwellings that contain tolerated squatter structures which were surveyed in Housing Department's 1982 Squatter Structure Survey). Seventeen landslides resulted in permanent evacuation of a total of 34 squatter dwellings (comprising 86 squatter structures), and six resulted in temporary evacuation of a total of eight squatter dwellings (comprising 23 squatter structures). Landslide Incidents Nos. 2005/8/0348, 2005/8/0351A, 2005/8/0362, 2005/8/0384 and 2005/8/0402 are described in Section 4.

3.2.5 Catchwaters and Reservoirs

Thirty-nine landslides, 12 of which were major, affected catchwaters. Two of the major landslides had significant knock-on effects on the developed areas downhill of the catchwaters causing serious consequences. Landslide Incidents Nos. 2005/8/0338 and 2005/8/0480 are described in Section 4.

3.2.6 Construction Sites

Three minor landslides affected active construction sites, with no significant consequences.

3.2.7 Other Facilities

Other facilities affected by landslides included pedestrian pavements, footways, minor footpaths, minor access facilities, carparks, playgrounds, parks, gardens, backyards, open areas, etc. 127 landslides, 15 of which were major, affected pedestrian pavements, footways, minor footpaths and access facilities. Of these 127 landslides, 46 resulted in temporary closure of sections of pedestrian pavements, footpaths and other forms of minor accesses. A total of 161 landslides affected carparks, playgrounds, parks, gardens, backyards, open areas, etc., 23 of which were major.

3.3 Types of Slope Failures

3.3.1 General

Landslides reported to the GEO and other Government departments have been classified into five types of slope failures, i.e. fill slope, cut slope, retaining wall, natural hillside and registered Disturbed Terrain. The numbers of different types of slope failures are shown in Table 7.

3.3.2 Fill Slopes

There were 35 fill slope failures, which comprised about 7% of all reported landslides. Eight of these failures were major. Landslide Incidents Nos. 2005/8/0308, 2005/8/0348,

2005/8/0351B and 2005/8/0402 are described in Section 4.

3.3.3 Cut Slopes

There were 315 cut slope failures, which comprised about 66% of all reported landslides. These were further classified according to the types of materials involved, i.e. soil, soil/rock and rock.

Two hundred and nineteen landslides occurred on soil cut slopes (36 of which were major) and 86 landslides on soil/rock cut slopes (10 of which were major). Ten landslides occurred on rock cut slopes, none of which was major. Landslide Incidents Nos. 2005/8/0299, 2005/8/0320, 2005/8/0331, 2005/8/0384, 2005/8/0417 and 2005/8/0480 are described in Section 4.

3.3.4 Retaining Walls

Twelve landslides involved failure of retaining walls, which amounted to about 3% of all reported landslides. None of these was major incident.

3.3.5 Natural Hillsides

There were 114 natural hillside failures, which comprised about 24% of all reported landslides. Twenty-six of these were major. Landslide Incidents Nos. 2005/8/0279, 2005/8/0304, 2005/8/0326, 2005/8/0351A, 2005/8/0362, 2005/8/0368, 2005/8/0381, 2005/8/0428 and 2005/8/0464 are described in Section 4.

3.3.6 Registered Disturbed Terrain Features

There were five registered Disturbed Terrain failures, which comprised about 1% of all reported landslides. Two of these were major.

3.4 Landslide Volume Distribution

Tables 8 and 9 show the distribution of landslide volumes for all the reported landslides. A total of 208 landslides (about 43%) involved less than 5 m³ of material. Eighty-two of the reported landslides (about 17%) involved a failure volume of 50 m³ or more. Of these 82 major failures, eight affected fill slopes, 36 affected soil cut slopes, 10 affected soil/rock slopes, 26 affected natural hillsides and two affected registered Disturbed Terrain features.

4. NOTABLE LANDSLIDES

4.1 General

Out of the 481 genuine landslides reported to the Government in 2005, 15 incidents are

described in more details below. These 15 incidents have been selected mainly on the basis of their consequences.

4.2 The 20 August 2005 Landslide Incident on a Hillside at Fu Yung Shan Tsuen, Tsuen Wan (Incident No. 2005/8/0362)

(A major landslide on a disturbed hillside which resulted in one fatality and permanent evacuation of four squatter structures, Plate 1).

At about 5:25 p.m. on 20 August 2005, when the Amber Rainstorm Warning and the Landslip Warning were in force, a landslide occurred on a hillside (disturbed locally by past human activities) at Fu Yung Shan Tsuen, Tsuen Wan. The landslide has an estimated volume of about 400 m³. The landslide partially undermined a squatter structure at the crest and destroyed sections of footpaths together with fresh water pipes and other utilities. The landslide debris stopped in front of a registered squatter structure at the toe of the hillside and blocked a streamcourse. The incident resulted in one fatality near the collapsed footpath. Subsequent to the landslide, four registered squatter structures in the vicinity of the landslide, all of which were subject to outstanding Category 2 Non-development Clearance (NDC) recommendations¹, were permanently evacuated.

The densely vegetated hillside was inclined at an angle of up to about 34°. It was disturbed locally by human activities, involving formation of minor footpaths, dumping of domestic refuse, cultivation of fruit trees, etc. In addition, uncontrolled and illegal dumping of domestic refuse had taken place over a significant portion of the subject landslide area.

4.3 The 20 August 2005 Landslide Incident on the Natural Hillside at Bowen Road near No. 120 Kennedy Road (Incident No. 2005/8/0304)

(Two major landslides predominantly on natural hillsides above and below Bowen Road, which resulted in temporary closure of St. James' Primary School and Nos. 98 and 120 Kennedy Road, Plate 2)

In the morning of 20 August 2005 when the Landslip Warning was in force, two major landslides affected Bowen Road. The upper landslide, involving a failure volume of about 750 m³, occurred on the natural hillside as well as slope No. 11SW-D/C1352 above Bowen Road. The lower landslide, involving a volume of about 200 m³, occurred on the natural hillside and a playground situated on a small fill platform at Bowen Road. Debris from the upper landslide was partly deposited on Bowen Road and the playground. Debris from the lower landslide, together with part of the debris of the upper landslide, travelled along local depressions on the natural terrain and was deposited on a vacant lot (Lot IL2386) and unleased and unallocated Government land, and inundated the ground floor of the unoccupied apartment blocks at No. 120 Kennedy Road.

St. James' Primary School at No. 110 Kennedy Road and the unoccupied buildings at Nos. 98 and 120 Kennedy Road were temporarily closed after the landslide. St. James' Primary

¹ See GEO Circular No. 3 (GEO, 2004).

School was re-opened on 14 September 2005 after completion of the initial phase of the urgent repair works, which comprised debris removal and shotcreting of the failure scars. The Closure Order in respect of the buildings at Nos. 98 and 120 Kennedy Road was lifted on 21 December 2005 after soil nails had been installed within the failure scars. No casualties were reported as a result of the incident.

4.4 The 20 August 2005 Debris Flood Incident at Lo Wai, Tsuen Wan (Incidents Nos. 2005/8/0338, 2005/8/0348, 2005/8/0402, 2005/8/0417 and 2005/09/0528)

(A debris flood along a streamcourse which resulted in temporary evacuation of 118 residents and 85 temple visitors, permanent evacuation of 6 squatter structures, damage of the bridge pier near Lung Mo Temple and closure of a section of Lo Wai Road, Plate 3)

Between 4:15 p.m. and 5:00 p.m. on 20 August 2005 when the Landslip Warning and the Amber Rainstorm Warning were in effect, two landslides occurred on slope No. 7SW-A/CR134, which is situated immediately above a section of the Shing Mun Catchwater north of Lo Wai. The landslide debris with a total volume of about 600 m³ substantially blocked the catchwater channel. As a result, a large amount of water was discharged onto a natural streamcourse via the catchwater overflow weirs located upstream of the blockage. About 1,400 m³ of debris was entrained by the concentrated surface water flow down the streamcourse and a debris flood was generated. The scouring effect of the debris flood caused severe washout, with soil and rock debris deposited on Lo Wai Road. One of the piers of a footbridge near Lung Mo Temple was damaged by the debris flood. Six squatter structures along the affected streamcourse were subsequently recommended for permanent evacuation.

4.5 The 20 August 2005 Landslide Incident on the Natural Hillside behind Nurses' Quarters Block A, Queen Mary Hospital, Pok Fu Lam (Incident No. 2005/8/0464)

(Development of distress on a natural hillside, following which the lower two floors of the Nurses' Quarters Block A of Queen Mary Hospital were temporarily evacuated, Plate 4)

At about midnight of 20 August 2005 when the Landslip Warning was in force, distress developed on a natural hillside about 90 m upslope of Nurses' Quarters Block A of Queen Mary Hospital in Pok Fu Lam. The slope distress comprised a main scarp (some 17 m long with about 0.8 m horizontal and vertical displacement) and laterally persistent tension cracks, together with secondary scarps over an area extending about 30 m wide by 40 m long. The volume of the displaced ground mass was in the order of 1,000 m³ to 2,000 m³. As a result of the slope movement, an existing pressurised water main traversing the hillside was ruptured. The rupture of the water main, which supplied a service reservoir to the north of the distressed hillside, was noted by the Water Supplies Department (WSD) through the observation of a level drop in the reservoir. Following the incident, the ground floor and first floor of Nurses' Quarters Block A at the toe of the hillside were temporarily closed for about four months. No casualties were reported as a result of the incident.

4.6 The 22 August 2005 Landslide Incident on the Natural Hillside above Slope No. 7SW-D/C2, Lion Rock Tunnel Road (Incident No. 2005/8/0428)

(Continuous flow of muddy water containing soil debris from a landslide on the natural hillside above Slope No. 7SW-D/C2, which resulted in temporary closure of one of the south-bound lanes of Lion Rock Tunnel Road, Plate 5)

In the afternoon of 22 August 2005, when the Amber Rainstorm Warning and Landslip Warning were in effect, continuous flow of muddy water containing soil debris from a landslide on the natural hillside above the roadside cut slope was observed on the stepped channel of Slope No. 7SW-D/C2 which flanks Lion Rock Tunnel Road. The landslide scar was located about 55 m above the Lion Rock Tunnel Road and the estimated failure volume was about 400 m³. The landslide debris was not mobile. No casualties were reported but one of the south-bound lanes of Lion Rock Tunnel Road was temporarily closed after the incident for three days.

4.7 The 20 August 2005 Landslide Incident on Slope No. 7SW-D/C167 at Shatin Heights (Incident No. 2005/8/0320)

(A major landslide on a cut slope which resulted in temporary evacuation of a five-storey and a three-storey residential blocks, Plate 6).

At about 11:53 a.m. on 20 August 2005, when the Amber Rainstorm Warning and Landslip Warning were in effect, a major landslide occurred on Slope No. 7SW-D/C167, which is below Ascot Villa at No. 39 Sha Tin Heights Road and about 100 m upslope of Block 12 of Woodcrest Hill. The total failure volume was about 1,200 m³, comprising detached materials from the failed slope and materials entrained along the debris trail leading down to the toe of the hillside. The landslide debris was deposited on a basketball court and the car parks of Block 12 of Woodcrest Hill, and muddy water flowed along the access road to Woodcrest Hill. As a result, the residents of Ascot Villa and Block 12 Woodcrest Hill were temporarily evacuated until 24 August 2005. No casualties were reported as a result of the incident.

4.8 The 21 August 2005 Landslide Incident on Slope Nos. 7SE-B/C195 and 7SE-B/C131 at Ma On Shan Upper Village (Incident No. 2005/8/0384)

(A major landslide involving two cut slopes, which damaged squatter dwellings, Plate 7)

The incident was reported at 8:11 a.m. on 21 August 2005. A major landslide of approximately 1,000 m³ in volume occurred on two cut slopes (Slopes Nos. 7SE-B/C195 and 7SE-B/C131). An abandoned drainage ditch (1.5m wide by 1.5m deep) is located between the two cut slopes. Part of the drainage ditch was damaged by the landslide. Old tension cracks were also observed on the hillside adjacent to the landslide scar. One registered squatter structure at the upper part of the Ma On Shan Upper Village collapsed following impact by the landslide debris and two other registered squatter structures were partially inundated with debris. Subsequent to the landslide, the three affected squatters were permanently evacuated.

4.9 The 20 August 2005 Landslide Incident on Slope No. 11SW-A/C415 at No. 404 Victoria Road (Incident No. 2005/8/0368)

(A major landslide on a soil cut slope, which resulted in temporary evacuation of Chee Sing Kok Social Centre of the Humanity Love at No. 404 Victoria Road, Plate 8)

At about 4:00 p.m. on 20 August 2005 when the Landslip Warning was in force, a landslide with a volume of about 150 m³ occurred on slope No. 11SW-A/C415 behind Chee Sing Kok Social Centre at Victoria Road. The landslide involved the crest portion of the cut and extended to the hillside above. Landslide debris piled up against the building blocks. Forty-five residents were temporarily evacuated but no casualties were reported as a result of the incident. The building is still closed at the time of preparing this report (May 2006), pending the slope upgrading works.

4.10 The 20 August 2005 Landslide Incident on Slope No. 11SW-C/FR126 below Canossian Retreat House Honeyville, Victoria Road (Incident No. 2005/8/0308)

(A major landslide on a fill slope which resulted in temporary closure of Victoria Road, Plate 9)

At around 9:30 a.m. on 20 August 2005 when the Amber Rainstorm Warning and the Landslip Warning were in force, a landslide with a failure volume of about 100 m³ occurred on slope No. 11SW-C/FR126 below the Canossian Retreat House Honeyville. The slope comprises a 5 m high fill slope supported by a 5 m high reinforced concrete retaining wall along the toe. The landslide occurred on the upper 30° to 35° shotcreted fill slope portion. The debris completely blocked the two carriageways of Victoria Road. One of the road lanes was re-opened on 21 August 2005 and the other was re-opened on 29 August 2005. No casualties were reported as a result of the incident.

4.11 The 20 August 2005 Landslide Incident on Slope No. 11NE-A/C153 at Ping Ting Road, Ngau Chi Wan (Incident No. 2005/8/0299)

(A major failure on the rock portion of a soil/rock cut slope which resulted in closure of Ping Ting Road at the toe, as well as the playground at the Buddhist Hung Sean Chau Memorial College on the opposite side of Ping Ting Road, Plate 10)

The landslide at Ping Ting Road involved two successive failures of cut slope No. 11NE-A/C153. The first failure occurred at about 8:00 a.m. to 9:30 a.m. on 20 August 2005 when the Amber Rainstorm Warning and the Landslip Warning were in effect. About 36 m³ of debris comprising rock blocks and silty sand were deposited on the footpath and the southbound lane of Ping Ting Road. The debris originated from a displaced rock wedge, about 12 m wide at the top and approximately 14 m high, located at the lowermost batter of the northern section of slope no. 11NE-A/C153. Both lanes of Ping Ting Road were temporarily closed. The northbound lane was later re-opened on 22 August 2005. No casualties were reported as a result of the incident.

In the early morning of 13 September 2005, further instability occurred at the same location of the August 2005 incident. Some 120 m³ of debris was deposited on the pedestrian pavement and the southbound lane of Ping Ting Road. Consequently, the playground at the Buddhist Hung Sean Chau Memorial College on the opposite side of the road were temporarily closed. No casualties were reported. The northbound lane was later re-opened on 16 September 2005 when Highways Department had installed temporary struts to support the failed rock slope.

Grades III and IV decomposed granite were exposed in the landslide scar. Seepage from nearby weepholes, raking drains, and cracked shotcrete was observed immediately after the 20 August 2005 incident.

4.12 The 21 August 2005 Landslide Incident on the Natural Hillside above Fei Ngo Shan, Choi Hung (Incident No. 2005/8/0381)

(A natural hillside failure which resulted in temporary closure of Pak Fa Lam Road, Fei Ngo Shan Road and an access road to the Fei Ngo Shan Service Reservoir, Plate 11)

At about 6.00 a.m. on 21 August 2005, following the issue of an Amber Rainstorm Warning on 20 August 2005, a major landslide with a total failure volume of about 3,500 m³ occurred on the hillside west of the Fei Ngo Shan Service Reservoir. The landslide debris reached a natural drainage line beneath the access road to the service reservoir and developed into a channelised debris flow. The debris flow travelled downhill along the drainage line, across Fei Ngo Shan Road and deposited on Pak Fa Lam Road, some 270 m (plan distance) from the landslide crown. Fei Ngo Shan Road was temporarily closed until 30 October 2005. No casualties were reported as a result of the incident.

4.13 The 20 August 2005 Landslide Incident on Slope No. 13NE-B/C166 above South Lantau Road, approximate 500 m East of Tong Fuk, Lantau Island (Incident No. 2005/8/0331)

(A major landslide on a soil cut slope which resulted in temporary closure of South Lantau Road, Plate 12)

At about 1:00 p.m. on 20 August 2005 when the Landslip Warning was in force, a major landslide with a failure volume of about 750 m³ occurred on slope No. 13NE-B/C166 above South Lantau Road, approximately 500 m east of Tong Fuk. The landslide extended slightly into the hillside above. The source area of the landslide was estimated to be 44 m wide and 12 m high. The landslide debris blocked the two lanes of South Lantau Road. As a result, about 200 tourists were reported to have been trapped near Tong Fuk when they were returning from the monastery in Ngong Ping to Mui Wo. The only route to Tung Chung was via Tung Chung Road, but Tung Chung Road was temporarily closed after a landslide which occurred near Shek Mun Kap earlier at about 9:30 a.m. on that same day. According to the Police, the tourists together with a number of the local residents had to be escorted across the landslide debris to Tong Fuk in order to continue their journeys by bus. One of the lanes of South Lantau Road was re-opened at 10:00 p.m. on 21 August 2005 and the other lane was re-opened at 12:15 p.m. on 20 September 2005. No casualties were reported as a result of the incident.

4.14 The 20 August 2005 Landslide Incident at Route Twisk near Kong Pan Tin Tsuen, Tsuen Wan (Incidents Nos. 2005/8/0351A, 2005/8/0351B and 2005/8/0480)

(Major landslides and washouts which resulted in permanent evacuation of a squatter structure and temporary closure of a section of Route Twisk, Plate 13)

Between 6:00 p.m. and 6:30 p.m. on 20 August 2005, when the Amber Rainstorm Warning and the Landslip Warning were in effect, a landslide occurred on slope No. 6SE-B/CR249, which is situated immediately above the Shing Mun Catchwater north of Kong Pan Tin Tsuen, Tsuen Wan. The landslide debris, with a total volume of about 50 m³, substantially blocked the catchwater channel. As a result, a large amount of water was discharged onto a natural streamcourse via an overflow weir of the catchwater. About 100 m³ of debris was entrained from the streamcourse and a registered squatter structure was undermined. The washout debris was deposited on Route Twisk and fill slope No. 6SE-D/FR98, which supports a section of Route Twisk, failed (about 130 m³ in volume) as a result of the overland flow from the streamcourse.

The incidents resulted in permanent evacuation of the affected registered squatter structure along the streamcourse. The carriageways of Route Twisk were temporarily closed until 24 August 2005.

4.15 The 20 August 2005 Landslide Incident on Slope No. 11SW-D/C543 above Middle Gap Road, Wanchai Gap (Incident No. 2005/8/0326)

(A major landslide on a cut slope which resulted in temporary blockage of Middle Gap Road and Mount Cameron Road, Plate 14)

At about 10:45 a.m. on 20 August 2005 when the Landslip Warning was in effect, a major landslide occurred on slope No. 11SW-D/C543 above Middle Gap Road. The landslide extended slightly into the hillside above (by about 3 m). Debris from the landslide, with an estimated volume of about 400 m³, was deposited on Middle Gap Road and Mount Cameron Road below, completely blocking both carriageways, and spilled over into a natural drainage line below Mount Cameron Road. Middle Gap Road, which is a sole vehicular access to some private residential buildings, and Mount Cameron Road were temporarily closed until 25 August 2005. No casualties were reported as a result of the incident.

4.16 The 11 August 2005 Landslide Incident on the Natural Hillside above Slope No. 11NW-A/C49 at Lai King Hill Road, Kwai Chung (Incident No. 2005/8/0279)

(A landslide on a vegetated natural hillside which resulted in temporary closure of Lai King Hill Road, Plate 15)

At about 6:00 a.m. on 11 August 2005, a landslide with an estimated volume of about 15 m³ occurred on the vegetated hillside above slope No. 11NW-A/C49, just below Block J of Princess Margaret Hospital, following prolonged rainfall over a period of about seven days. The landslide debris travelled downslope and eroded the surface of slope No. 11NW-A/C49. A chain link fence which extended along the coping of a retaining wall at about the mid-height of

slope No. 11NW-A/C49 was severely damaged and part of it was left over-hanging as a result. Most of the debris was deposited against the hoarding to a construction site below. A few small pieces of rock and some soil debris were deposited on Lai King Hill Road, which was temporarily closed until 7:00 a.m. the next morning. No casualties were reported as a result of the incident.

4.17 The 22 August 2005 Channelised Debris Flow Incident on the Natural Hillside at Kwun Yam Shan (Incident No. 2005/8/0422)

(A major natural hillside failure, which developed into a channelised debris flow, destroyed a section of MacLehose Trail, with a debris travel distance of about 350 m, Plate 16)

In the morning of 22 August 2005, a major landslide occurred on the natural hillside above Kwun Ping Road, Kwun Yam Shan. The landslide scar was approximately 30 m long and 12 m wide, with a maximum depth of about 3 m. The detached material comprised primarily bouldery colluvium, with the failure surface passing through completely decomposed tuff (CDT), which has numerous thin kaolin veins. The estimated volume of the landslide was approximately 1,000 m³.

The landslide debris entered a drainage line beneath a break in slope and developed into a mobile channelised debris flow. The debris travelled along the drainage line and eventually stopped within the drainage line at a distance of about 350 m from the landslide crown. A 20 m long section of the MacLehose Trail below the source area was destroyed by the landslide. It was temporarily closed for about two months and was re-opened on 29 October 2005. No casualties were reported as a result of the incident.

A major tension crack (about 100 m in length with a drop of about 1 m and a lateral displacement of up to about 0.5 m) was identified about 30 m uphill of the August 2005 landslide in late March 2006. The exact timing of occurrence of the tension crack is not known, but judging from site evidence it was a new crack.

5. CONCLUSIONS

Rainfall at the HKO's Principal Rain gauge at Tsim Sha Tsui in 2005 amounted to 3,214.5 mm, which was about 45.2% above the mean rainfall of 2,214 mm recorded between 1961 and 1990. It was the third wettest year in Hong Kong since records began in 1884, and June and August 2005 was the fourth and second wettest months respectively. In 2005, two Landslip Warnings were issued on 24 June 2005 and 19 August 2005 respectively, and one Red Rainstorm Warning was issued on 24 June 2005. Of the 481 genuine landslides, 82 were 'major' landslides, 355 were 'minor' landslides and 44 were 'very minor' landslides with negligible consequences.

One landslide in 2005 resulted in one fatality. Notable consequences of the landslides in 2005 included permanent evacuation of 34 squatter dwellings (comprising 86 squatter structures), temporary evacuation of eight squatter dwellings (comprising 23 squatter structures) and nine buildings, together with the temporary closure of one school building and two vacant

residential buildings. A total of about 400 persons were reported to have been temporarily evacuated. Ninety-two landslides affected roads, 62 of which resulted in the temporary closure of sections of roads.

6. REFERENCES

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Table 1 - Rainfall and Landslides in 2005 As Compared with Selected Previous Major Rainstorms

Date ⁽¹⁾ of Rainstorm Event	Maximum Rainfall (mm) ⁽²⁾								LPI ⁽⁴⁾	Number of Landslides ⁽⁵⁾ Reported to GEO
	Hong Kong Observatory (HKO)					GEO Raingauges ⁽³⁾				
	24-hr	5-hr	1-hr	Antecedent		24-hr	5-hr	1-hr		
				4 days	15 days					
16-21 August 2005	385.5	134	41.5	101	200.5	570 (N01)	195 (N01)	82 (N25)	10	229
21-25 June 2005	238.5	164	71	38	250.5	296 (H25)	208.5 (H28)	112 (H25)	1	66
15-16 June 2005	157	118	57	32	80	224 (H28)	152.5 (H08)	87 (N32)	-	14
9-11 May 2005	144.5	43.5	37.5	59.5	69	188.5 (N25)	98.5 (N27)	65 (N22)	-	7
25-26 September 2005	118.5	50	24	8	51	276 (N38)	167.5 (N38)	90 (N38)	-	3
27-28 May 2005	100.5	74.5	46	82	202	157 (N25)	135 (N11)	109.5 (N11)	-	5
13-14 August 2005	81	37	32	94	237	231.5 (N38)	119 (N38)	117 (N38)	-	3
22-23 July 2005	80	59.5	21	56.5	92	188 (N38)	104 (N38)	56 (N38)	-	1
30 July - 1 August 2005	77	31.5	16	33.5	168	133 (N14)	74 (N14)	52.5 (H05, N33)	-	2
30 June - 1 July 2005	69.5	28.5	12	46.5	708.5	159.5 (N26)	68.5 (N19)	35.5 (H10)	-	2
19 May 2005	63	8.5	5.5	68.5	275.5	186.5 (N08)	86 (N09)	57.5 (N09)	-	14
4-5 September 2005	60.5	53	28	13	356.5	157.5 (H25)	135 (H25)	76 (H25)	-	3
10 August 2005	37.5	9	6	47.5	191	110.5 (N38)	44.5 (N35)	36.5 (N35)	-	3
Selected Major Rainstorms in Previous Years (for comparison only)										
28-29 May 1982	394	153	44	1	11	430	237	111	-	238
17 Jun 1983	347	274	69	2	77	460	303	101	N/A ⁽⁶⁾	155
20-21 May 1989	388	149	37	28	42	566	224	51	6	378
7-9 May 1992	324	196	110	65	71	385	244	110	3	314
15-16 Jun 1993	155	129	54	18	275	285	195	111	1	123
4-5 Nov 1993	107	31	9	8	8	742	350	94	3	394
21-25 Jul 1994	290	138.5	62.5	18.5	297.5	956	394.5	211.5	10	208
3-11 Aug 1994	69.5	46.5	26	8	717.5	381	206.5	103.5	3	46
11-15 Aug 1995	314.5	117.5	59.5	5.5	442.5	468	268.5	106	6	110
3-5 Jun 1997	139.5	85.5	62	1	31.5	367.5	277	128.5	2	81
1-4 Jul 1997	110	49	18	183	380	799	296	125	6	150
8-9 Jun 1998	429	164	48	58	181	562	223	98	9	96
22-26 Aug 1999	313	143	51	11	175	565	249	121	8	269
Notes: (1) Rainstorms in which rolling 24-hour rainfall at the Hong Kong Observatory, Tsim Sha Tsui, exceeded 50 mm are arranged in order of the intensity of 24-hour rainfall. (2) The maxima are calculated using 5-minute rainfall as the basic unit, except those recorded at the HKO for the previous major rainstorms. They are the rolling rainfall amounts using one-clock hour rainfall as the basic unit. (3) The maxima are selected from the 86 GEO Raingauges for the rainstorms. The GEO Raingauge reference number is shown in brackets. (4) Landslide Potential Index (LPI) has been calculated for rainstorms that resulted in the issue of Landslip Warning. (5) Reported totals are for landslides attributed to the rainstorm events. (6) LPI is not calculated since comprehensive rainfall data before 1984 are not available.										

Table 2 - Warnings Issued by the Hong Kong Observatory in 2005^(1, 2)

Month	Monthly Total Rainfall (mm)	Dates on which Warnings were in Effect				
		Thunderstorm ⁽³⁾	Flooding	Landslip	Tropical Cyclone	Rainstorm
January	5.9	-	-	-	-	-
February	19.2	27	-	-	-	-
March	52.6	1, 3, 22, 23	-	-	-	-
April	32.3	13, 25	-	-	-	-
May	508.6	4, 6, 8, 9, 10, 15, 17, 18, 19, 20, 23, 24, 26, 27	8	-	-	8 (Amber), 9 (Amber), 10 (2 x Amber), 18 (Amber), 20 (Amber), 27 (Amber)
June	893.9	1, 2, 3, 4, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 25, 26, 27, 29, 30	15 (x2), 18, 24	24(10:15) - 25(07:45)	-	15 (Amber), 21 (Amber), 24 (Amber, Red)
July	360.4	1, 7, 9, 10, 13, 16, 18, 20, 21, 22, 23, 28, 29, 30, 31	-	-	-	19 (Amber), 20 (Amber)
August	971.3	1, 5, 6, 7, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31	13, 20	19(21:00) - 22(06:15)	12-13 (SANVU)	13 (2 x Amber), 19 (Amber), 20 (Amber)
September	352.6	3, 4, 6, 7, 8, 9, 10, 12, 13, 14, 17, 18, 19, 20, 25, 26, 27	8	-	17-18 (1, VICENTE) 22-26 (1-3, DAMREY)	-
October	6.6	2, 4	-	-	-	-
November	1.6	-	-	-	-	-
December	9.5	-	-	-	-	-
Total	3214.5	150 Warnings	8 Warnings	2 Warnings	3 Warnings	17 Warnings (16 x Amber, Red)
Notes: (1) Landslip Warnings were issued after consultation between the GEO and the HKO. (2) Warnings and signals in this Table were based on the HKO. (3) More than one Thunderstorm Warning may have been issued within a day but showed once in this Table for clarity.						

Table 3 – Number of Landslides in 2005 Reported to Government

Department	Total Number of Landslides	Genuine Landslides
Agriculture, Fisheries and Conservation Department	11 (0)	11 (0)
Architectural Services Department	35 (27)	33 (25)
Drainage Services Department	2 (2)	2 (2)
Fire Services Department	0 (0)	0 (0)
Geotechnical Engineering Office of the Civil Engineering and Development Department	443*	437
Highways Department	77 (73)	75 (71)
Housing Department	1 (0)	1 (0)
Lands Department	14 (9)	14 (9)
Water Supplies Department	49 (34)	49 (34)
<p>Legend:</p> <p>35 (27) Thirty-five incidents of which 27 were also reported to the GEO.</p>		
<p>Note: * denotes number of landslides reported to the GEO, discounting false alarms and duplicated cases.</p>		

Table 4 - Number of Landslides Affecting Different Facilities

Affected Facility	Hong Kong Island	Kowloon	New Territories and Outlying Islands	All
Squatter Dwellings	0 (0)	0 (0)	40 (8)	40 (8)
Buildings	8 (5)	2 (1)	20 (3)	30 (9)
Roads	38 (7)	6 (2)	48 (13)	92 (22)
Transportation Facilities (railways, tramways, LRT, etc.)	0 (0)	0 (0)	0 (0)	0 (0)
Pedestrian Pavements/Footways	12 (1)	4 (0)	6 (0)	22 (1)
Minor Footpaths/Accesses	28 (1)	6 (1)	71 (12)	105 (14)
Construction Sites	0 (0)	0 (0)	3 (0)	3 (0)
Open Areas	33 (3)	14 (4)	52 (7)	99 (14)
Catchwaters	5 (2)	0 (0)	34 (10)	39 (12)
Others (e.g. carpark, parks, playgrounds, gardens, backyards, etc.)	23 (2)	4 (1)	35 (6)	62 (9)
<p>Legend:</p> <p>2 (1) Two landslides of which one was major failure.</p>				
<p>Notes: (1) A given landslide may affect more than one type of facility. (2) Incidents which were not genuine landslides have been excluded. (3) 11 landslides affected 2 facilities, 7 of which were major failures.</p>				

Table 5- Landslide Consequence Related to Type of Failure

Type of Failure		Number of Squatter Dwellings ⁽¹⁾ Evacuated		Number of Blocks, Houses or Flats Evacuated or Partially Closed	Number of Closure			Deaths	Injuries
		Permanent	Temporary		Roads	Pedestrian Pavements	Footpaths, Back Lanes, Private Accesses		
Fill Slope		6(7)	2(2)	0	5	0	0	0	0
Cut Slope	Soil	16(60)	6(21)	5	21	8	13	0	0
	Soil/Rock	0	0	1	16	2	3	0	0
	Rock	0	0	0	3	1	1	0	0
Retaining Wall		1(5)	0	1	0	0	4	0	0
Natural Hillside		9(10)	0	5	17	2	11	1	0
Registered Disturbed Terrain		2(4)	0	0	0	0	1	0	0
Legend: 6(7) Number of squatter dwellings evacuated with the number of tolerated squatter structures evacuated shown in bracket									
Notes: (1) A squatter dwelling is defined as a place of residence that contains one or more “tolerated squatter structures”, i.e. structures built for domestic purpose or non-domestic purpose and registered in the 1982 Housing Department’s Squatter Structure Survey (GEO, 2004). (2) A failure may give rise to more than one type of consequence.									

Table 6 - Facility Groups Affected by Major Landslides

	Facility Group Affected by Major Landslides						
	1a	1b	2a	2b	3	4	5
All Major Landslides	9	9	0	1	10	23	30
Major Landslides on Man-made Slopes	6	6	0	1	6	19	18
Major Landslides on Natural Hillsides	3	3	0	0	4	4	12
<p>Notes: (1) Facility groups are classified in accordance with that adopted for the New Priority Classification Systems (Wong, 1998).</p> <p>(2) A given landslide may affect more than one type of facility.</p>							

Table 7 - Number of Landslides As Classified by Type of Slope Failure

Type of Failure		Number	Percentage (%)
Fill Slope		35 (8)	7.3
Cut Slope	Soil	219 (36)	45.5
	Soil/Rock	86 (10)	17.9
	Rock	10 (0)	2.1
Retaining Wall		12 (0)	2.5
Natural Hillside		114 (26)	23.7
Registered Disturbed Terrain		5 (2)	1.0
Total		481 (82)	100
<p>Legend:</p> <p>35 (8) Thirty-five landslides of which eight were major failure.</p>			
<p>Notes: (1) Where a landslide involved more than one type of failure, the predominant type of failure has been assumed in the above classification.</p> <p>(2) Incidents which were not genuine landslides have been excluded.</p>			

Table 8 – Landslide Volume Distribution with Respect to Geographical Locations

Volume of Failure (m ³)	Hong Kong Island	Kowloon	New Territories and Outlying Islands	All
<5	78	15	115	208 (43.2%)
≥5 to <10	20	6	40	66 (13.7%)
≥10 to <20	9	2	38	49 (10.2%)
≥20 to <50	16	4	56	76 (15.8%)
≥50 to <200	9	5	28	42 (8.7%)
≥200 to <500	6	2	11	19 (4.0%)
≥500 to <1000	2	1	8	11 (2.3%)
≥1000	1	0	9	10 (2.1%)
Total	141	35	305	481 (100%)
<p>Legend:</p> <p>208 (43.2%) 208 landslides, which amount to 43.2% of the 481 genuine landslides reported to Government.</p>				

Table 9 – Landslide Volume Distribution with Respect to Type of failure

Volume of Failure (m ³)	Fill Slope	Cut Slope			Retaining Wall	Natural Hillside	Registered Disturbed Terrain	Total
		Soil Slope	Soil/Rock	Rock				
<5	14	89	50	10	5	39	1	208 (43.2%)
≥5 to <10	2	37	7	0	3	17	0	66 (13.7%)
≥10 to <20	2	25	4	0	3	14	1	49 (10.2%)
≥20 to <50	9	32	15	0	1	18	1	76 (15.8%)
≥50 to <200	5	20	7	0	0	10	0	42 (8.7%)
≥200 to <500	2	9	1	0	0	6	1	19 (4.0%)
≥500 to <1000	0	4	1	0	0	6	0	11 (2.3%)
≥1000	1	3	1	0	0	4	1	10 (2.1%)
Total	35 (7.3%)	219 (45.5%)	86 (17.9%)	10 (2.1%)	12 (2.5%)	114 (23.7%)	5 (1.0%)	481 (100%)
<p>Legend:</p> <p>35 (7.3%) 35 landslides which amount to about 7.3% of the 481 genuine landslides reported to the Government.</p>								

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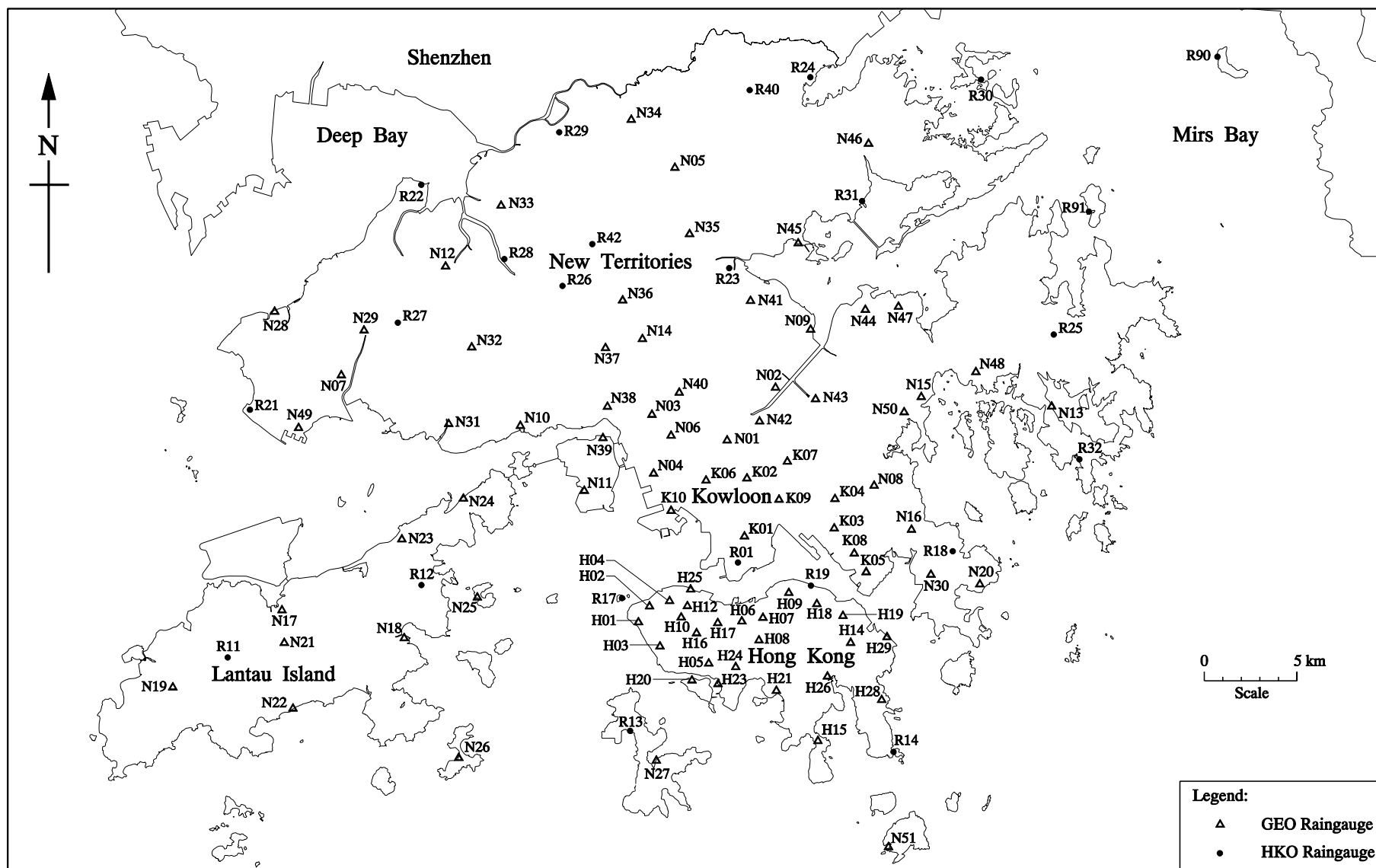
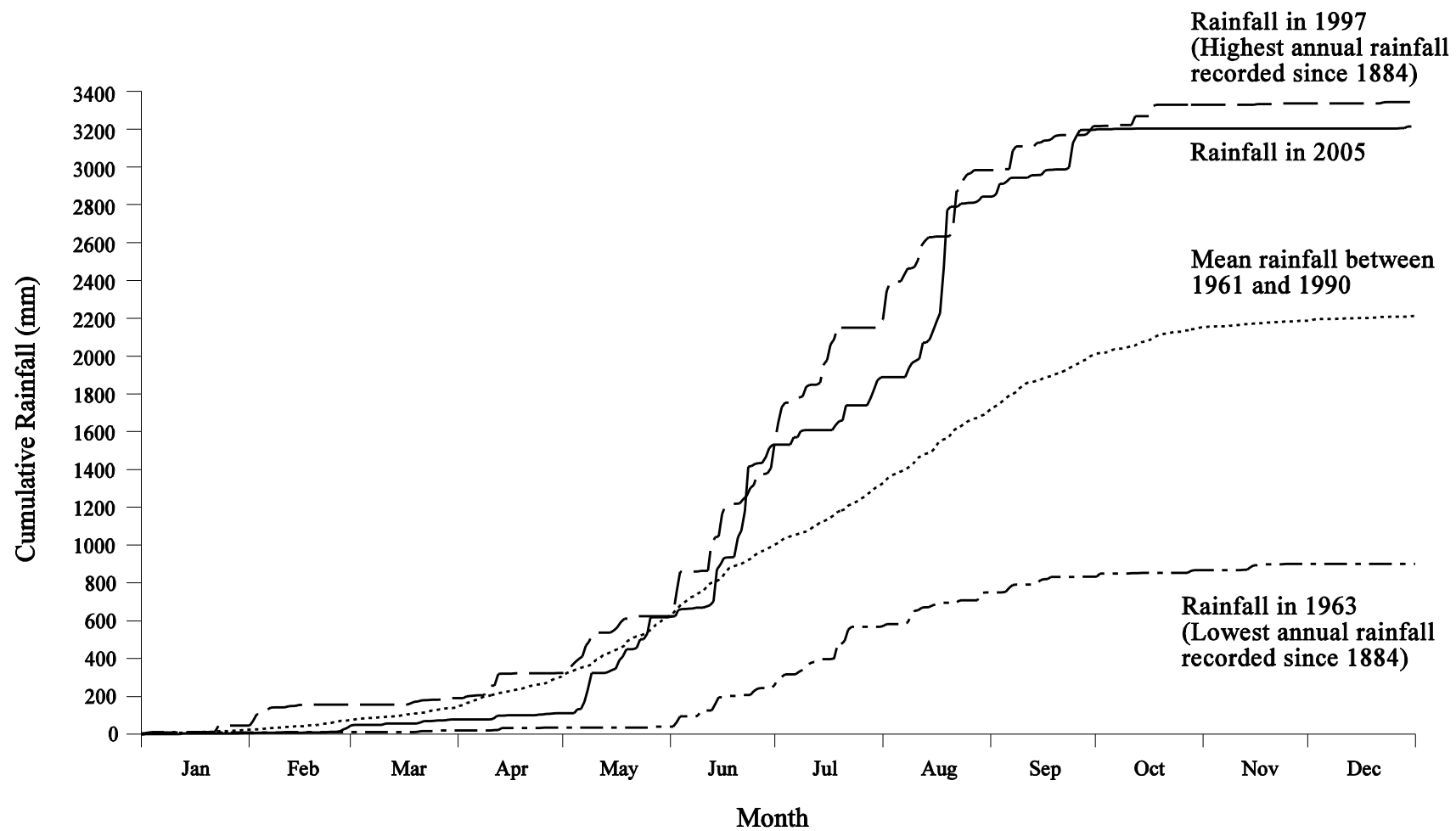
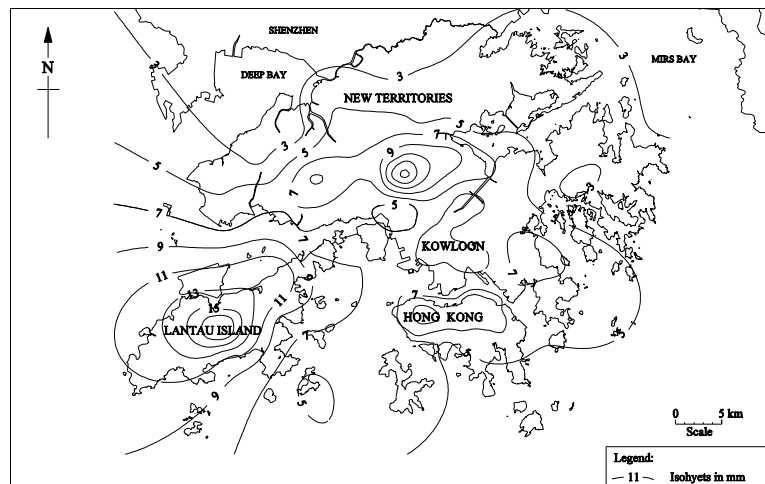


Figure 1 - Locations of GEO and HKO Automatic Raingauges

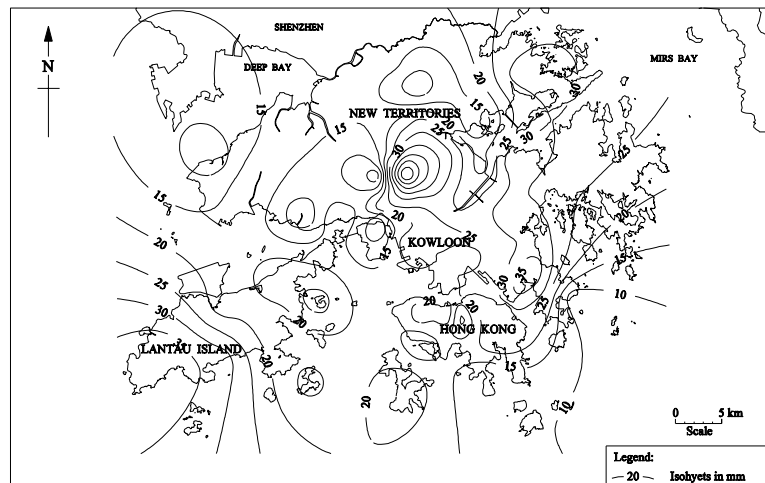


Note: Rainfall recorded at the Hong Kong Observatory, Tsim Sha Tsui.

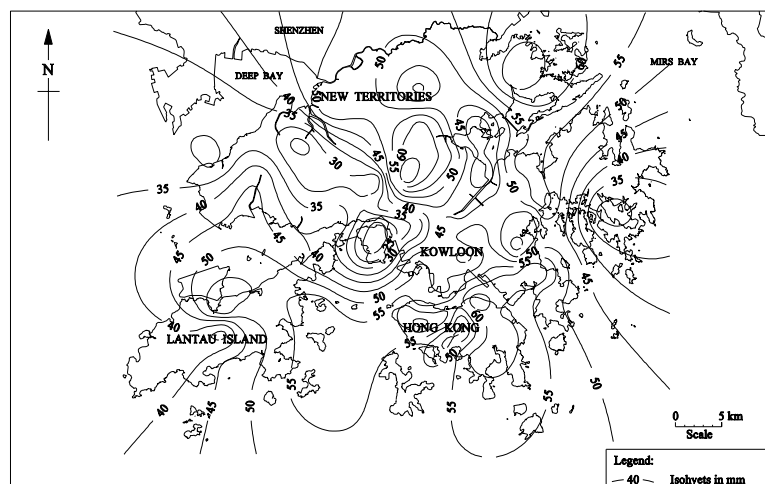
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January 2005



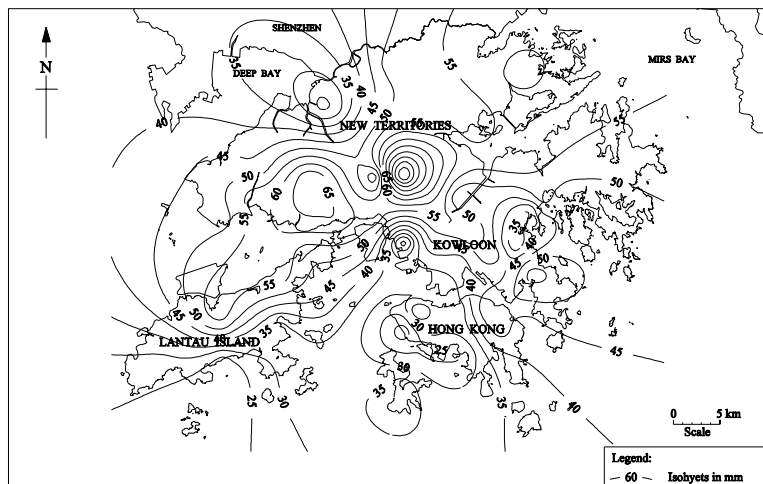
February 2005



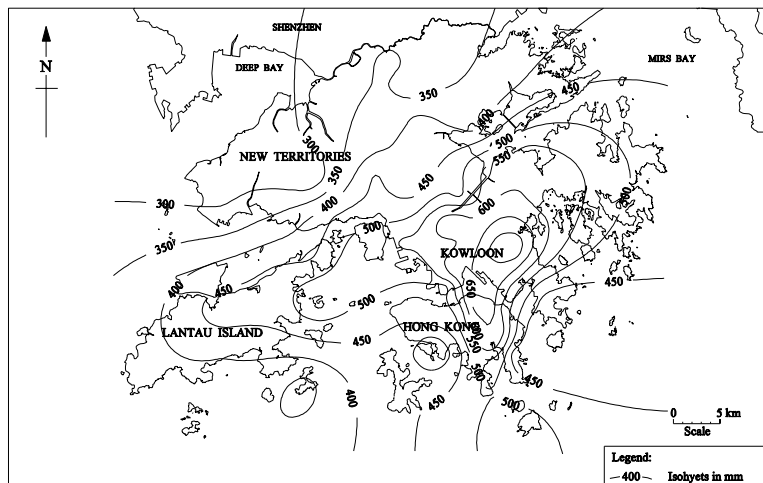
March 2005

Note: Isohyets are based on all the GEO raingauges and the raingauges at the Hong Kong Observatory.

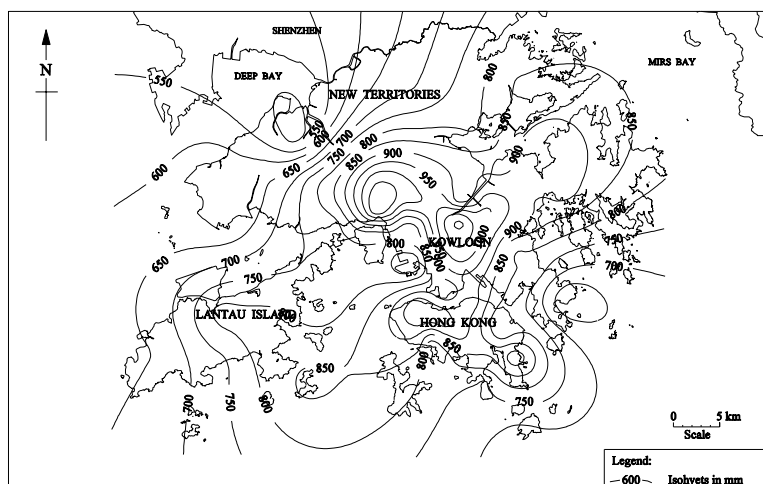
Figure 3a - Total Monthly Rainfall Distribution in 2005



April 2005



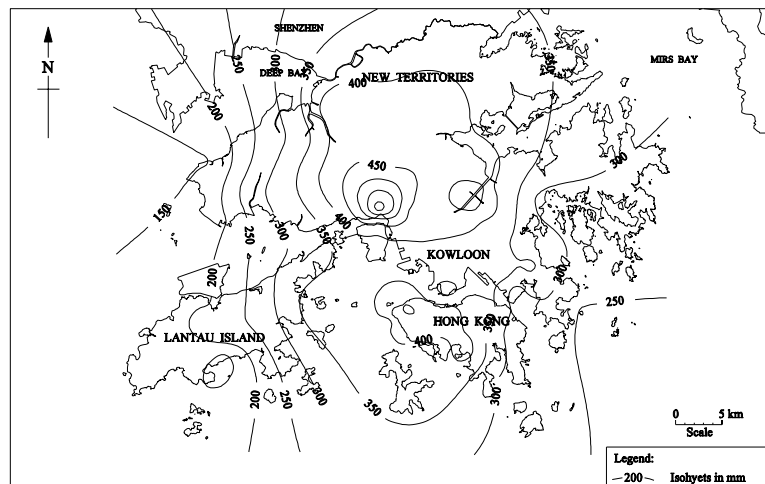
May 2005



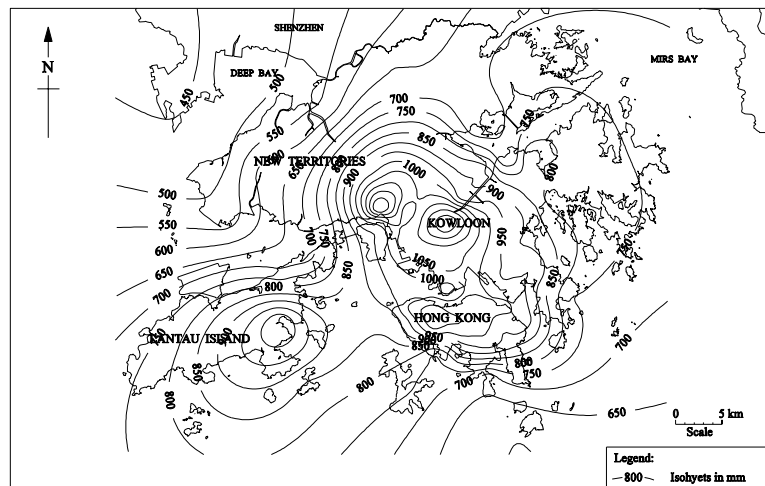
June 2005

Note: Isohyets are based on all the GEO raingauges and the raingauges at the Hong Kong Observatory.

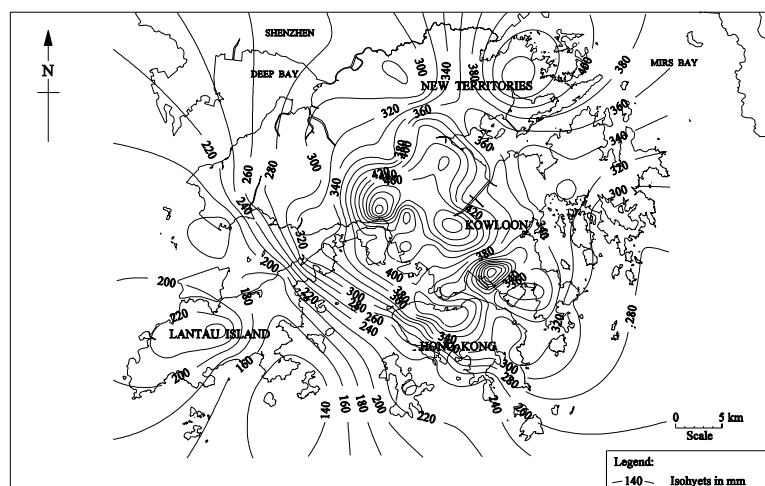
Figure 3b - Total Monthly Rainfall Distribution in 2005



July 2005



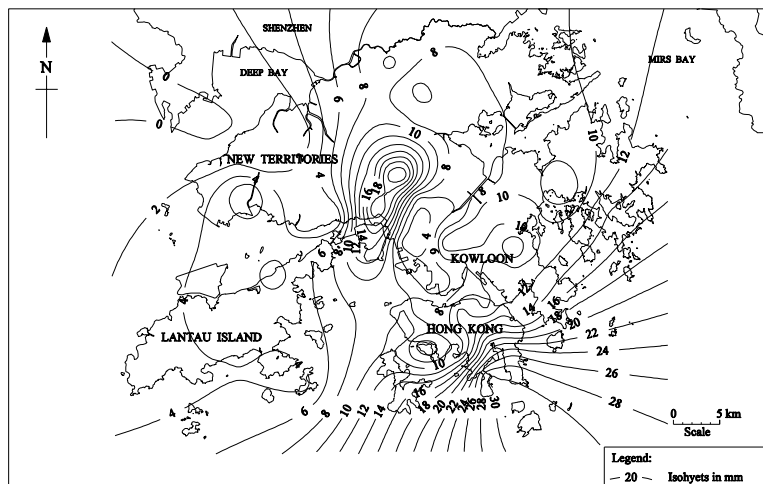
August 2005



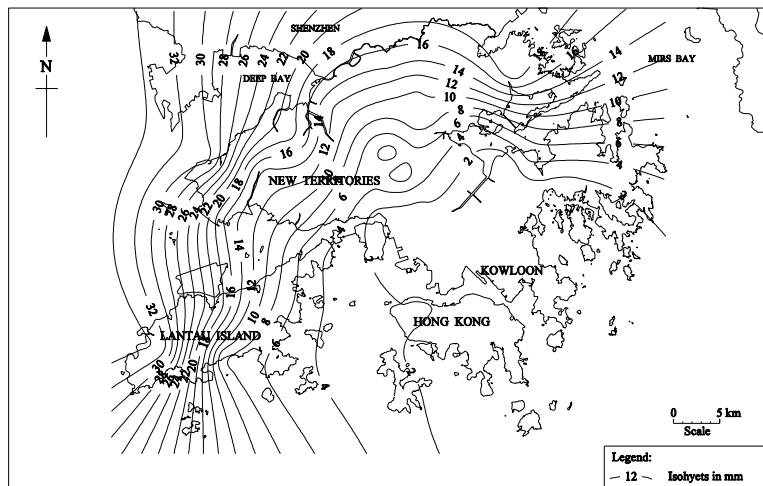
September 2005

Note: Isohyets are based on all the GEO raingauges and the raingauges at the Hong Kong Observatory.

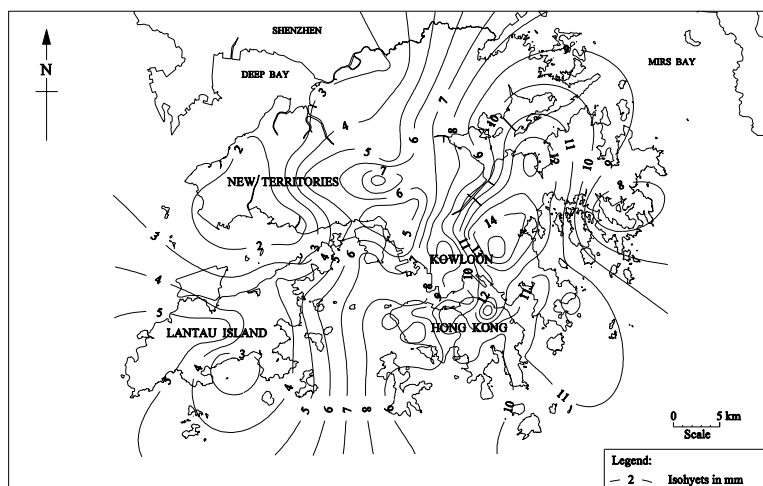
Figure 3c - Total Monthly Rainfall Distribution in 2005



October 2005



November 2005



December 2005

Note: Isohyets are based on all the GEO raingauges and the raingauges at the Hong Kong Observatory.

Figure 3d - Total Monthly Rainfall Distribution in 2005

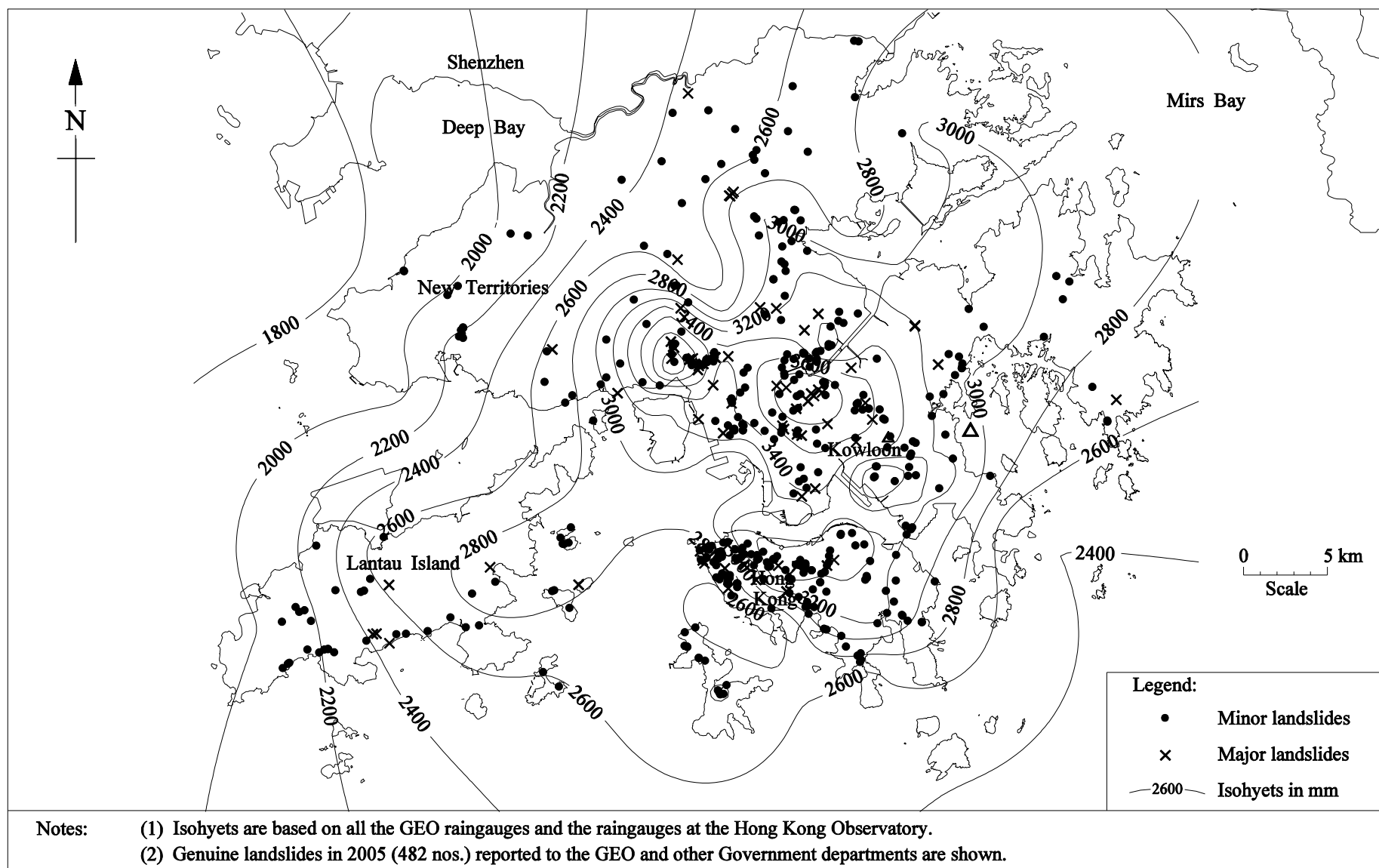


Figure 4 - Total Annual Rainfall Distribution and Locations of Landslides in 2005

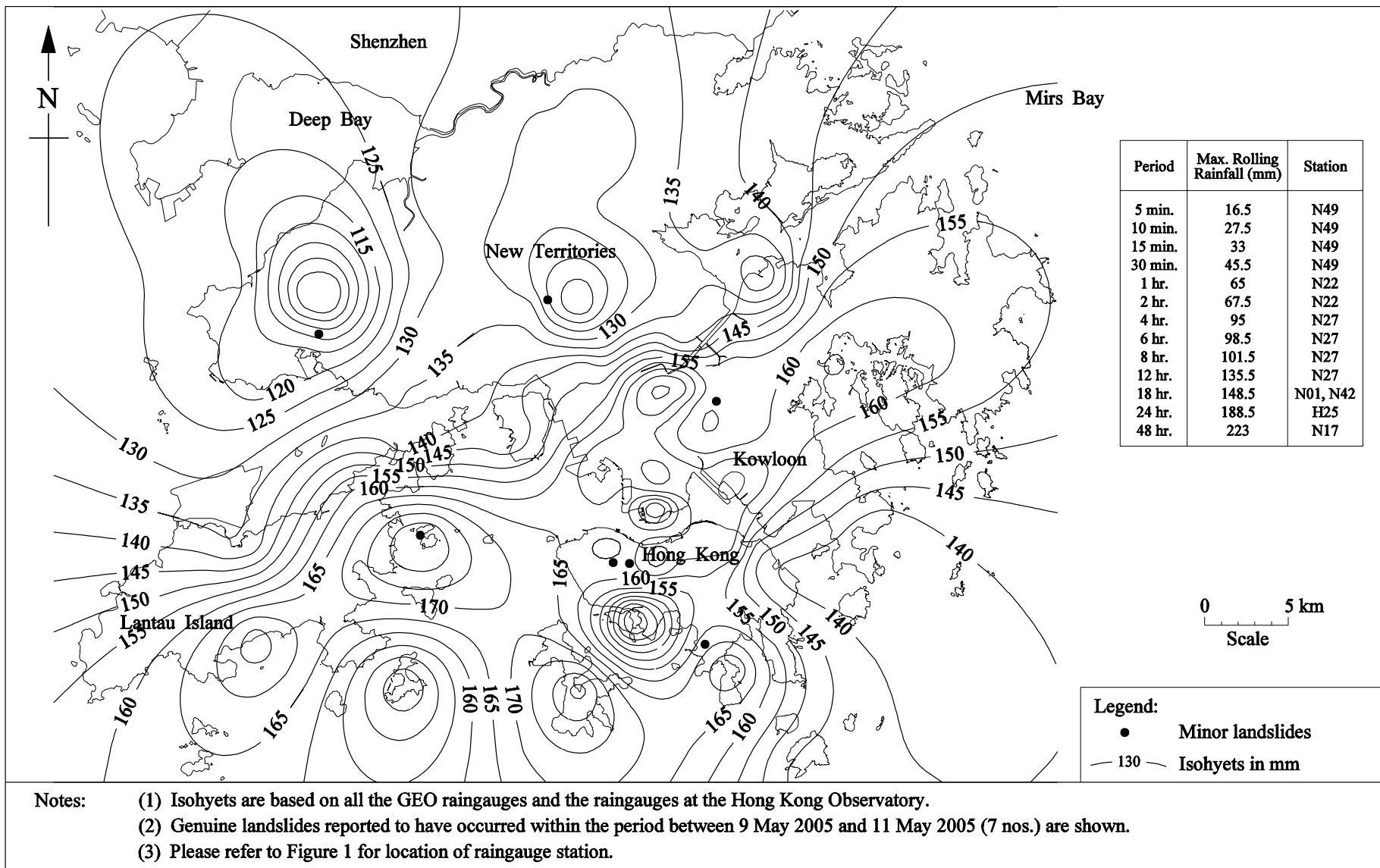


Figure 5 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 9 May 2005 (00:00) and 11 May 2005 (24:00) and Locations of Landslides

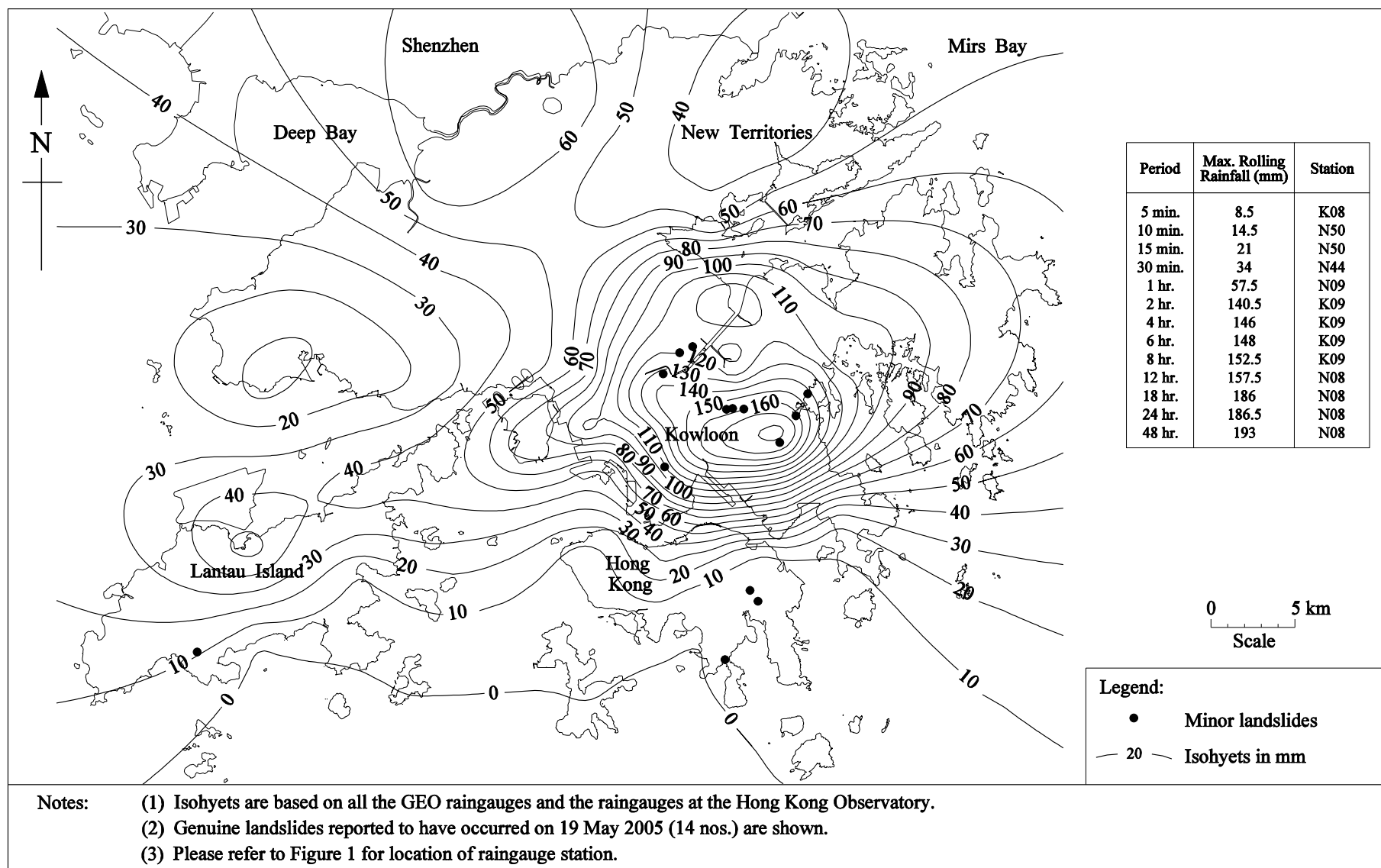


Figure 6 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 00:00 and 24:00 on 19 May 2005 and Locations of Landslides

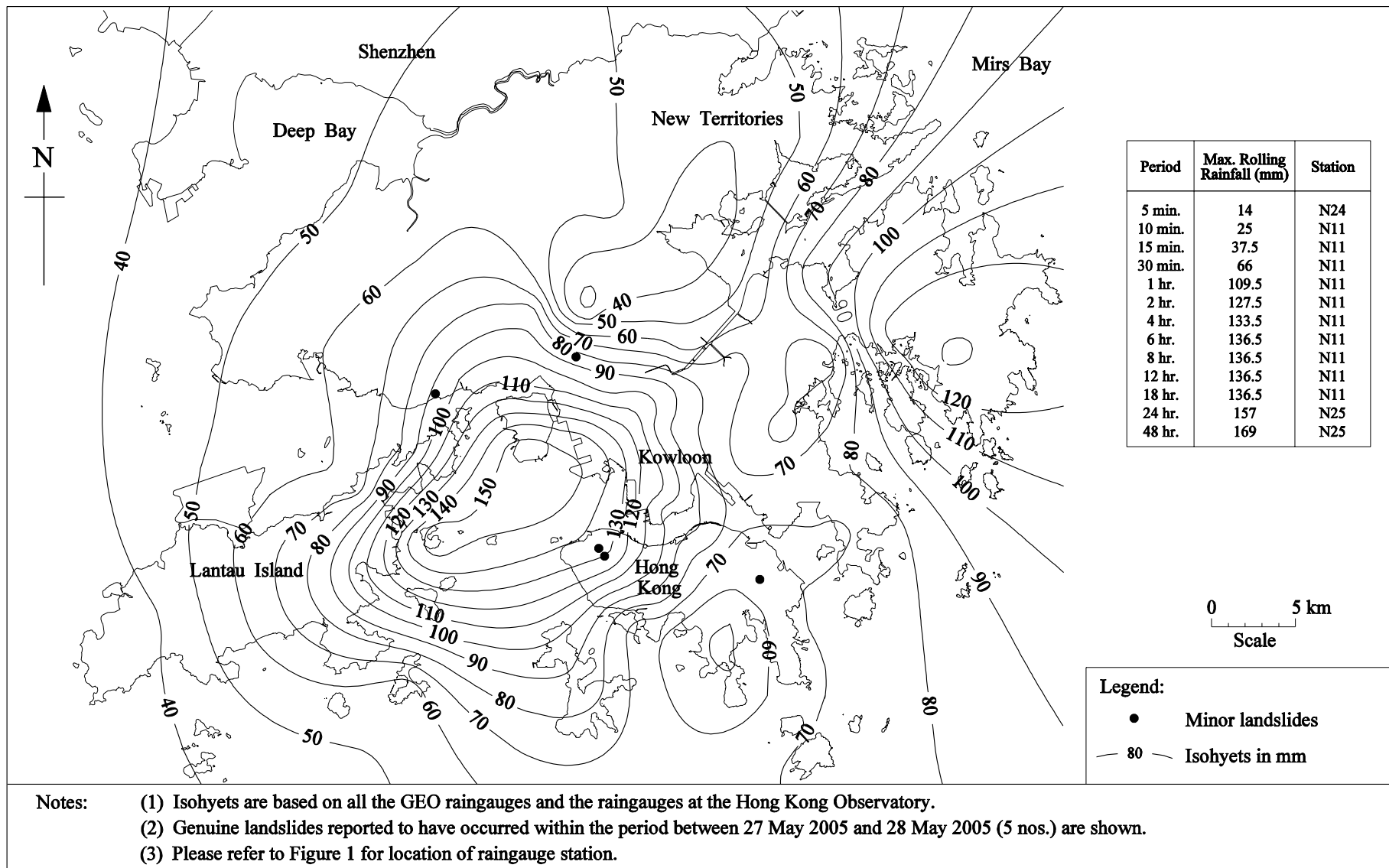


Figure 7 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 27 May 2005 (00:00) and 28 May 2005 (24:00) and Locations of Landslides

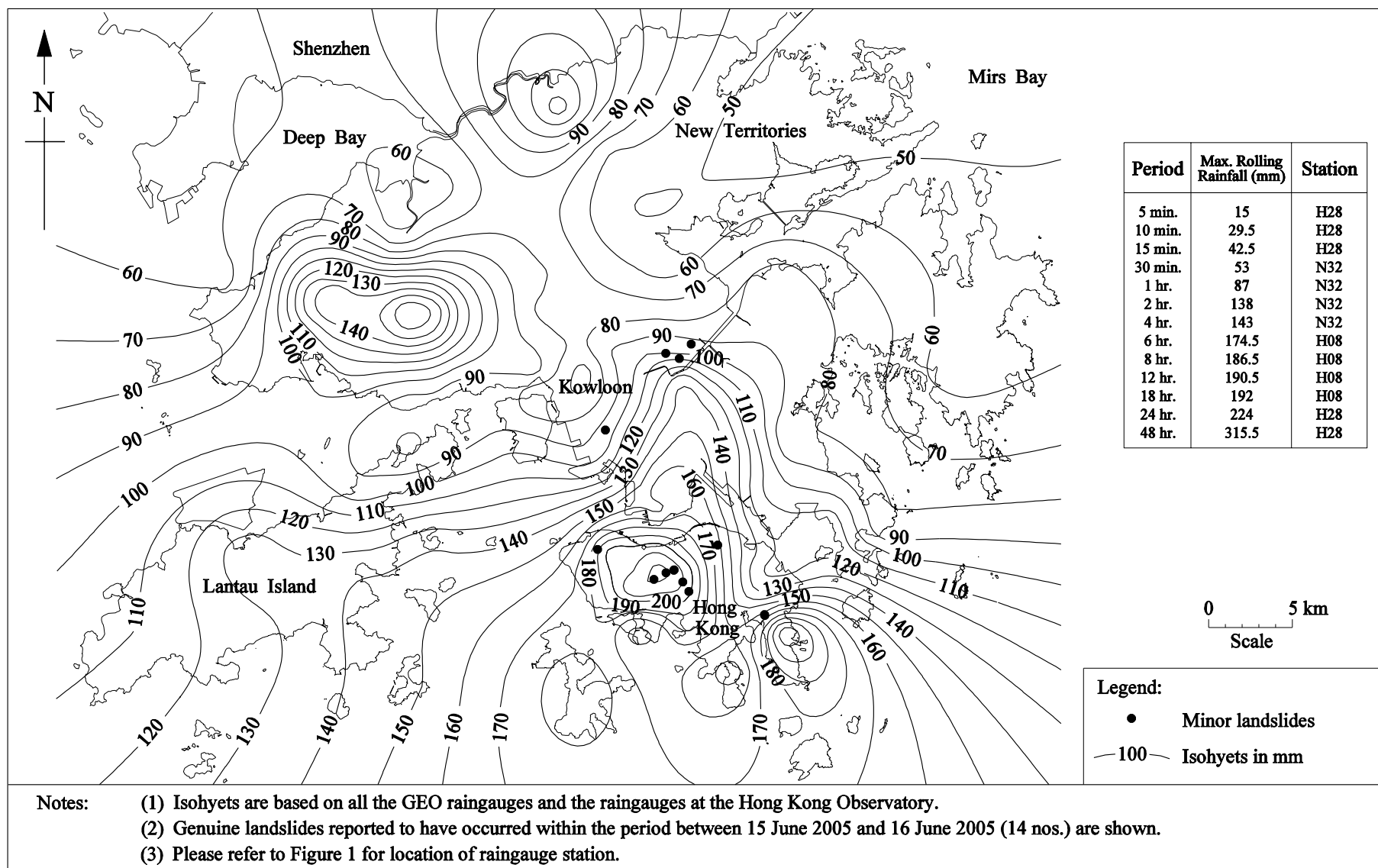


Figure 8 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 15 June 2005 (00:00) and 16 June 2005 (24:00) and Locations of Landslides

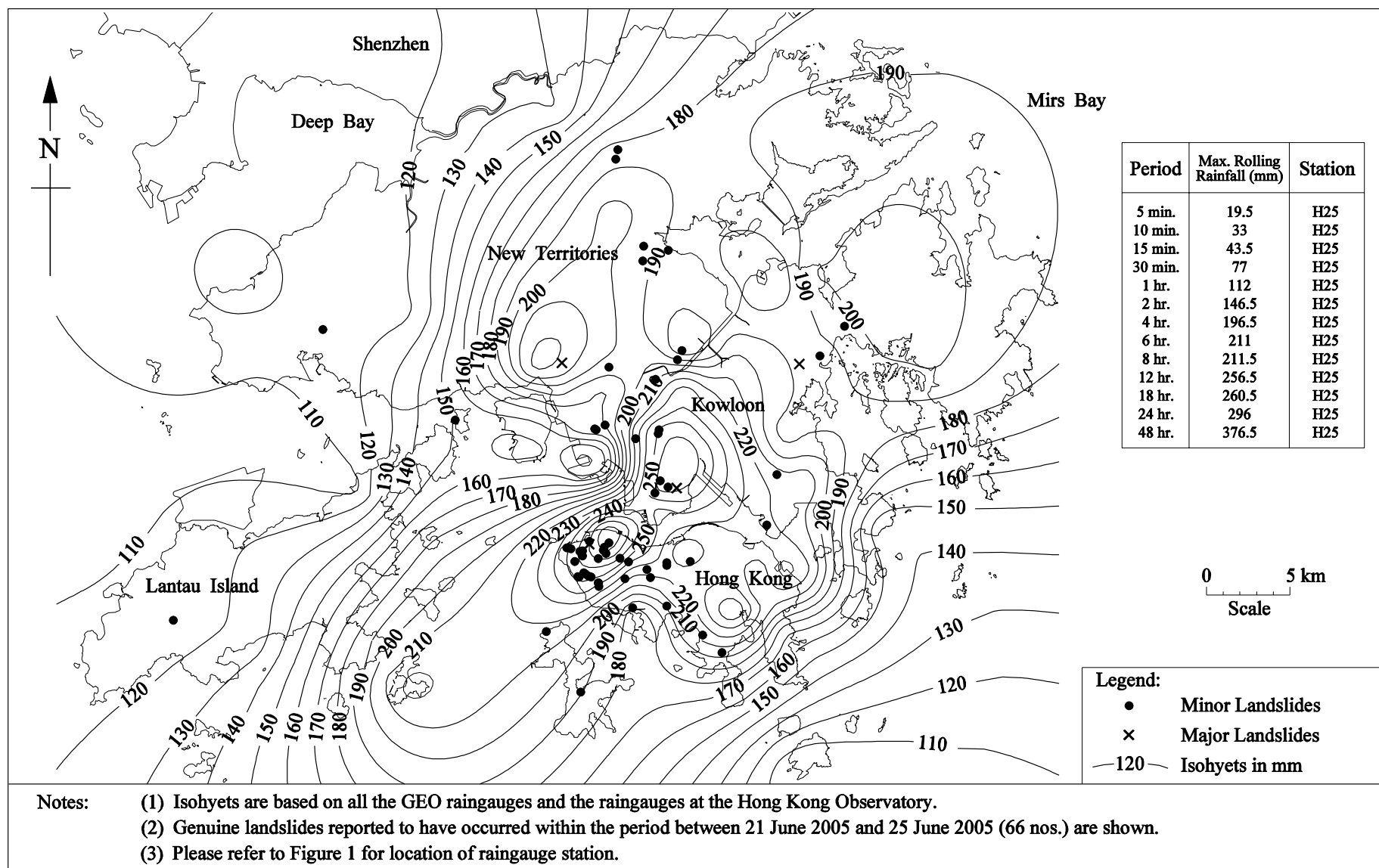


Figure 9 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 21 June 2005 (00:00) and 25 June 2005 (24:00) and Locations of Landslides

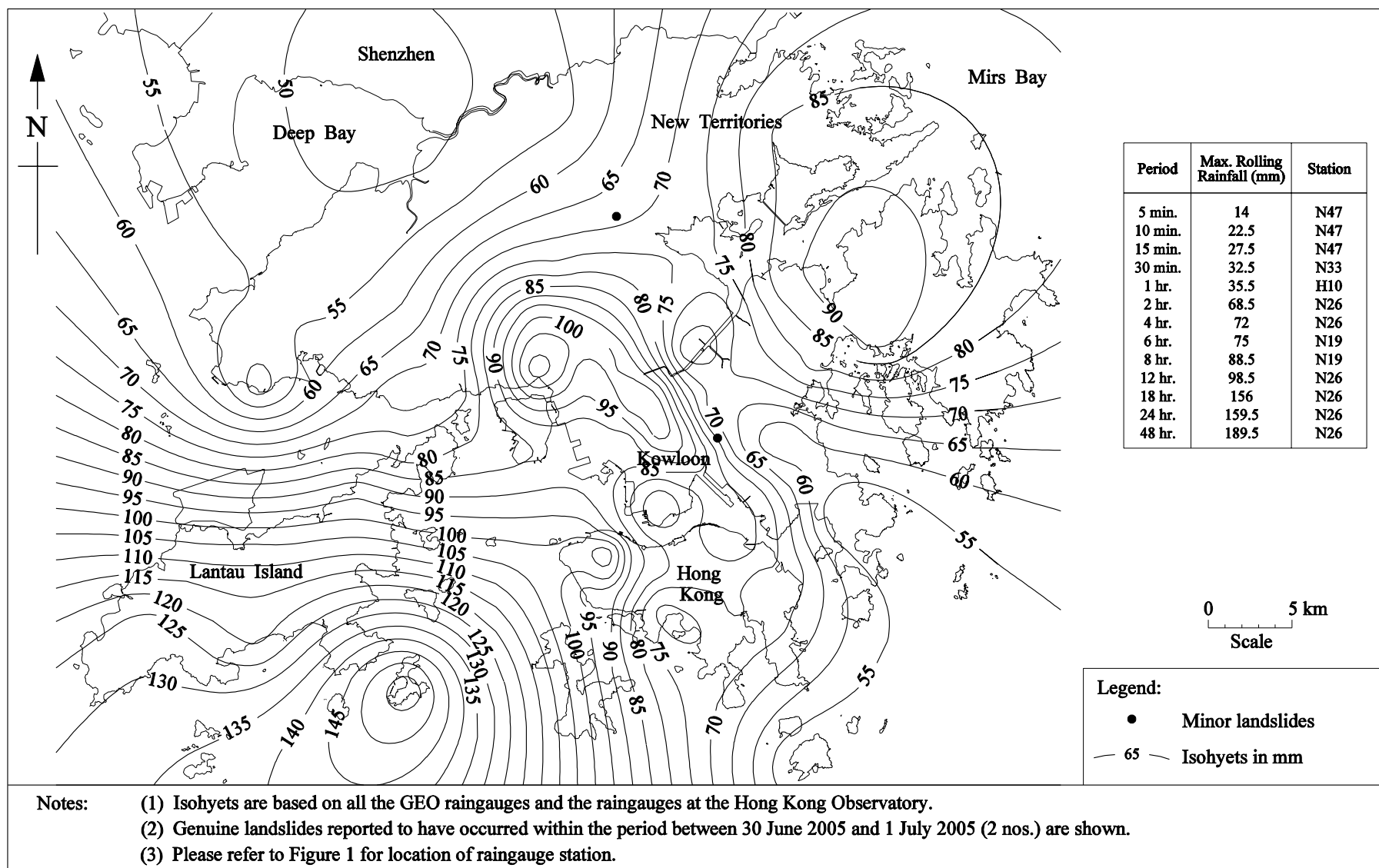


Figure 10 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 30 June 2005 (00:00) and 1 July 2005 (24:00) and Locations of Landslides

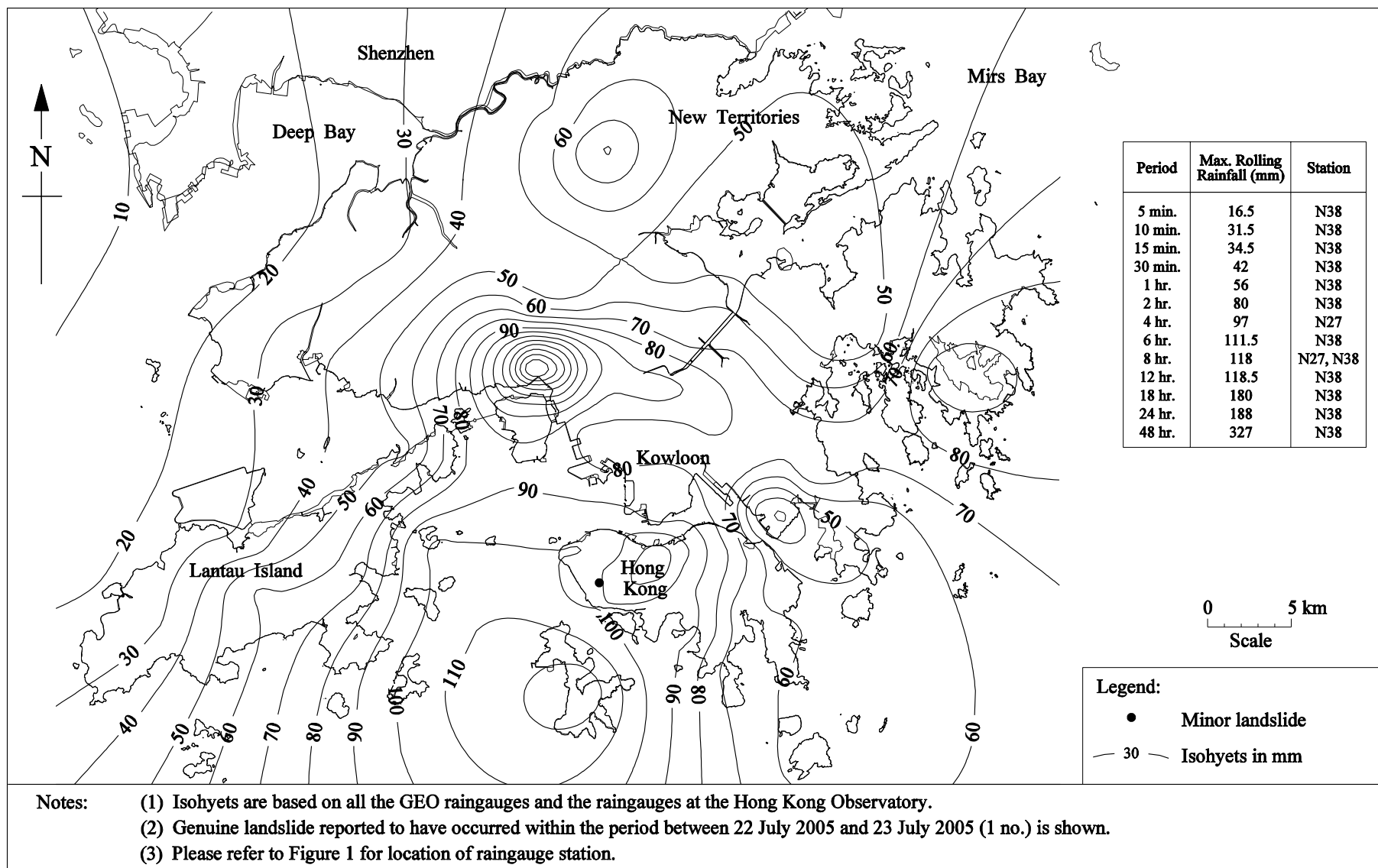


Figure 11 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 22 July 2005 (00:00) and 23 July 2005 (24:00) and Locations of Landslides

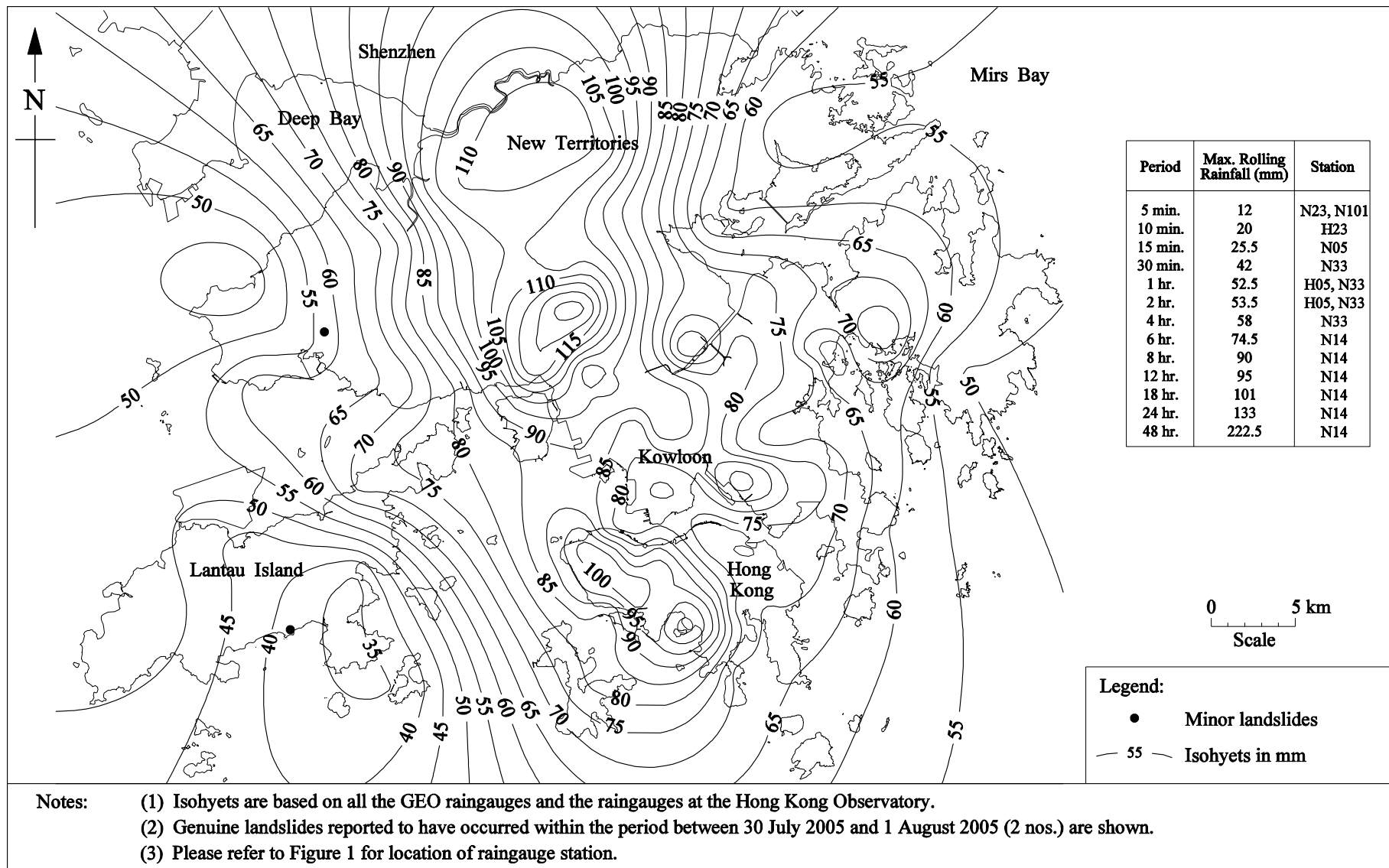


Figure 12 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 30 July 2005 (00:00) and 1 August 2005 (24:00) and Locations of Landslides

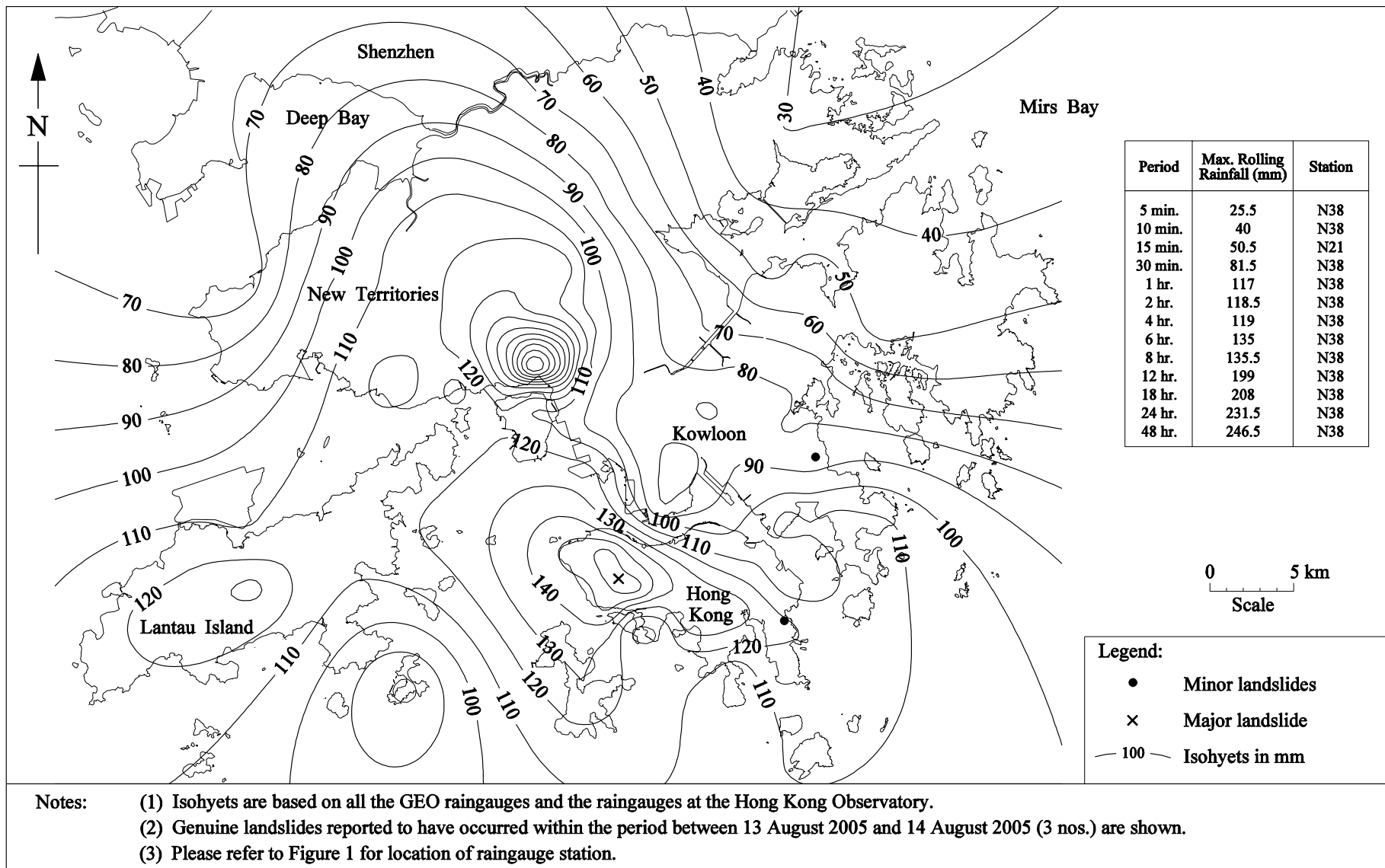


Figure 14 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 13 August 2005 (00:00) and 14 August 2005 (24:00) and Locations of Landslides

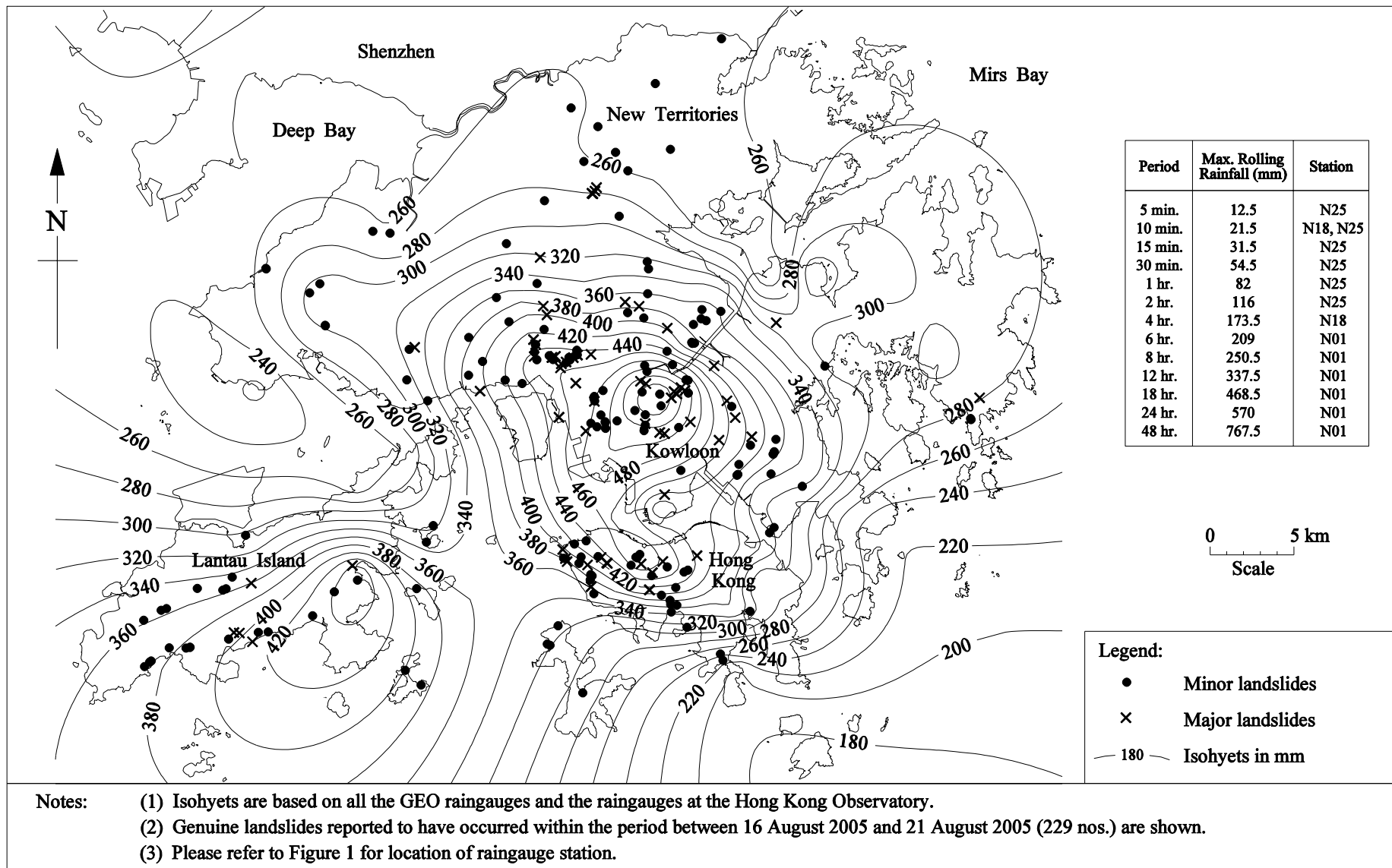


Figure 15 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 16 August 2005 (00:00) and 21 August 2005 (24:00) and Locations of Landslides

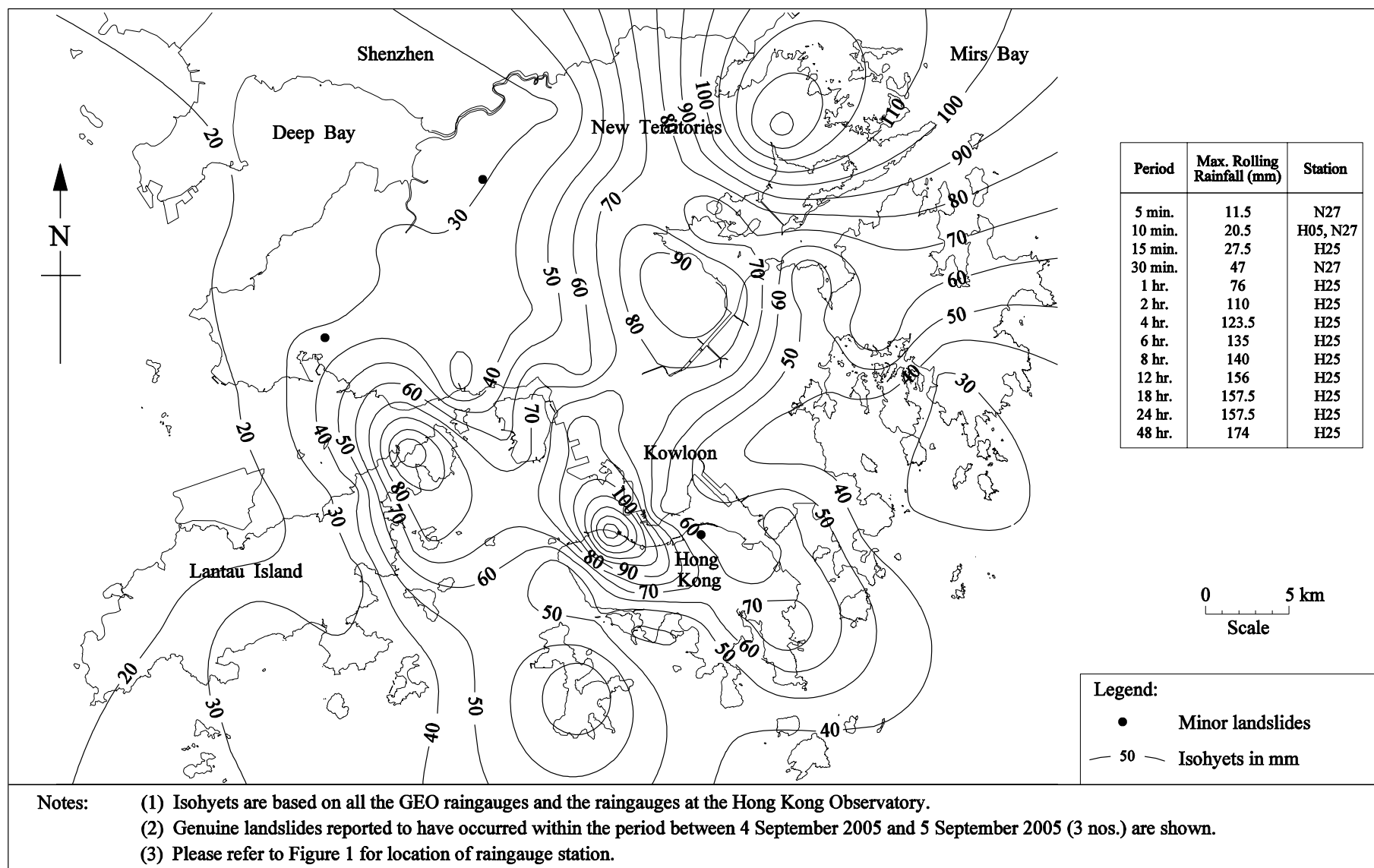


Figure 16 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 4 September 2005 (00:00) and 5 September 2005 (24:00) and Locations of Landslides

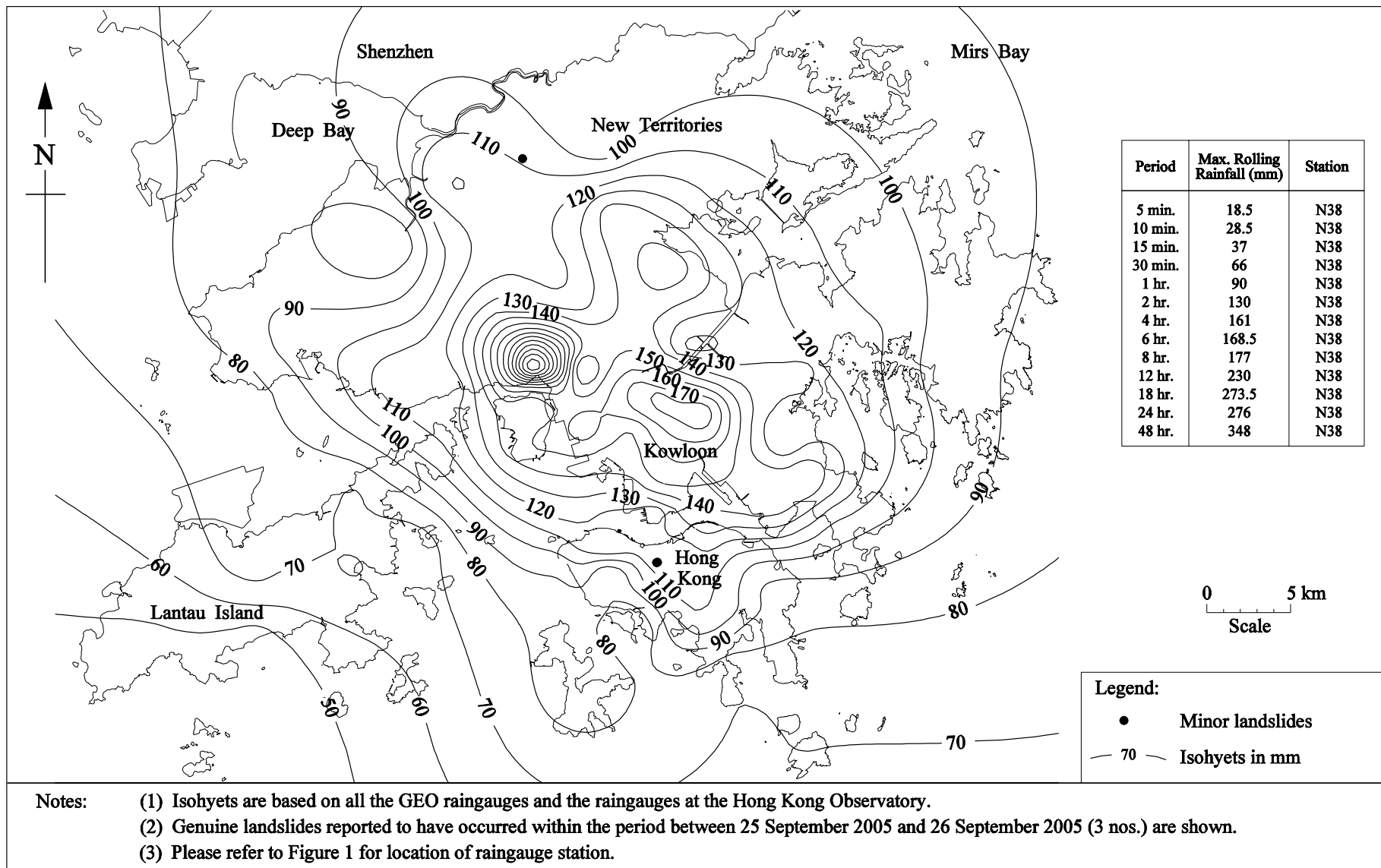
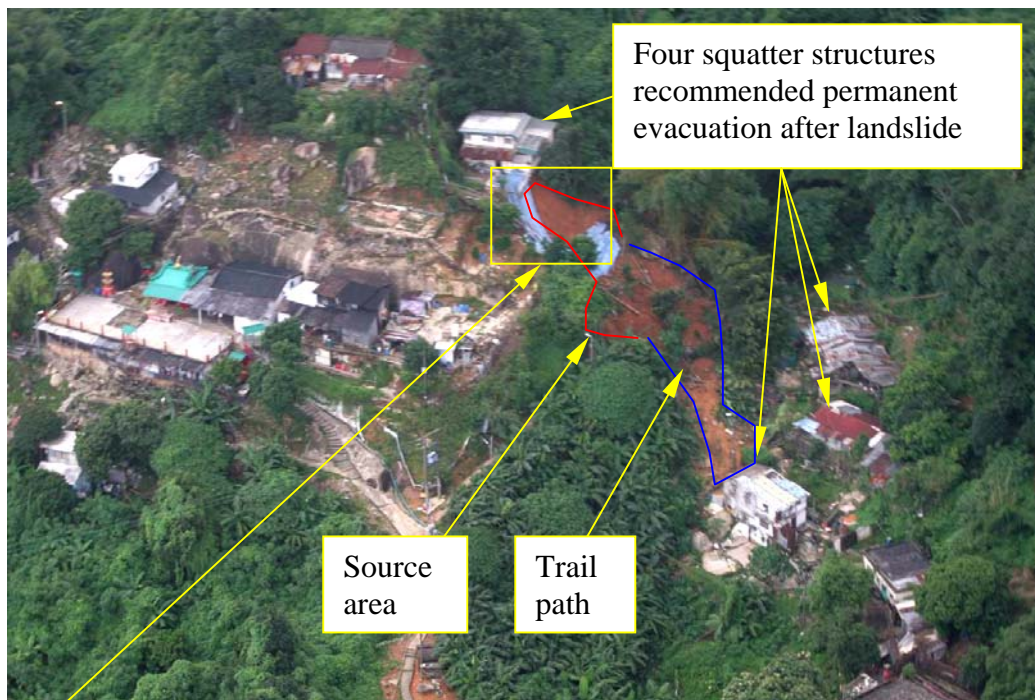


Figure 17 - Maximum Rolling 24-hour Rainfall Distribution for the Period between 25 September 2005 (00:00) and 26 September 2005 (24:00) and Locations of Landslides

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Description: A major landslide occurred on a natural hillside that has been disturbed locally by past human activities. The incident resulted in one fatality and permanent evacuation of four squatter structures.

Plate 1 - The 20 August 2005 Landslide incident on a Hillside at Fu Yung Shan Tsuen, Tsuen Wan (Incident No. 2005/8/0362)



Description: Two major landslides affecting predominantly natural hillside above and below Bowen Road which resulted in temporary closure of St. James' Primary School and Nos. 98 and 120 Kennedy Road.



Debris inundated the G/F of No. 120 Kennedy Road

Plate 2 – The 20 August 2005 Landslide Incident on the Natural Hillsides at Bowen Road (Incident No. 2005/8/0304)



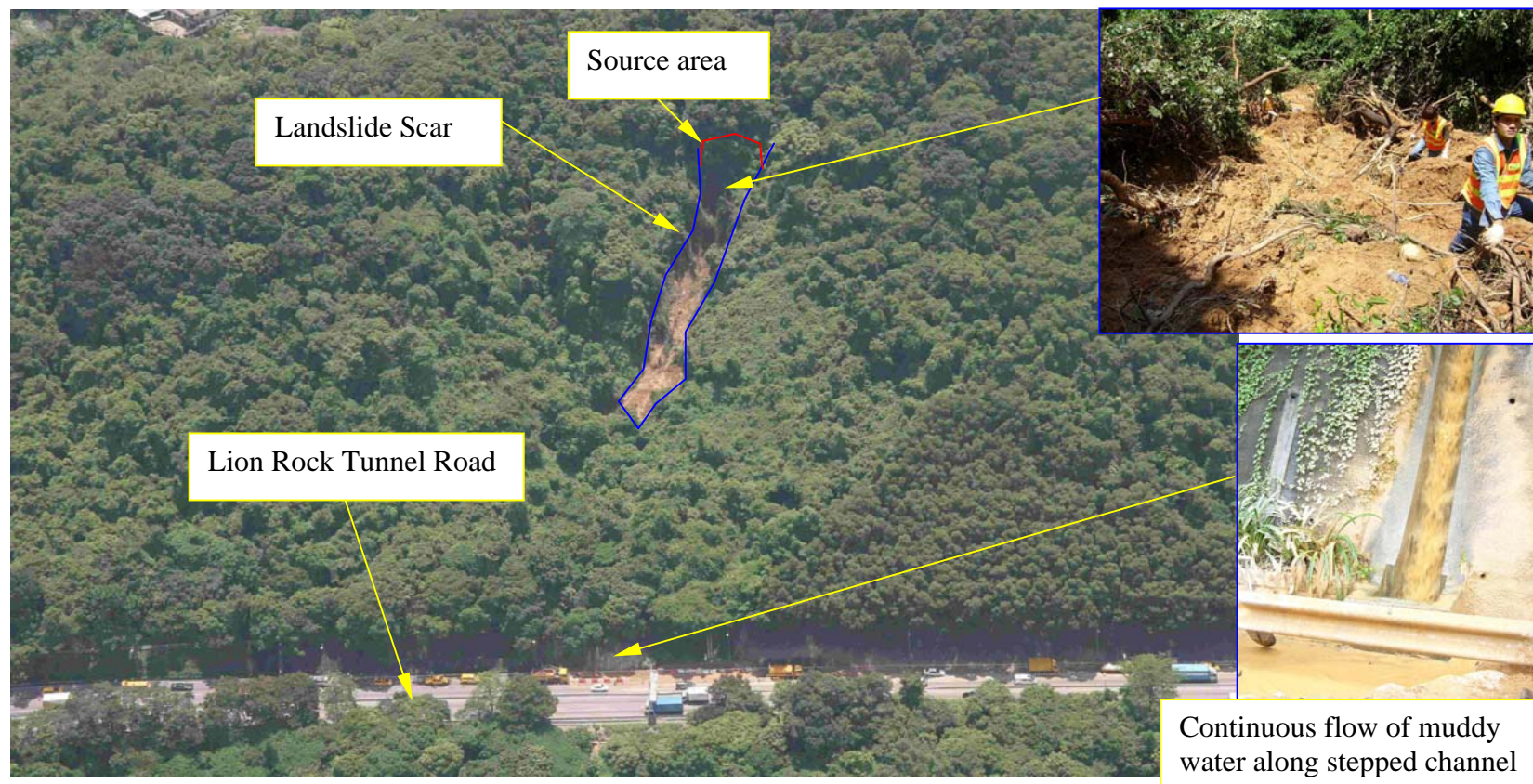
Description: A debris flood running along and beyond a streamcourse which resulted in temporary evacuation of 118 residents and 84 temple visitors and closure of a section of Lo Wai Road.

Plate 3 - The 20 August 2005 Debris Flood Incident at Lo Wai, Tsuen Wan (Incident Nos. 2005/8/0338, 2005/8/0348, 2005/8/0402, 2005/8/0417 and 2005/8/0528)



Description: Distress on the natural hillside which resulted in the temporary closure of part of the Nurses' Quarters Block A of Queen Mary Hospital.

Plate 4 – The 20 August 2005 Landslide Incident on the Natural Hillside behind Nurses' Quarters Block A, Queen Mary Hospital, Pok Fu Lam (Incident No. 2005/8/0464)



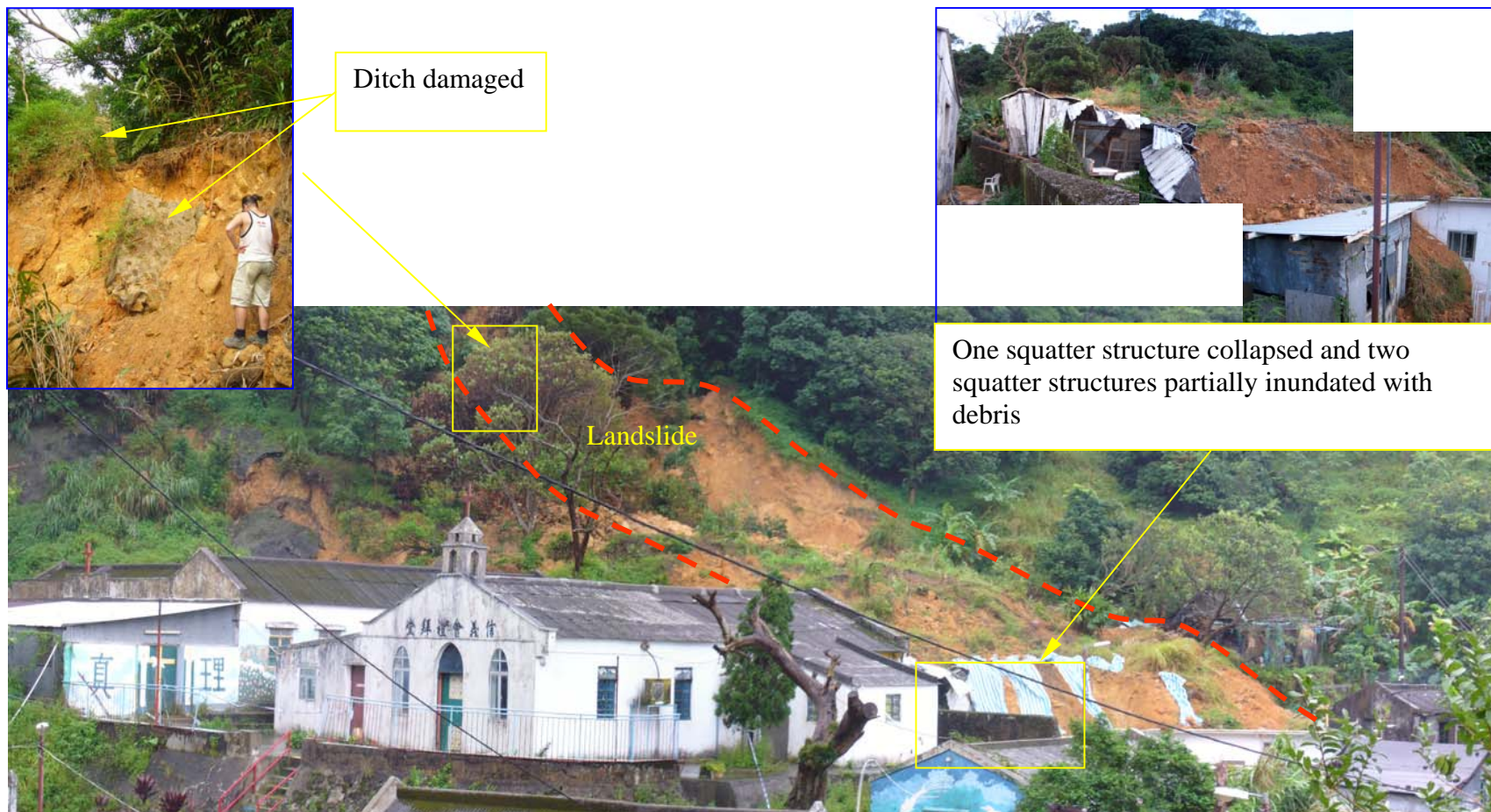
Description: A continuous flow of muddy water and soil debris from a major landslide on natural hillside above Slope No. 7SW-D/C2 which resulted in the temporary closure of one southbound lane of Lion Rock Tunnel Road.

Plate 5 - The 22 August 2005 Landslide Incident on the Natural Hillside above Slope No. 7SW-D/C2, Lion Rock Tunnel Road
(Incident No. 2005/8/428)



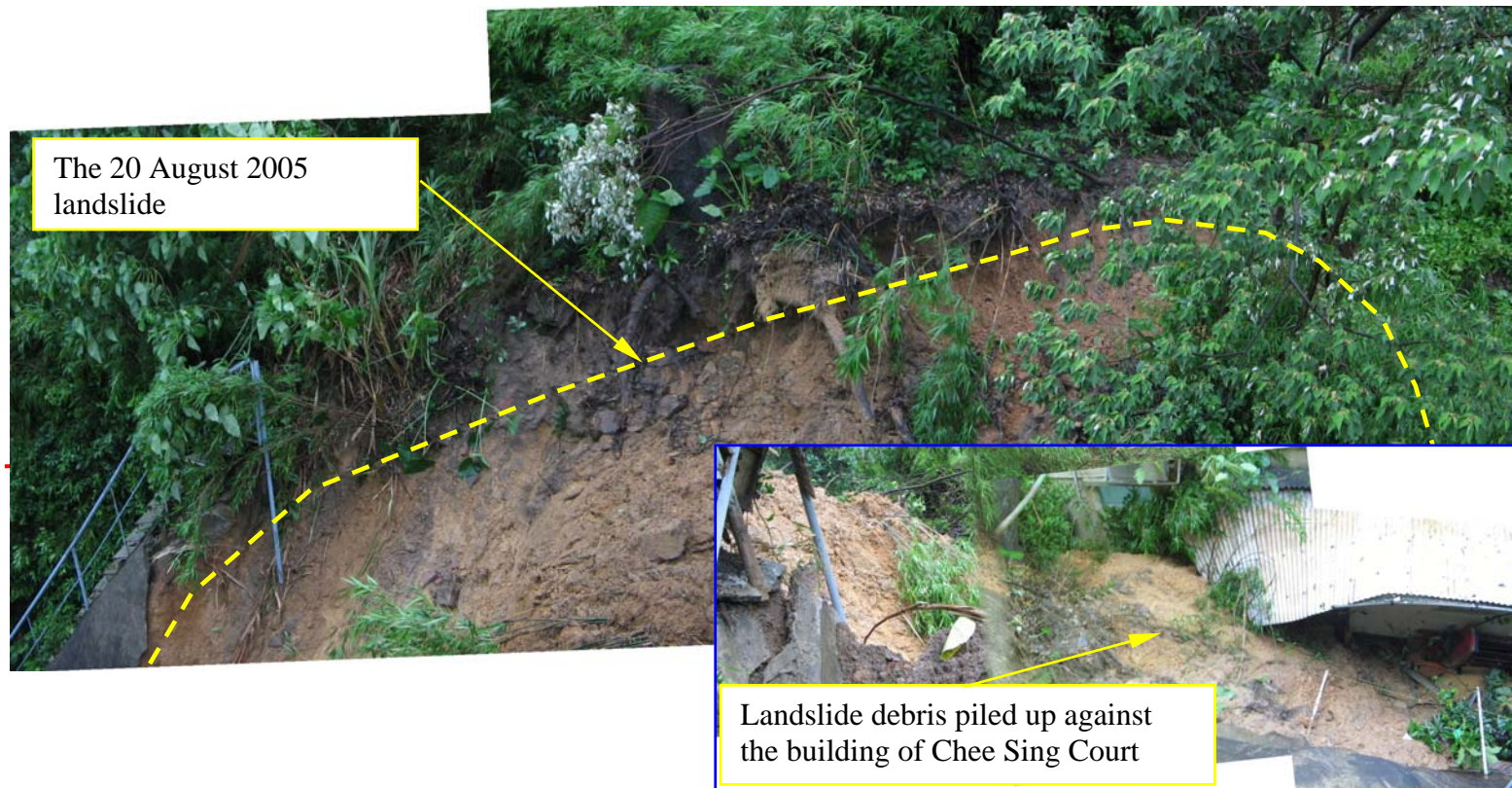
Description: A major landslide occurred on a cut slope which resulted in temporary evacuation of a five-storey and a three-storey residential blocks.

Plate 6 - The 20 August 2005 Landslide Incident on Slope No. 7SW-D/C167 at Shatin Heights (Incident No. 2005/8/0320)



Description: A major landslide from two cut slopes, above and below a ditch which damaged three squatter structures.

Plate 7 - The 21 August 2005 Landslide Incident on Slope Nos 7SE-B/C195 and 7SE-B/C131 at Ma On Shan Upper Village
(Incident No. 2005/8/0384)



Description : A major failure involving the crest of a soil cut slope and the natural hillside above, which resulted in temporary evacuation of Chee Sing Kok Social Centre.

Plate 8 - The 20 August 2005 Landslide Incident on Slope No. 11SW-A/C415 at No. 404 Victoria Road (Incident No. 2005/8/0368)



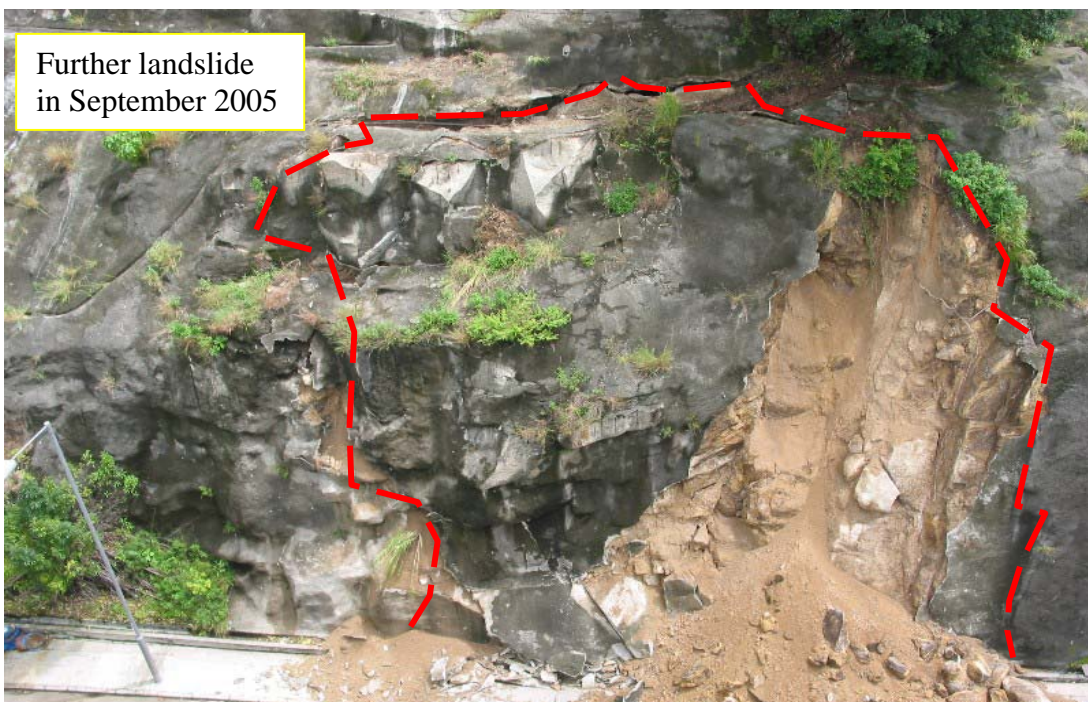
Description: A major landslide on a fill slope which resulted in temporary closure of Victoria Road.

Plate 9 - The 20 August 2005 Landslide Incident on Slope No. 11SW-C/FR126 below Canossian Retreat House Honeyville, Victoria Road (Incident No. 2005/8/0308)

1st landslide in
August 2005



Further landslide
in September 2005



Description: A major failure on the rock portion of a soil/rock cut slope which resulted in closure of Ping Ting Road at the toe and the playground of the Buddhist Hung Sean Chau Memorial College on the opposite side of the road.

Plate 10 - The 20 August 2005 Landslide Incident on Slope No. 11NE-A/C153 at Ping Ting Road, Ngau Chi Wan (Incident No. 2005/8/0299)



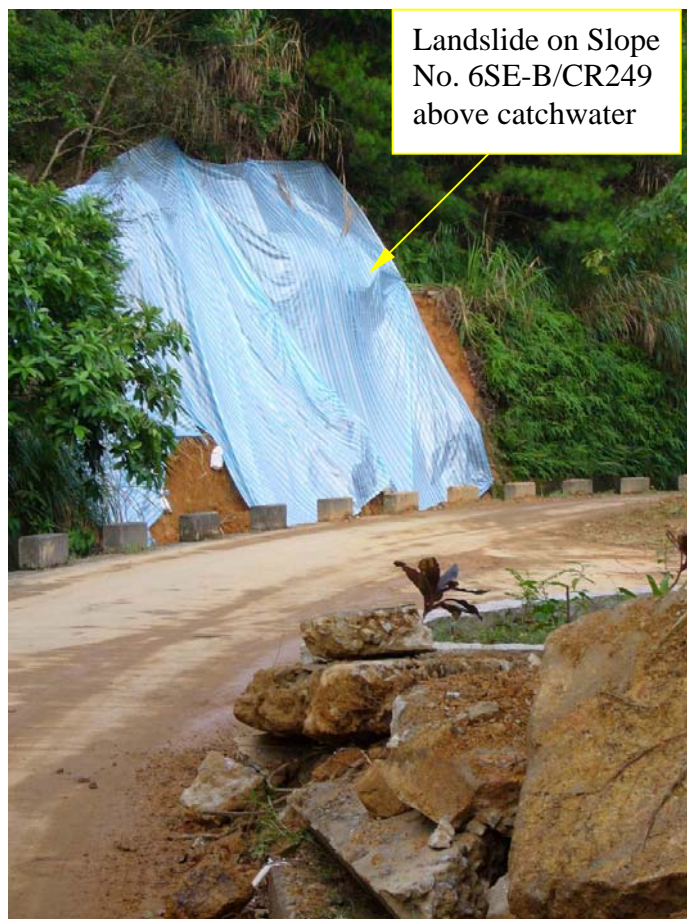
Description: A major natural hillside failure which resulted in the temporary closure of Pak Fa Lam Road, Fei Ngo Shan Road and the Access Road to the WSD Fei Ngo Shan Service Reservoir.

Plate 11 - The 21 August 2005 Landslide Incident on the Natural Hillside above Fei Ngo Shan, Choi Hung (Incident No. 2005/8/0381)



Description: A major landslide on a soil cut slope which resulted in temporary closure of South Lantau Road.

Plate 12 - The 20 August 2005 Landslide Incident on Slope No. 13NE-B/C166 along South Lantau Road, approximate 500 m East of Tong Fuk, Lantau Island (Incident No. 2005/8/0331)



Landslide on Slope No. 6SE-B/CR249 above catchwater



Support of a squatter structure exposed



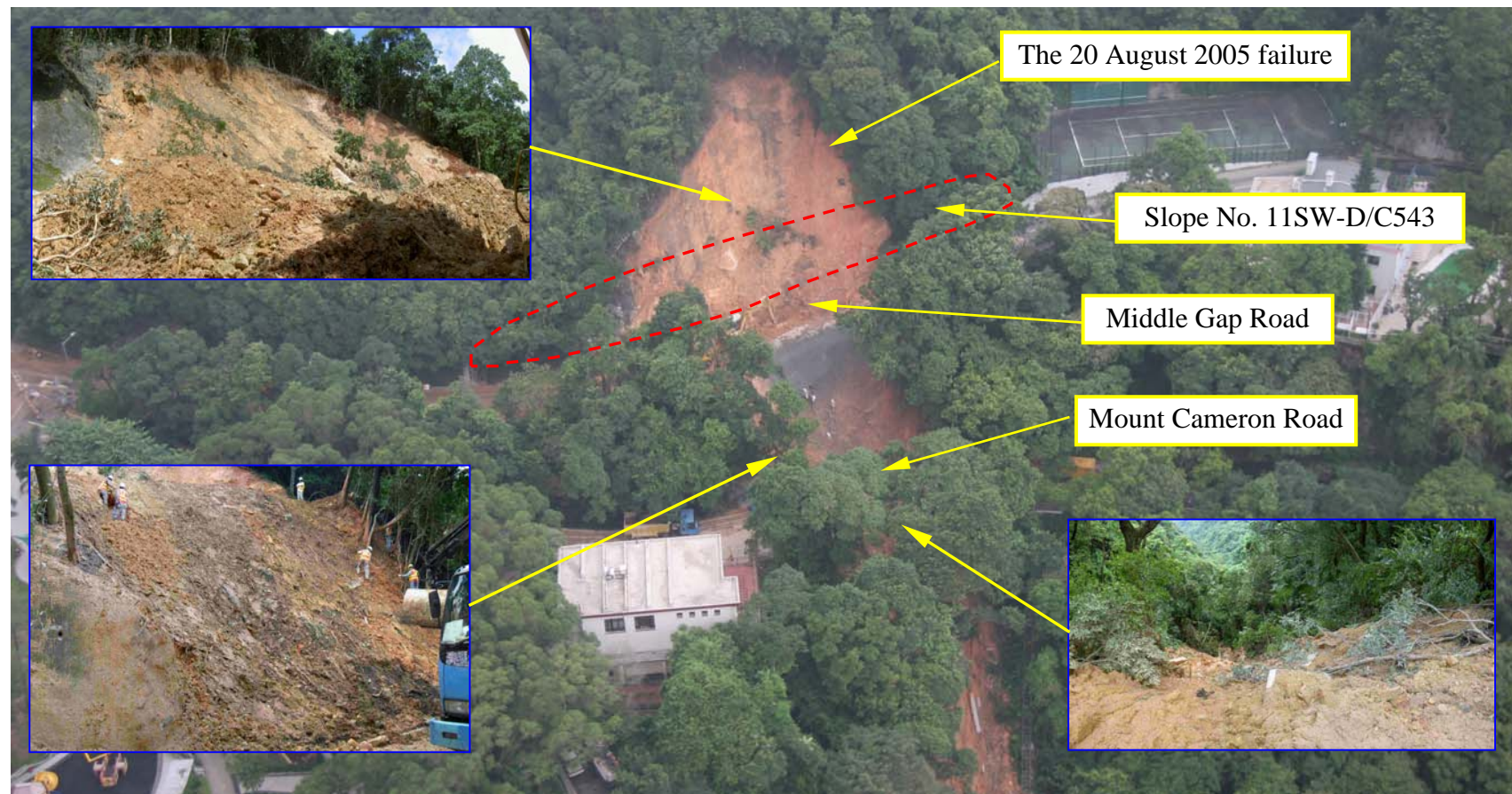
Route Twisk blocked by entrained debris



Fill Slope No. 6SE-D/FR98 below Route Twisk failed

Description: A major landslide and washout incidents which resulted in permanent evacuation of a squatter structure and closure of a section of Route Twisk.

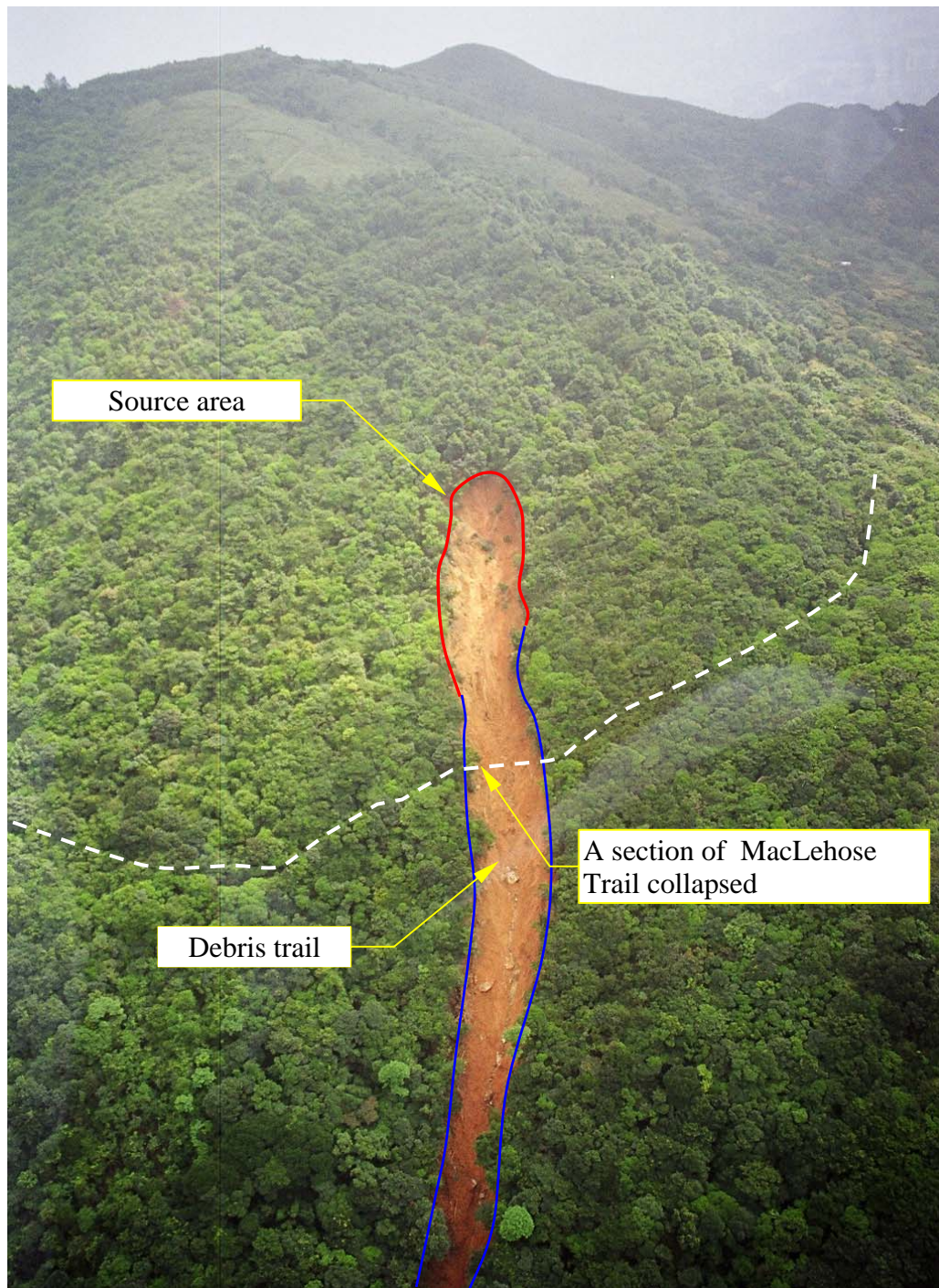
Plate 13 - The 20 August 2005 Landslide Incident at Route Twisk near Kong Pan Tin Tsuen, Tsuen Wan (Incidents Nos. 2005/8/0351A, 2005/8/0351B and 2005/8/0480)





Description: A landslide on the vegetated natural hillside that resulted in the temporary closure of Lai King Hill Road at the slope toe.

Plate 15 - The 11 August 2005 Landslide Incident on the Natural Hillside above Slope No. 11NW-A/C49 at Lai King Hill Road, Kwai Chung (Incident No. 2005/8/0279)



Description: A major natural hillside failure which developed into a channelised debris flow and destroyed a section of MacLehose Trail

Plate 16 - The 22 August 2005 Channelised Debris Flow Incident on the Natural Hillside at Kwun Yam Shan (Incident No. 2005/8/0422)

APPENDIX A

RAINFALL OF SELECTED RAINSTORMS RECORDED AT GEO RAINGAUGES

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Table A1 - Rainstorms in which Rolling 24-hour Rainfall Exceeded 50 mm at any GEO Raingauge (Sheet 1 of 3)

Rainstorm (2005)		5 min		10 min		15 min		30 min	
		Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station
1	8-11 May 2005	19	H14	28	N30	37.5	N30	59.5	H19
2	16 May 2005	11	N15	20	N15	26	N15	33.5	N08
3	18-21 May 2005	14	H26, H28, K09	26.5	H26, H28, K09	38.5	H26	75	K09
4	24-28 May 2005	14	N24	25	N11	37.5	N11	68.5	N48
5	2-6 June 2005	13	N40	22	N40	31	N40	49	N40
6	14-19 June 2005	21.5	H28	42.5	H28	52.5	H28	64	N42
7	21-26 June 2005	19.5	H25	33	H25	43.5	H25	77	H25
8	29 June - 2 July 2005	14	N47	22.5	N47	27.5	N47	37.5	N25
9	7-8 July 2005	13	N36	25	N36	35.5	N36	48.5	N36
10	19-23 July 2005	25	N38	43	N38	57	N38	78.5	N36
11	29 July - 1 August 2005	12	H23, K09, N01	20	H23, K09	26.5	K03	42	N33
12	9-11 August 2005	11	N38	19.5	N38	21.5	N38	31	N38
13	13-22 August 2005	25.5	N38	40	N38	50.5	N21	81.5	N38
14	24-25 August 2005	11	N50	19.5	H03	27.5	H03	45	H05
15	3-5 September 2005	14	N46	24	N25	33	N25	47	N27
16	8-10 September 2005	14	N12	26	N12	35.5	N12	52.5	N12
17	18-19 September 2005	7	K01, N08, N11, N36	12.5	N22	15.5	N22	19	N36
18	25-28 September 2005	18.5	N38	28.5	N38	37	N38	66	N38

Table A1 - Rainstorms in which Rolling 24-hour Rainfall Exceeded 50 mm at any GEO Raingauge (Sheet 2 of 3)

Rainstorm (2005)		1 hr		2 hr		4 hr		6 hr	
		Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station
1	8-11 May 2005	77	N32	90.5	N17	95.5	N17	98.5	N27
2	16 May 2005	51.5	N15	52.5	N15	57	N15	57	N15
3	18-21 May 2005	126	H26	170	H26	214.5	H26	232	H26
4	24-28 May 2005	109.5	N11	127.5	N11	133.5	N11	136.5	N11
5	2-6 June 2005	61	N40	77.5	N40	91	N37	91.5	N37
6	14-19 June 2005	89.5	N42	138	N32	143	N32	174.5	H08
7	21-26 June 2005	112	H25	146.5	H25	196.5	H25	211	H25
8	29 June - 2 July 2005	53.5	N26	68.5	N26	72	N26	75	N19
9	7-8 July 2005	50.5	N36	50.5	N36	50.5	N36	58.5	N36
10	19-23 July 2005	104.5	N38	106.5	N38	139	N38	139	N38
11	29 July - 1 August 2005	52.5	H05, N33	53.5	H05, N33	58	N33	74.5	N14
12	9-11 August 2005	38.5	H19	48	H29	77.5	H29	79.5	H29
13	13-22 August 2005	117	N38	118.5	N38	173.5	N18	209	N01
14	24-25 August 2005	70	H05	72.5	H05	87.5	H03, H05	87.5	H03, H05
15	3-5 September 2005	89	N24	110	H25	123.5	H25	135	H25
16	8-10 September 2005	60	N12	68.5	N21	68.5	N21	68.5	N21
17	18-19 September 2005	22.5	N36	39.5	N36	45.5	N36	46.5	N36
18	25-28 September 2005	90	N38	130	N38	161	N38	168.5	N38

Table A1 - Rainstorms in which Rolling 24-hour Rainfall Exceeded 50 mm at any GEO Raingauge (Sheet 3 of 3)

Rainstorm (2005)		8 hr		12 hr		18 hr		24 hr		48 hr	
		Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station	Max. rainfall (mm)	Station
1	8-11 May 2005	101.5	N27	135.5	N27	148.5	N01, N42	188.5	N25	223	N17
2	16 May 2005	57	N15	57	N15	57	N15	57	N15	57	N15
3	18-21 May 2005	247	H26	257.5	H26	261.5	H26	262	H26	279	N08
4	24-28 May 2005	136.5	N11	136.5	N11	136.5	N11	157	N25	169	N25
5	2-6 June 2005	91.5	N37	96	N42	109.5	N42	110	N42	120.5	N42
6	14-19 June 2005	186.5	H08	190.5	H08	192	H08	224	H28	315.5	H28
7	21-26 June 2005	211.5	H25	256.5	H25	260.5	H25	296	H25	376.5	H25
8	29 June - 2 July 2005	88.5	N19	98.5	N26	156	N26	159.5	N26	189.5	N26
9	7-8 July 2005	66	N36	68.5	H04	69	H04	69.5	H04, N36	75	N32
10	19-23 July 2005	139	N38	139	N38	180	N38	208.5	N38	327	N38
11	29 July - 1 August 2005	90	N14	95.5	H21	101	H21, N14	133	N14	222.5	N14
12	9-11 August 2005	79.5	H29	90	H29	108	N38	113	N38	179.5	N38
13	13-22 August 2005	250.5	N01	337.5	N01	468.5	N01	570	N01	767.5	N01
14	24-25 August 2005	88	H05	104.5	H03	104.5	H03	104.5	H03	104.5	H03
15	3-5 September 2005	140	H25	156	H25	157.5	H25	157.5	H25	174	H25
16	8-10 September 2005	68.5	N21	68.5	N21	68.5	N21	77.5	N12	85.5	N21
17	18-19 September 2005	47.5	N36	67	N19	72	N19	72	N19	83.5	N19
18	25-28 September 2005	177	N38	230	N38	273.5	N38	276	N38	348	N38

APPENDIX B

LIST OF LANDSLIDE INCIDENTS REPORTED TO THE GOVERNMENT

LIST OF TABLES

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Table B1 – List of Major Landslide Incidents (Sheet 1 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/06/0179	Pak Kong Road	7SE-D/C66	24/6 (09:00)	Soil cut	75*	Road	2 lanes of road temporarily closed
2005/06/0181	North of Chuk Lam Buddhist, Fu Yung Shan	7SW-C/CR564	24/6 (before 07:50)	Soil cut	100*	Squatter dwelling	2 squatter dwellings permanently evacuated
2005/06/0188	Behind Custom and Excise Services Married Quarters, Ko Shan Road	11NW-D/C79	24/6 (09:00)	Soil/rock cut	150	Open area	-
2005/06/0216	Above slope no. 11SW-A/C149, Elliot Fresh Water Service Reservoir, Mid-level	Natural hillside	24/6	Natural hillside	100	Open area	-
2005/08/0281	Slope No. 11SW-C/C792 and natural hillside above Peel Rise, Hong Kong	Natural hillside	14/8 (10:00)	Natural hillside	90	Road	1 lane of road closed
2005/08/0289	Hoi Mei Wan Beach, Ting Kau	Natural hillside	18/8 (17:45)	Natural hillside	80	Carpark/beach area	-
2005/08/0299	Opposite to Hung Sin Chau Memorial School, Ping Ting Road	11NE-A/C153	20/8	Soil/rock cut	156* (Rockfall)	Road and school	2 lanes of road and a school playground temporarily closed
2005/08/0304	Slope behind No. 98-126 Kennedy Road & above Bowen Road (11SW-D/C1352)	11SW-D/C1352 and Natural hillsides	20/8 (09:30)	Soil cut and natural hillsides	950	Road, building	Single lane of road closed, 1 school and 2 buildings temporarily evacuated
2005/08/0308	57 Mount Davis Road, Canossian Retreat House Honeyville	11SW-C/FR126	20/8 (09:30)	Fill	100	Road, building	2 lanes of road closed
2005/08/0310	Tung Chung Road between Shek Mun Kap and Cemetery	9SE-D/C29	20/8 (09:00 to 10:00)	Soil/rock cut	450*	Road	1 lane of road closed

Table B1 – List of Major Landslide Incidents (Sheet 2 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/08/0318	Chap Wai Kon Village, Sha Tin	7SE-C/C334	20/8 (11:30)	Soil cut	60	Building	4 flats of a building temporarily evacuated
2005/08/0320	Below Ascot Villa, Shatin Heights Road and above Block 12 Woodcrest Hill	7SW-D/C167	20/8 (11:53)	Soil cut	1200	Building	2 buildings temporarily evacuated
2005/08/0326	Middle Gap Road, Wan Chai, slope No. 11SW-D/C543	11SW-D/C543 and Natural hillside	20/8 (10:45)	Soil cut and natural hillside	400	Roads	2 lanes of each of 2 roads closed
2005/08/0327	Access road to the north of Pilipino Club, 10 Wylie Road	11NW-D/C144	20/8 (07:00)	Soil cut	200*	Access road	Access road temporarily closed
2005/08/0330	Natural hillside to the north of Chuk Yuen North Estate	Natural hillside	Unknown	Natural hillside	100	Open area	-
2005/08/0331	South Lantau Road next to No. 1 Tong Fuk	13NE-B/C166	20/8 (14:15)	Soil/rock cut	750	Road	2 lanes of road closed
2005/08/0333	Slope No. 11NE-A/C533, Jat's Incline	11NE-A/C355	20/8	Soil cut	50*	Road	1 lane of road temporarily closed
2005/08/0338	WSD cut slope along catchwater above Hilltop Country Club	7SW-A/CR134	20/8 (17:00)	Soil cut	600*	Catchwater and road	2 lanes of road temporarily closed
2005/08/0340	Above slope No. 11SW-C/C929, Victoria Road	Natural hillside	20/8 (15:45)	Natural hillside	400	Road	2 lanes of road closed
2005/08/0342	Natural hillside below Lung Cheung Road, near 11NW-B/R289	Natural hillside	20/8	Natural hillside	70*	Open area	-
2005/08/0344a	190 m southwest of 301 – 305 Castle Peak Road, 150 m south of Greenknoll Court, Kwai Chung	7SW-C/C1156	20/8 (09:30)	Soil cut	70*	Squatter dwelling	1 squatter dwelling temporarily evacuated
2005/08/0347c	Mount Davis Path, 200 m SE of Junction MT Davis Path and Victoria Road	11SW-A/C426	20/8	Soil cut	50	Road	1 lane of road closed

Table B1 – List of Major Landslide Incidents (Sheet 3 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/08/0348	Sheung Kok Shan Tusen, Lo Wai	7SW-A/F76	20/8 (10:00)	Fill	350	Squatter dwelling	3 squatter dwellings permanently evacuated
2005/08/0351a	Natural streamcourse adjacent to slope No. 6SE-B/C236, Route Twisk	Natural hillside	20/8 (18:00)	Natural hillside	100	Squatter dwelling and road	2 squatter dwellings permanently evacuated and 2 lanes of road temporarily closed
2005/08/0351b	Near the Cairnhill, Route Twisk	6SE-D/FR98	20/8 (18:30)	Fill	70*	Road	1 lane of road temporarily closed
2005/08/0358	Near No. 5 Warwick Road, Kowloon Tong	11NW-B/F304	20/8 (15:00)	Fill	360	Drainage channel	-
2005/08/0361	No. 1 Wang Tong, Mui Wo, Lantau	10SW-C/C261	20/8 (20:00)	Soil cut	450	Footpath	Footpath blocked
2005/08/0362	No. 10, Fu Yung Shan Tusen, Tsuen Wan	Natural hillside	20/8 (18:00)	Natural hillside	400	Squatter dwelling	1 fatality and 4 squatter dwellings permanently evacuated
2005/08/0364	Tai Hang Drive, Hong Kong	11SE-A/C285	Unknown	Soil cut	800	Road	1 lane of road temporarily closed
2005/08/0366a	Harlech Road (reported to involve slope No. 11SW-C/C302 next to 11SW-C/C301)	11SW-C/C302	20/8	Soil cut	300	Small park	-
2005/08/0366b	Harlech Road (reported to involve slope No. 11SW-C/C302 next to slope 11SW-C/C301)	11SW-C/C301	20/8	Soil cut	250	Pedestrian pavement	Pedestrian pavement closed
2005/08/0368	Slope No. 11SW-A/C415 and above hillside behind 404 Victoria Road	11SW-A/C415 and natural hillside	20/8 (16:00)	Natural hillside and soil cut	150	Building	1 building temporarily evacuated
2005/08/0369	Behind Block 3, Middleton Towers, No. 140 Pok Fu Lam Road	Natural hillside	20/8 (17:00)	Natural hillside	200*	Carpark	Carpark temporarily closed
2005/08/0375	29, Lugard Road (western end of slope No. 11SW-A/CR228 – affecting driveway of house)	11SW-A/CR228 and 11SW-A/C612	20/8 (21:00)	Soil/rock cut	60	Building, access road	1 building temporarily evacuated, access road blocked, 2 cars damaged

Table B1 – List of Major Landslide Incidents (Sheet 4 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/08/0381	Fei Ngo Shan Road	Natural hillside	21/8 (07:20)	Natural hillside	3500*	Road	1 lane of road temporarily closed
2005/08/0382	Wong Chuk Yuen, Kam Tin	6NE-B/C72	20/8 (20:00)	Soil cut	200	Access road	Access road temporarily closed
2005/08/0384	Slope No. 7SE-B/C131 & C195 behind No. 106 – 110 Ma On Shan Upper Village	7SE-B/C195	21/8 (07:00)	Soil cut	1000	Squatter dwelling	5 squatter dwellings permanently evacuated
2005/08/0389	Tai Mo Shan Road	6SE-B/C1	21/8	Soil cut	100	Road	-
2005/08/0391a	Shing Mun catchwater, Ch 7010 - 7050	6SE-B/F69	21/8 (09:30)	Fill	106*	Access road	-
2005/08/0391c	Shing Mun catchwater, Ch 7010 - 7050	6SE-B/DT15	21/8 (09:30)	Disturbed terrain	1000*	Access road & catchwater	Access road and catchwater collapsed
2005/08/0394	Footpath to Ho Lek Pui	Natural hillside	21/8	Natural hillside	500	Footpath	Footpath destroyed
2005/08/0398	Kwai Tai Road near Kwai Yue Street	11NW-A/C160	20/8 (18:00)	Soil cut	500*	Road	2 lanes of road temporarily closed
2005/08/0400	Slope No. 8SE-C/C101, Man Yee Road, High Island	8SE-C/C101	21/8 (13:15)	Soil cut	100	Road	1 lane of road temporarily closed
2005/08/0410	MacLehose Trail (Section 10) M179 – 180, Tai Lam Country Park	Natural hillside	21/8 (20:00)	Natural hillside	50	Hiking trail	-
2005/08/0417	Sheung Kok Shan Village Road, Lo Wai	7SW-A/CR132	21/8	Soil cut	150	Village house	-
2005/08/0421	Route Twisk near Lookout (Lamp post 7897)	6NE-D/C54	20/8 (18:00)	Soil/rock cut	70*	Road	1 lane of road temporarily closed
2005/08/0422	MacLehose Trail, Tsz Wan Shan near Kwun Ping Road	Natural hillside	Unknown	Natural hillside	2000*	Hiking trail	Hiking trail destroyed
2005/08/0423	Kwai Chung Interchange near junction with Lai King Hill Road	11NW-A/F25	22/8	Fill	70	Open area	-

Table B1 – List of Major Landslide Incidents (Sheet 5 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/08/0428	Above slope No. 7SW-D/C2	Natural hillside	22/8 (17:00)	Natural hillside	150*	Road	1 lane of road temporarily closed
2005/08/0435	62 Wong Chuk Yeung, Sha Tin	7SW-B/C139	22/8	Soil cut	60	Open area	-
2005/08/0440	Wo Hop Shek Cemetery	3SW-C/C792	21/8	Soil cut	260*	Cemetery	-
2005/08/0441	Wo Hop Shek Cemetery	3SW-C/C825	21/8	Soil cut	500*	Cemetery	-
2005/08/0442	Wo Hop Shek Cemetery	3SW-C/DT95	21/8	Disturbed terrain	300*	Cemetery	-
2005/08/0446	Hung Mui Kuk Road, near Lion Rock Tunnel Road	7SW-D/C565	Unknown	Soil cut	150*	Open area	-
2005/08/0464	Natural hillside above Nurses' Quarters Block A of Queen Mary Hospital, Pok Fu Lam	Natural hillside	20/8	Natural hillside	1000	Building	G/F and 1/F of Nurses' Quarters Block A temporarily evacuated
2005/08/0479	270 m East of the CLP Overhead Line Training School	7SW-D/C266	Unknown	Soil/rock cut	1000	Access road	Access road temporarily closed
2005/08/0480	Shing Mun Catchwater Ch.5000 above Kong Pan Tin Tsuen, Route Twisk	6SE-B/CR249	Unknown	Soil cut	100	Catchwater	Partially blockage of catchwater
2005/08/0481	Village Road at Chung Kuk Terrace, Fu Yung Shan	7SW-C/C1319	23/8	Soil cut	80	Access road	Access road temporarily closed

Table B1 – List of Major Landslide Incidents (Sheet 6 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
2005/08/0483	No. 76 Tai Wo Tsuen, Fu Yung Shan Road	7SW-C/C581	23/8 (19:00)	Soil cut	50	Squatter dwelling	1 squatter dwelling temporarily evacuated
2005/08/0496	Chainage 3800, Beacon Hill Catchwater, Hung Mui Kuk	Natural hillside & 7SW-D/CR412	Unknown	Natural hillside	1935	Catchwater	-
2005/08/0497	Chainage 4900 along Beacon Hill Catchwater, Hung Mui Kuk	Natural hillside & 7SW-D/C561	Unknown	Natural hillside	312	Catchwater	-
2005/08/0498	At about Chainage 5500, Beacon Hill Catchwater, Hung Mui Kuk	7SW-D/C558	Unknown	Soil/rock cut	111	Catchwater	-
2005/08/0499	Near Cheung Sha Catchwater - above slope No. 13NE-A/CR186	Natural hillside	20/8 (12:00)	Natural hillside	700	Catchwater	-
2005/08/0502	Tai Lam Chung Catchwater Section N, Ch 8500	6SE-B/CR113	Unknown	Soil cut	390*	Catchwater	-
2005/08/0507	Shing Mun Catchwater, Ch 1000	7SW-A/CR158	Unknown	Soil cut	70	Catchwater	-
2005/08/0509	Cheung Sha Catchwater near Spot Level 105.6 – slope no. 13NE-A/F19	13NE-A/F19	Unknown	Fill	1000	Natural streamcourse	-
2005/09/0520	Near Magazine Gap Road No. 3 Freshwater Service Reservoir	Natural hillside	20/8	Natural hillside	100	Open area	-
2005/10/0553	Hong Kong Gun Club, Route Twisk	6SE-B/C179	20/8	Soil cut	300	Open area	-
2005/10/0554	Natural hillside behind Beacon Heights, Lung Ping Road	Natural hillside	Unknown	Natural hillside	500	Open area	-
2005/12/0567	West Coast of Sunshine Island	Natural hillside	Unknown	Natural hillside	650	Open area	-
2006/01/0570	Ho Sheung Heung, Lo Wu	Natural hillside	Unknown	Natural hillside	550*	Footpath	-
AFCD/2005/08/0005	Shing Mun Forest Track – Tai Shing Stream Section	7NW-D/CR422	21/8	Soil cut	1000*	Access road	-

Table B1 – List of Major Landslide Incidents (Sheet 7 of 7)

Incident No.	Location	Slope No.	Failure			Facility Affected	Consequence
			Date (Time)	Feature Type	Scale (m ³)		
AFCD/2005/08/0007	Shing Mun Forest Track – Lead Mine Section	7NW-D/C389	21/8	Soil/rock cut	100*	Access road	-
ArchSD/N/2005/08/0004	Wo Hop Shek Cemetery	3SW-C/C788	21/8	Soil cut	225	Cemetery	-
ArchSD/WTS&ST/2005/08/0002	Access road to Beacon Hill radar station	11NW-B/C521	22/8	Soil cut	100*	Road	1 lane of road temporarily closed
HD/NT/2005/12/0001	Between toe retaining wall and lowest berm, Tai Ha Street, Kwai Chung	7SW-C/FR10	20/08	Fill	100	Open area	-
HyD/HK/2005/08/0074	Natural hillside above slope no. 11SE-C/C474 at Tai Hang Road	Natural hillside	27/8	Natural hillside	200	Open area	-
LI/2005/08/2008	Lion Rock Catchwater	7SW-D/C962	Unknown	Soil cut	75*	Catchwater	-
LI/2005/08/2009	Above Ma On Shan Tsuen	7SE-B/C122	Unknown	Soil cut	120*	Squatter dwelling	-
WSD/2005/11/1/NT E	North-west of Police Firing Range, Kam Shan Country Park	7SW-C/C1038	Unknown	Soil/rock cut	80	Country park	-
WSD/2005/8/18/HK	Aberdeen East Catchwater, CH50	11SW-D/CR757	Unknown	Soil cut	100	Catchwater	Catchwater blocked
WSD/2005/8/19/HK	Aberdeen East Catchwater, CH50	11SW-D/CR758	Unknown	Soil cut	100	Catchwater	Catchwater blocked
<p>Legend:</p> <p>* Information obtained by GEO's landslide investigation consultants and agreed with GEO's District Divisions.</p> <p># Very minor landslide with negligible consequence (see Section 1 of the report for definition).</p> <p>(1) The slope feature does not comply with the slope registration criteria given in GEO Circular No. 15.</p>							

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 1 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/02/0074 [#]	Footpath between Pak Fuk Road and Tin Hau Temple Road, North Point	Natural hillside	14/2	HAD	12/2 (11:00)	Natural hillside	0.1 (Boulder fall)	Minor footpath	-
2005/02/0075	Access road leading to Orient Crest (76 Peak Road)	11SW-D/C1633	17/2	Public	17/2 (17:00)	Rock cut	0.006 (Rockfall)	Pedestrian pavement	Pedestrian pavement closed
2005/03/0076	Near Block H Ming Wah Tai Ha, A Kung Ngam Road, Chai Wan	Natural hillside	1/3	Police	01/3 (10:16)	Natural hillside	0.007 (Boulder fall)	Pedestrian pavement	Pedestrian pavement closed
2005/05/0087	Slope no. 15NE-A/C117, Repulse Bay Road (near LP35905)	15NE-A/C117	10/5	HyD	10/5	Rock cut	0.2 (Significant signs of distress with unstable rock blocks)	Road	1 lane of road closed
2005/05/0088	Lugard Road near Mount Austin Road	Natural hillside	11/5	HyD	10/5 (15:00)	Natural hillside	0.5 (Boulder fall)	Road	-
2005/05/0090 [#]	Chatham Path	Natural hillside	12/5	GEO	12/5	Natural hillside	5	Minor footpath	-
2005/05/0100	Roadside slope on Shek O Road near Lamp Post 337577, south of slope no. 11SE-D/C410	Unregistered at time of failure	20/5	DSD	20/5 (before 20:30)	Rock cut	1 (Rockfall)	Road	1 lane of road closed
2005/05/0103	At slope No. 11SE-D/C326 on Tai Tam Road, Chai Wan	11SE-D/C326	21/5	HyD	20/5 (21:00)	Soil cut	28	Open area	-
2005/05/0104	Slope behind No. 54 Stanley Village Road	Unregistered at time of failure	21/5	ICC	20/5 (21:00)	Rock cut	4 (Rockfall)	Backlane of building	-
2005/05/0107	Slope No. 15NE-B/C38 at Shek O Road, Shek O	15NE-B/C38	23/5	HyD	23/5 (12:00)	Soil/Rock cut	1 (Rockfall)	Open area	-

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 2 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/05/0116	Between roadside slope Nos. 11SW-A/C222 & 223 on Lugard Road, Hong Kong	Natural hillside*	28/5	HyD	28/5 (10:00)	Natural hillside	1.43* (Boulder fall)	Road	-
2005/05/0121	Behind carpark of No. 2 Hatton Road, Hong Kong	Fill slope less than 3 m high ⁽¹⁾	31/5	HyD	27/5 (21:00)	Fill	0.5	Open area	-
2005/05/0125 [#]	At slope No. 11SE-D/C57, Sai Wan Service Reservoir, Tai Tam Road, Chai Wan	11SE-D/C57	31/5	GEO	27/5 (21:00)	Soil/rock cut	5	Open area	-
2005/06/0127	Mount Davis Path, Pok Fu Lam, Hong Kong	2.0 m high soil/rock cut slope ⁽¹⁾	6/6	Police	Unknown	Soil/rock cut	0.2 (Rockfall)	Road	-
2005/06/0130	Roundabout at Repulse Bay Road/Island Road	15NE-A/C44	15/6	Public	14/6 (23:45)	Soil/rock cut	0.5 (Rockfall)	Road	-
2005/06/0131	Block D, Y. Y. Mansion, 96 Pokfulam Road	Natural hillside*	15/6	Public	13/6	Natural hillside	<1 (Boulder fall)	Open area	-
2005/06/0134	Near 46 Stubbs Road	11SW-D/C729	16/6	Police	16/6	Soil cut	0.5	Pedestrian pavement	Pedestrian pavement fenced off
2005/06/0137	Big Wave Bay Road near Lamp-post 27661	15NE-B/C72	16/6	Public	Unknown	Soil/rock cut	0.5	Refuse collection point	-
2005/06/0138	Behind HK Sanatorium & Hospital	11SW-D/C633	16/6	HyD	16/6 (10:28)	Soil/rock cut	0.5	Open area	-
2005/06/0139	11SW-D/C1162, downslope of Stubbs Road	11SW-D/C1162	16/6	HyD	16/6 (10:28)	Soil cut	5	Open area	-
2005/06/0143 [#]	12 Middle Gap Road	11SW-D/C1730	17/6	Arch SD	15/6 (23:00)	Soil cut	2	Planter	-

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 3 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0144	Near Nos. 12-14 Wong Nai Chung Gap Road	11SW-D/C373	17/6	Public	17/6	Soil/rock cut	0.05 (Rockfall)	Pedestrian pavement	-
2005/06/0145	Shek O Road, near catchpit No. 32 (between 31 & 32)	15NE-B/C25	16/6	Police	16/6 (17:45)	Soil/rock cut	0.5 (Rockfall)	Road	Road temporarily closed by Police
2005/06/0146	Slope No. 11SW-A/C446, Mt Davis Path	11SW-A/C446	17/6	Lands D	Unknown	Soil/rock cut	5	Road	1/2 lane of road closed
2005/06/0147	Roadside slope along Shek O Road, opposite to slope No. 15NE-B/F37	2.5 m high soil cut slope ⁽¹⁾	17/6	HyD	16/6 (18:00)	Soil cut	<1	Road	-
2005/06/0148 [#]	Near No. 19 Kotewall Road, Hong Kong	11SW-A/CR1080	17/6	Arch SD	17/6	Retaining wall	3	Storage house	-
2005/06/0151	Access road leading to Orient Crest (76 Peak Road)	11SW-D/C1633	21/6	Public	21/6 (11:45)	Rock cut	0.1 (Rockfall)	Access road	Access road closed
2005/06/0158	Behind No. 8 Tai Hang Road, Hong Kong	11SE-A/CR110	20/6	BD	Unknown	Soil cut	2	Minor footpath	-
2005/06/0160	Behind Ming Yuen Mansion, Peacock Road, North Point	11SE-A/C388	22/6	Public	Unknown	Soil cut	0.12 (Rockfall)	Minor footpath	Footpath temporarily closed
2005/06/0162	Slope No. 11SW-A/C1183, Lung Wah Street opposite Mount Davis Ambulance Depot	11SW-A/C1183	23/6	Public	23/6 (11:00)	Soil cut	2	Open area	-
2005/06/0166	Cul-de-sac to 27-31 South Bay Road	15NE-A/C375	24/6	Police	24/6 (04:00)	Soil cut	3	Road	1 lane of road closed
2005/06/0167	Stanley Gap Road, 15NE-A/C241	15NE-A/C241	24/6	HyD	23/6 (17:35)	Rock cut	1.6 (Rockfall)	Road	-
2005/06/0171	Slope No. 11SW-A/C207 between Old Peak Road and Tragunter Path	11SW-A/C207	24/6	Public	24/6 (10:00)	Soil cut	0.3	Backlane of building	-
2005/06/0176	Victoria Road (between slope nos. 11SW-C/C502 and 11SW-C/C926)	Natural hillside	24/6	GEO	24/6	Natural hillside	10 (Boulder fall)	Road	2 lanes of road closed

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 4 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0183	Chatham Path near spot level =203.6 mPD (above 1 & 3 May Road)	Natural hillside	24/6	Police	24/6 (11:00)	Natural hillside	4	Minor footpath	Footpath completely blocked
2005/06/0184	Above slope Nos. 11SW-A/F236 & A/F259 Kennedy Town Fresh Water Service Reservoir	Natural hillside	24/6	HyD	24/6	Natural hillside	40	Access road	Access road blocked
2005/06/0185	Breezy Court, No. 2A, Park Road, Hong Kong	11SW-A/CR68	24/6	Lands D	24/6 (10:50)	Soil cut	5	Road, building	1 lane of road closed, indoor carpark closed
2005/06/0190	Near House No. 4, 41 Sassoon Road, Pok Fu Lam	11SW-C/C164	24/6	ETC	24/6	Soil cut	2	Access road	Access road partially blocked
2005/06/0191	Victoria Road opposite West Island School, Pok Fu Lam	11SW-C/C192	24/6	CEDD	24/6 (09:30)	Soil/rock cut	0.5	Road	1 lane of road closed
2005/06/0192	Near Lamp Post No. 47879, 23 Sha Wan Drive, Pok Fu Lam	Natural hillside	24/6	ETC	24/6	Natural hillside	7	Road	1 lane of road closed
2005/06/0195	Behind Park Garden, 6 Tai Hang Drive, Hong Kong	Natural hillside	24/6	ICC	23/6 (11:00)	Natural hillside	0.1 (Boulder fall)	Carpark	-
2005/06/0198	Opposite to No. 8 Mt. Cameron Road & below No. 6 Middle Gap Road, (above feature No. 11SW-D/C560)	Natural hillside*	24/6	Public	24/6 (10:00)	Natural hillside	3	Open area	-
2005/06/0203	Lugard Road, slope No. 11SW-A/C469	11SW-A/C469	24/6	Public	24/6 (14:00)	Soil/rock cut	1	Road	-
2005/06/0204	Slope No. 11SW-A/C432, Mt Davis Path	11SW-A/C432	24/6	Police	Unknown	Soil cut	40	Road	1 lane of road closed
2005/06/0205	Hong Kong Zoological & Botanical Gardens, Upper Albert Road	11SW-B/CR5	24/6	Public	24/6 (10:30)	Soil cut	2	Pedestrian pavement	Pedestrian pavement closed

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 5 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0207	Behind Chater Hall, 1 Conduit Road	Natural hillside	24/6	ETC	Unknown	Natural hillside	2 (Boulder fall)	Minor footpath	Footpath partially blocked
2005/06/0208	Near Western side of the Crest of slope No. 11SW-A/CR175, Po Shan Road, Hong Kong	Unregistered at time of failure	24/6	CEDD	24/6	Soil Cut	30	Minor footpath	Footpath blocked
2005/06/0210	Abandoned Mount Davis Village, Kennedy Town	11SW-A/C535	24/6	Public	24/6	Soil cut	1	Open area	-
2005/06/0211 [#]	1 – 5, Hatton Road, Lung Fu Shan	Unregistered at time of failure	24/6	Lands D	24/6 (15:00)	Soil cut	1	Access road	-
2005/06/0212	Behind No. 8 Aberdeen Main Road	11SW-D/R731	24/6	ETC	24/6 (before 15:00)	Retaining wall	5	Open area	-
2005/06/0216	Above slope No. 11SW-A/C149, Elliot Fresh Water Service Reservoir, Mid-level	Natural hillside	24/6	ETC	24/6	Natural hillside	100	Open area	-
2005/06/0217	Behind 43A Conduit Road, Hong Kong	Natural hillside	24/6	HyD	24/6 (10:00)	Natural hillside	0.8 (Boulder fall)	Backlane of building	-
2005/06/0219	Below Block 3 Middleton Towers, Nos. 49 - 72 Pok Fu Lam Road	11SW-C/R471	25/6	Public	25/6	Retaining wall	5	Minor footpath	Footpath blocked
2005/06/0220	Behind No. 98 Pok Fu Lam Road, Pok Fu Lam	11SW-A/C476	25/6	BD	24/6 (10:30)	Soil/rock cut	20	Open area	-
2005/06/0221a	Chi Fu Fa Yuen between Towers 13 & 14	11SW-C/C407	25/6	Public	25/6 (09:00)	Soil/rock cut	1*	Minor footpath	-
2005/06/0221b	Chi Fu Fa Yuen between Towers 13 & 14	2.8 m high soil/rock cut slope ⁽¹⁾	25/6	Public	25/6 (09:00)	Soil/rock cut	0.5* (Rockfall)	Minor footpath	-
2005/06/0221c	Chi Fu Fa Yuen between Towers 13 & 14	11SW-C/C406	25/6	Public	25/6 (09:00)	Soil/rock cut	0.5* (Rockfall)	Minor footpath	-
2005/06/0222	Hong Kong Cemetery, Happy Valley	11SW-D/CR1468	27/6	Arch SD	24/6 (15:00)	Retaining wall	3	Cemetery	-

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 6 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0223	Hong Kong Cemetery	Unregistered at time of failure	27/6	Arch SD	24/6 (15:00)	Soil cut	10	Cemetery	-
2005/06/0224	Behind No. 35 Magazine Gap Road, Hong Kong	Natural hillside	25/6	DLO	24/6 (16:00)	Natural hillside	20	Open area	-
2005/06/0226	Behind High West 142 Pok Fu Lam Road, Pok Fu Lam	11SW-C/C329	25/6	Police	24/6	Soil cut	1	Backlane of building	-
2005/06/0227 [#]	Below No. 3 Deep Water Bay Road	11SE-C/C730	27/6	Arch SD	17/6 (09:30)	Soil cut	1	Open area	-
2005/06/0228	Access road along Chiu Yuen Cemetery	1.5 m high retaining wall ⁽¹⁾	24/6	HyD	Unknown	Retaining wall	5	Access road	1 lane of access road closed
2005/06/0230	Ebenezer Training Centre, No. 131 Pok Fu Lam Hong Kong	Natural hillside	27/6	Police	24/6	Natural hillside	15	Pedestrian pavement	Pedestrian pavement closed
2005/06/0231	Below Bowen Road and above Shiu Fai Terrace	Unregistered at time of failure	28/6	HyD	Unknown	Soil/rock cut	10	Drainage channel	Drainage channel blocked
2005/06/0233	Above Block C, Kennedy Town Police Quarters, Kennedy Town	Natural hillside	28/6	Arch SD	24/6	Natural hillside	20	Vacant building	-
2005/06/0237	Slope No. 11SW-A/CR146, Pok Fu Lam Road	11SW-A/CR146	29/6	Public	24/6	Soil cut	5	Open area	-
2005/06/0241	Slope No. 11SW-A/DT10 at 27 Lugard Road	11SW-A/DT10	30/6	DLO	29/6 (21:00)	Disturbed terrain	4	Road	-
2005/07/0244 [#]	Slope No. 11SW-A/C1090, Smithfield Road, Hong Kong	11SW-A/C1090	4/7	HyD	24/6	Soil/rock cut	2	Open area	-
2005/07/0245	Near 12 - 14 Wong Nai Chung Gap Road	11SW-D/C373	5/7	HyD	5/7 (14:00)	Soil/rock cut	0.1 (Rockfall)	Pedestrian pavement	-
2005/07/0246	Slope No. 11SW-A/C233, 34 – 34B Lugard Road	11SW-A/C233	5/7	Public	25/6	Soil cut	5	Carpark	-
2005/07/0261 [#]	Mount Parker Road	11SE-C/C226	15/7	GEO	Unknown	Soil/rock cut	3	Road	-
2005/07/0262	Mount Parker Road (near slope No. 11SE-C/C222)	Unregistered at time of failure	15/7	AFCD	Unknown	Fill	40	Restricted road	1/2 lane of road closed

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 7 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/07/0263	Mount Parker Road	11SE-C/C860	15/7	GEO	Unknown	Soil cut	1	Road	1/2 lane of road closed
2005/07/0267	Behind Lin Fa Kung, Lin Fa Kung Street East, Tai Hang	11SE-A/C674	21/7	HyD	Unknown	Soil/rock cut	1	Open area	-
2005/07/0268	Victoria Road below Block 27 Baguio Villa, Pok Fu Lam	Unregistered at time of failure	25/7	Public	Unknown	Soil cut	5	Open area	-
2005/07/0269	Hong Kong Trail behind Block 13, Chi Fu Fa Yuen, Pok Fu Lam	11SW-C/C406	23/7	Public	23/7	Soil/rock cut	0.1 (Rockfall)	Minor footpath	-
2005/07/0270	Private road of 99 Repulse Bay Road, HK	15NE-A/CR742	29/7	HyD	Unknown	Soil/rock cut	Significant signs of distress	Access road	-
2005/08/0277	No. 10 Shouson Hill Road	11SW-D/C868	4/8	BD	26/6	Soil cut	0.5	Carpark	-
2005/08/0278 [#]	Slope No. 11SW-C/C211, Opposite 49 Mt. Davis Road	11SW-C/C211	6/8	DO	Unknown	Soil cut	3	Open area	-
2005/08/0281	Slope No. 11SW-C/C792 and natural hillside above Peel Rise, Hong Kong	Natural hillside	14/8	Police	14/8 (10:00)	Natural hillside	90	Road	1 lane of road closed
2005/08/0283	15NE-B/C72, opposite No. 13 Big Wave Bay Road near Lamp-post 27662	15NE-B/C72	15/8	HyD	14/8 (10:05)	Soil cut	2	Road	-
2005/08/0287	15NE-C/FR128 on Carmel Road, Stanley	15NE-C/FR128	18/8	Public	18/8 (14:38)	Fill	0.03	Pedestrian pavement	-
2005/08/0290	Roundabout at Repulse Bay Road/Island Road	15NE-A/C44	19/8	Public	19/8 (10:00)	Soil/rock cut	0.1 (Rockfall)	Road	-
2005/08/0292	Below swimming pool at 18A Shouson Hill Road and above slope No. 11SW-D/C165	Natural hillside	19/8	Police	19/8 (21:00)	Natural hillside	45*	Road	2 lanes of road closed
2005/08/0295	Island Road	15NW-B/C313	19/8	Police	19/8	Soil/rock cut	20	Road	1 lane of road closed

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 8 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0302	Natural hillside above Tai Hang Road	Natural hillside	20/8	HyD	20/8	Natural hillside	5 (Landslide and boulder fall)	Road	2 lanes of road closed
2005/08/0304	Slope behind No. 98 - 126 Kennedy Road & above Bowen Road (11SW-D/C1352)	11SW-D/C1352 and Natural hillsides	20/8	Police	20/8 (09:30)	Soil cut and natural hillsides	950*	Road, building	Single lane of road closed, 1 school and 2 buildings temporarily evacuated
2005/08/0306	Junction of Victoria Road and Sai See Street, Western	11SW-A/C102	20/8	Arch SD	20/8 (08:30)	Soil cut	3	Pedestrian pavements, sitting out area	Pedestrian pavement closed
2005/08/0308	57 Mount Davis Road, Canossian Retreat House Honeyville	11SW-C/FR126	20/8	Public	20/8 (09:30)	Fill	100	Road, building	2 lanes of road closed
2005/08/0319	Behind 80 - 82 Blue Pool Road, Hong Kong	Unregistered at time of failure	20/8	ETC	Unknown	Soil cut	0.05	Open area	-
2005/08/0325	Victoria Road (LMP 47546) near Wah Chui Street, Pok Fu Lam	11SW-C/C933	20/8	Police	20/8	Soil cut	30	Pedestrian pavement	Pedestrian pavement closed
2005/08/0326	Middle Gap Road, Wan Chai, slope No. 11SW-D/C543	11SW-D/C543 and Natural hillside	20/8	ETC	20/8 (10:45)	Soil cut and natural hillside	400*	Roads	2 lanes of each of 2 roads closed
2005/08/0328	Behind 98 - 100 MacDonnell Road, Hong Kong	11SW-B/FR284	20/8	ETC	Unknown	Fill	0.5	Building	-
2005/08/0336	Estella Court, 70 MacDonnell Road, Hong Kong	11SW-B/C175	20/8	ETC	20/8 (10:00)	Soil cut	1.1	Access road	One car parking space on access road closed

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 9 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0340	Above slope No. 11SW-C/C929, Victoria Road	Natural hillside	20/8	FSD	20/8 (15:45)	Natural hillside	400	Road	2 lanes of road closed
2005/08/0341	11SW-C/CR151, Block 22 & 23 of Baguio Villa, Victoria Road	11SW-C/CR151	20/8	Police	20/8 (16:30)	Soil/rock cut	15	Carpark	Carpark closed
2005/08/0347a	Mount Davis Path, 200 m SE of Junction MT Davis Path and Victoria Road	11SW-A/C421	20/8	Police	20/8	Soil/rock cut	30	Road	1 lane of road closed
2005/08/0347b	Mount Davis Path, 200 m SE of Junction MT Davis Path and Victoria Road	Natural hillside	20/8	Police	20/8	Natural hillside	40	Road	1 lane of road closed
2005/08/0347c	Mount Davis Path, 200 m SE of Junction MT Davis Path and Victoria Road	11SW-A/C426	20/8	Police	20/8	Soil cut	50	Road	1 lane of road closed
2005/08/0364	Tai Hang Drive, Hong Kong	11SE-A/C285	20/8	HyD	Unknown	Soil cut	800	Road	1 lane of road temporarily closed
2005/08/0366a	Harlech Road (reported to involve slope No. 11SW-C/C302 next to 11SW-C/C301)	11SW-C/C302	20/8	HyD	20/8	Soil cut	300*	Small park	-
2005/08/0366b	Harlech Road (reported to involve slope No. 11SW-C/C302 next to 11SW-C/C301)	11SW-C/C301	20/8	HyD	20/8	Soil cut	250*	Pedestrian pavement	Pedestrian pavement closed
2005/08/0368	Slope No. 11SW-A/C415 and above hillside behind 404 Victoria Road	11SW-A/C415 and Natural hillside	20/8	FSD	20/8 (16:00)	Natural hillside and soil cut	150	Building	1 building temporarily evacuated
2005/08/0369	Behind Block 3, Middleton Towers, No. 140 Pok Fu Lam Road	Natural hillside	20/8	Police	20/8 (17:00)	Natural hillside	200*	Carpark	Carpark temporarily closed
2005/08/0375	29, Lugard Road (western end of slope No. 11SW-A/CR228 – affecting driveway of house)	11SW-A/CR228 and 11SW-A/C612	20/8	FSD	20/8 (09:00)	Soil/rock cut	60	Building, access road	1 building temporarily evacuated, access road blocked, 2 cars damaged

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 10 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0386 [#]	Black's Link near manhole BL53	11SW-D/C1579	21/8	HyD	21/8	Soil cut	5	Road	-
2005/08/0408	Opposite 15 Shouson Hill Road West (near Lamp-post 19343)	11SW-D/C1174	21/8	Public	20/8 (18:17)	Soil/rock cut	20	Road, watercourse	1 lane of road closed
2005/08/0426	J/O Deep Water Bay Road and Access Road to No. 35 Deep Water Bay Road	2.0 m high soil cut slope ⁽¹⁾	22/8	Public	22/8 (09:00)	Soil cut	1	Access road	-
2005/08/0431 [#]	Below House A, at No. 5 Mt. Cameron Road	Natural hillside	22/8	HyD	20/8	Natural hillside	5	Open area	-
2005/08/0453	Hospital path above 23 Barker Road	Natural hillside	23/8	Public	Unknown	Natural hillside	0.5	Footpath	Footpath partially blocked
2005/08/0456	Tennis court, No. 140 Pok Fu Lam Road	2.0 m high soil cut slope ⁽¹⁾	24/8	Public	Unknown	Soil cut	0.5	Open area	-
2005/08/0458 [#]	Hatton Road near Pinewood Battery (lamp post 46104)	2.0 m high soil cut slope ⁽¹⁾	23/8	HyD	Unknown	Soil cut	1	Minor footpath	-
2005/08/0459	Opposite 2A, Mt Davis Road, Hong Kong	2.0 m high soil cut slope ⁽¹⁾	23/8	Public	Unknown	Soil cut	5	Pedestrian pavement	Pedestrian pavement fenced off
2005/08/0464	Natural hillside above Nurses' Quarters Block A of Queen Mary Hospital, Pok Fu Lam	Natural hillside	24/8	WSD	20/8	Natural hillside	1000	Building	G/F and 1/F of a building temporarily evacuated
2005/08/0469	Stubbs Road above slope No. 11SW-D/F402	11SW-D/F402	25/8	Public	23/8	Fill	Signs of distress	Road	Cracks on road, road/pavement undermined
2005/08/0471	15NE-A/CR744 behind Block C of 48 Stanley Village Road	15NE-A/CR744	26/8	Public	25/8 (08:30)	Rock cut	0.1 (Rockfall)	Backlane of building	-
2005/08/0475	Chinese Christian Cemetery, Junction between Victoria Road and Consort Rise, Pok Fu Lam	11SW-C/C185	20/8	CEDD	20/8	Soil cut	40	Open area	-
2005/08/0478	Behind High West No. 142 Pok Fu Lam Road, Pok Fu Lam	2.0 m high soil cut slope ⁽¹⁾	23/8	Public	20/8	Soil cut	2	Minor footpath	-

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 11 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0493	15NE-A/C152, Ma Hang Prison behind a vacant quarter	15NE-A/C152	29/8	Ma Hang Prison	20/8 (10:00)	Soil/rock cut	35	Backlane of building	-
2005/09/0520	Near Magazine Gap Road No. 3 Freshwater Service Reservoir	Natural hillside	25/8	GEO	20/8	Natural hillside	100	Open area	-
2005/09/0523	Sitting-out Area at Victoria Road, Hong Kong	1.5 m high retaining wall ⁽¹⁾	30/8	Public	Unknown	Retaining wall	1	Sitting out area	-
2005/09/0524	Aroma Path, opposite to Nos. 152-154 Tin Hau Temple Road and behind feature No. 11SE-A/C331	2.7 m high soil/rock cut slope ⁽¹⁾	7/9	Arch SD	7/9	Soil/rock Cut	1 (Rockfall)	Open area	-
2005/09/0543	Block 25, Baguio Villas No. 555 Victoria Road, Pok Fu Lam	11SW-C/CR165	23/9	Police	23/9 (09:25)	Soil/rock cut	0.01 (Rockfall)	Access road	Access road closed
2005/10/0551	Above St. James Primary School, 110 Kennedy Road	11SW-D/CR1378	27/9	Public	26/9 (17:00)	Soil cut	1	Open area	-
2005/10/0552	Next to Grandview Tower 126 -130 Kennedy Road	Natural hillside (disturbed)	27/9	Public	26/9 (17:30)	Natural hillside (disturbed)	3	Open area	-
2005/10/0556 [#]	On slope 11SE-D/C542 at the branch road leading from Cape Collinson Road to Siu Sai Wan	11SE-D/C542	21/10	DO	05/10	Soil/rock cut	0.04	Access road	-
2005/12/0564 [#]	Behind Tai Chow House, 121 Quarry Bay Street	11SE-A/C179	1/12	Police	1/12 (22:30)	Soil/rock cut	2	Backlane of building	-
2005/12/0565	Pok Fu Lam No. 1 Service Reservoir, Pok Fu Lam	11SW-C/C351	2/12	CEDD	Unknown	Soil/rock cut	5	Open area	-
2005/12/0566	Natural hillside above school site, Kong Sin Wan Tusen, Pok Fu Lam	Natural hillside	23/8	Public	29/6	Natural hillside	10	Open area	-
AFCD/2005/06/0001 [#]	Hong Pak Trail	Less than 3 m high soil cut slope ⁽¹⁾	-	AFCD	6/6	Soil cut	5	Minor footpath	-
AFCD/2005/06/0002 [#]	Sir Cecil's Ride	2.8 m high soil cut slope ⁽¹⁾	-	AFCD	15/6	Soil cut	3	Minor footpath	-
ArchSD/CPML/2005/8/PML01 [#]	42B, Kennedy Road	11SW-B/C308	-	Arch SD	20/8 (10:00)	Soil cut	2	Open area	-

Table B2 – List of Landslide Incidents in Hong Kong Island (Sheet 12 of 12)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
HyD/HK/2005/08/0074	Natural hillside above slope no. 11SE-C/C474 at Tai Hang Road	Natural hillside	-	HyD	27/8	Natural hillside	200	Open area	-
LandsD/HKE/2005/09/0001	South of Wesley Village Chapel Tai Hang Road	Natural hillside	-	Lands D	12/9	Natural hillside	10	Open area	-
LI/2005/08/2001	Shek O Catchwater	15NE-B/C181	-	LIC	Unknown	Soil/rock cut	10*	Catchwater	-
WSD/2005/6/7/HK	Below a pavilion by the reservoir rim, East of 15NE-A/C203, Tai Tam Reservoir Road	Natural hillside	24/6	WSD	Unknown	Natural hillside	5	Pavilion	A pavilion undermined
WSD/2005/8/17/HK	Aberdeen East Catchwater, CH900	11SW-D/CR797	23/8	WSD	Unknown	Soil cut	10	Catchwater	-
WSD/2005/8/18/HK	Aberdeen East Catchwater, CH50	11SW-D/CR757	23/8	WSD	Unknown	Soil cut	100	Catchwater	Catchwater blocked
WSD/2005/8/19/HK	Aberdeen East Catchwater, CH50	11SW-D/CR758	23/8	WSD	Unknown	Soil cut	100	Catchwater	Catchwater blocked
WSD/2005/9/3/HK	Aberdeen East Catchwater	11SW-D/CR762	29/9	WSD	Unknown	Soil cut	5	Catchwater	-
<p>Legend:</p> <p>* Information obtained by GEO's landslide investigation consultants and agreed with GEO's District Divisions.</p> <p># Very minor landslide with negligible consequence (see Section 1 of the report for definition).</p> <p>(1) The slope feature does not comply with the slope registration criteria given in GEO Circular No. 15.</p>									

Table B3 – List of Landslide Incidents in Kowloon (Sheet 1 of 4)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/05/0098	Fei Ngo Shan Road	7SE-C/C561	19/5	GEO	19/5	Soil cut	20*	Road	1 lane of road temporarily closed
2005/05/0112	Slope No. 11NE-C/C13 at Shum Wan Shan Fresh Water Pumping Station, near Jordan Valley Playground	11NE-C/C13	26/5	WSD	17/5	Soil/rock cut	0.2 (Rockfall)	Open area within pumping station	-
2005/05/0122	No. 34E Braga Circuit	11NW-D/C534	31/5	BD	21/5 (04:00)	Soil cut	0.5	Access road	-
2005/06/0159	Behind Lai Sze Court, Nos. 10-12 Ho Man Tin Street	11NW-D/F292	22/6	Public	22/6 (07:00)	Fill	1.3	Open area	-
2005/06/0163	Sze Shan Street, Yau Tong	11SE-B/C50	23/6	ArchSD	23/6 (14:00)	Soil cut	3	Pedestrian pavement	-
2005/06/0180	Near the Regalia, Cliff Road, Yau Ma Tei	11NW-D/C566	25/6	Police	25/6 (11:00)	Soil cut	1	Footpath	-
2005/06/0182	Chi Yun College, 19 Kwong Lei Road, Sham Shui Po	11NW-B/CR54	24/6	Public	24/6 (11:15)	Soil cut	1	Open area within school	-
2005/06/0188	Behind Custom and Excise Service Married Quarters, Ko Shan Road	11NW-D/C79	24/6	FSD	24/6 (09:00)	Soil/rock cut	150	Open area	-
2005/06/0196	Hau Man Street	11NW-D/C90	24/6	Public	24/6	Soil cut	0.5	Pedestrian pavement	Pedestrian pavement temporarily closed
2005/06/0206	Natural hillside above slope No. 11NE-A/C409, Tung Tau Tsuen	Natural hillside	24/6	LCSD	Unknown	Natural hillside	8* (Boulder fall)	Open area	-

Table B3 – List of Landslide Incidents in Kowloon (Sheet 2 of 4)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0234	Natural hillside near wall toe of slope No. 11NW-B/R289, Rest Garden sitting out area, Lung Cheung Road	Natural hillside	28/6	ArchSD	25/6 (11:00)	Natural hillside	6	Open area	-
2005/06/0239	Pui Tun School, 162 Hammer Hill Road	11NE-A/C149	30/6	Public	30/6 (10:55)	Soil cut	0.1	School	-
2005/08/0271 [#]	Natural hillside near slope No. 11NW-B/FR137, Tai Po Road	Natural hillside	2/8	HyD	Unknown	Natural hillside	2	Footpath	-
2005/08/0284	Next to Ho Man Tin Interchange	11NW-D/C481	16/8	Public	12/8 (07:00)	Soil cut	0.5	Open area	-
2005/08/0293	Kung Lok Road, Sau Mau Ping, opposite Lok Wah South Estate	11NE-C/C71	19/8	Police	19/8	Soil/rock cut	0.6 (Rockfall)	Pedestrian pavement	-
2005/08/0299	Opposite to Hung Sin Chau Memorial School, Ping Ting Road	11NE-A/C153	21/8	HyD	20/8	Soil/rock cut	156* (Rockfall)	Road and school	2 lanes of road and a school playground temporarily closed
2005/08/0327	Access road to the north of Pilipino Club, 10 Wylie Road	11NW-D/C144	20/8	ICC	20/8 (07:00)	Soil cut	200*	Access road	Access road temporarily closed
2005/08/0330	Natural hillside to the north of Chuk Yuen North Estate	Natural hillside	20/8	Police	Unknown	Natural hillside	100	Open area	-
2005/08/0332	Ma Tau Wai Playground	11NW-D/C35	20/8	Police	20/8 (13:00)	Soil cut	15	Basketball court	-

Table B3 – List of Landslide Incidents in Kowloon (Sheet 3 of 4)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0333	Slope No. 11NE-A/C533, Jat's Incline	11NE-A/C355	20/8	Police	20/8	Soil cut	50*	Road	1 lane of road temporarily closed
2005/08/0342	Natural hillside below Lung Cheung Road, near 11NW-B/R289	Natural hillside	20/8	Police	20/8	Natural hillside	70*	Open area	-
2005/08/0354 [#]	Natural hillside above slope No. 11NW-B/C767, Yin Ping Road, behind Dynasty Villa	Natural hillside	20/8	Police	20/8	Natural hillside	5	Open area	-
2005/08/0358	Near No. 5, Warwick Road, Kowloon Tong	11NW-B/F304	20/8	Police	20/8 (15:00)	Fill	360	Drainage channel	-
2005/08/0365	Slope No. 11NE-B/C38, Fei Ngo Shan Road near Fei Ha Road	11NE-B/C38	20/8	HyD	20/8	Soil cut	30	Road	1 lane of road temporarily closed
2005/08/0367	Fei Ngo Shan Road	7SE-C/C561	20/8	HyD	20/8	Soil/rock cut	30	Road	1 lane of road temporarily closed
2005/08/0387	Kung Lok Road opposite to Kung Lok Road Playground	11NE-C/C74	21/8	HyD	20/8	Soil/rock cut	2	Pedestrian pavement	Pedestrian pavement temporarily closed
2005/08/0390	Jordan Valley Playground, Jordan Valley North Road, Ngau Tau Kok	11NE-C/C286	21/8	LCSD	21/8	Soil cut	9	Open area	-
2005/08/0397	Ma Wan Village, Lei Yue Mun	11SE-B/C114	21/8	Police	20/8 (10:00)	Soil/rock cut	45	CLP sub-station	-
2005/08/0476	Walking trail near slope No. 11NW-B/FR265	Natural hillside	26/8	Police	Unknown	Natural hillside	0.1 (Boulder fall)	Footpath	-

Table B3 – List of Landslide Incidents in Kowloon (Sheet 4 of 4)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0482	On natural slope above Sam Ka Tsuen, Lei Yue Mun	Natural hillside	26/8	Public	21/8 (11:00)	Natural hillside	10	Open area	-
2005/09/0541	Shatin Pass Road beneath Radar Station, Tsz Wan Shan	Natural hillside	17/9	HyD	17/9 (23:30)	Natural hillside	0.3 (Boulder fall)	Road	1 lane of road temporarily closed
2005/10/0554	Natural hillside behind Beacon Heights, Lung Ping Road	Natural hillside	29/9	District Council	Unknown	Natural hillside	500	Open area	-
2005/11/0561	Above Tennis Court of Hiu Ming Street Playground	11NE-D/C44	16/11	HyD	14/11	Rock cut	0.125 (Rockfall)	Open area	-
ArchSD/KCN/2005/07/0001	Lok Fu Park, Wong Tai Sin	11NW-B/C909	21/7	Arch SD	Unknown	Soil cut	8	Open area	-
LandsD/KE/2005/06/0001 [#]	Lung Cheung Road near Lion Rock Tunnel Road	11NW-B/C636	28/6	Lands D	24/6	Soil cut	5	Access road	-
Legend: * Information obtained by GEO's landslide investigation consultants and agreed with GEO's District Divisions. # Very minor landslide with negligible consequence (see Section 1 of the report for definition). (1) The slope feature does not comply with the slope registration criteria given in GEO Circular No. 15.									

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 1 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/01/0072	Nam Chung, Sha Tau Kok	3NE-C/C115	10/1	GEO	Unknown	Soil cut	15	Open area	-
2005/03/0077	Behind No. 33 Hung Shing Yeh Village, Lamma Island	Unregistered at time of failure	3/3	Islands District Council	Unknown	Soil cut	1	Squatter dwelling	-
2005/05/0085	Route Twisk, Tai Mo Shan	Natural hillside	09/5	Public	9/5	Natural hillside	0.7* (Boulder fall)	Road	-
2005/05/0086	Below Kwun Ping Road, near Lamp Post EB2949	Natural hillside	11/5	Lands D	9/5	Natural hillside	1	Footpath	-
2005/05/0091	Behind Lau Yuen, Castle Peak Road	6SW-A/CR35	12/5	Public	11/5 (4:30)	Soil/rock cut	1 (Rockfall)	Backlane	-
2005/05/0092	Behind No. 103 Wing On Street, Peng Chau	10SW-B/C32	12/5	Police	11/5 (00:00)	Soil cut	1 (Rockfall)	Building	-
2005/05/0093 [#]	Near 24 Sham Shek Tsuen, Lantau Island (adjacent to slope No. 9SW-B/R4)	Natural hillside	17/5	Public	8/5 (11:00)	Natural hillside	4.5	Pigsty	-
2005/05/0094	Shatin Pass Road	7SE-C/C551	19/5	HyD	19/5	Soil cut	1.5	Road	1 lane of road temporarily closed
2005/05/0096	Lot 233 RP in DD 185, Ha Wo Che Village	2 m high soil cut slope ⁽¹⁾	19/5	Police	19/5 (11:00)	Soil cut	1.5	Footpath	-
2005/05/0097	North of Pak Sha Wan Centre, Pak Sha Wan	1.5 m high soil cut slope ⁽¹⁾	19/5	Police	19/5	Soil cut	0.9	Backlane	-
2005/05/0099	Tai Po Road near Tai Wai New Village	2 m high fill slope ⁽¹⁾	19/5	CEDD	19/5 (11:20)	Fill	Sign of distress	Road	1 lane of road temporarily closed

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 2 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/05/0101	Behind house No. 1, Heung Chung	Natural hillside	21/5	Police	21/5	Natural hillside	0.2 (Boulder fall)	Open area	-
2005/05/0105	110 Pai Tau Village	7SW-B/C369	23/5	ICC	21/5	Soil/rock cut	0.5	Footpath	-
2005/05/0106	East of Shek Pik Reservoir, South Lantau Road, Lantau Island	13NE-A/C132	23/5	GEO	19/5 (19:30)	Soil/rock cut	2	Construction Site	-
2005/05/0108	Fei Ngo Shan Road	7SE-C/C590	19/5	Police	19/5	Soil/rock cut	2	Road	1 lane of road temporarily closed
2005/05/0109	Near Pak Shek Wo	11NE-B/C378	24/5	Public	21/5	Soil cut	1	Road	-
2005/05/0113	Pak Tam Road near Pak Tam Au (approx. 200 m north of 8NW-D/C20)	Natural hillside	26/5	HyD	26/5 (21:30)	Natural hillside	20	Road	2 lanes of road temporarily closed
2005/05/0114	Near No. 69 Yue Tsai Chung Tsuen, Pak Wai	Natural hillside	27/5	Public	26/5 (22:30)	Natural hillside	12	Squatter dwelling	2 squatter dwellings permanently evacuated
2005/05/0115	Retaining wall behind house at Pai Tau Village (near electric post no. VE 0689)	7SW-B/CR692	28/5	Police	Unknown	Soil cut	9.5	Footpath	-
2005/05/0117	Roadside slope at Hang Hau Wing Lung Road	Natural hillside	28/5	Police	Unknown	Natural hillside	6.3	Access road	-
2005/05/0118	Lai King Shan Road	11NW-A/C12	29/5	HyD	Unknown	Rock cut	3 (Rockfall)	Road	1 land of road temporarily closed

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 3 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/05/0119	Sai Kung Man Yee Road	8SE-C/C69	28/5	WSD	Unknown	Soil cut	10	Road	
2005/05/0120	South of slope No. 7SW-A/C150, Lo Wai Road, Lo Wai	2.5 m high soil cut slope ⁽¹⁾	30/5	Public	29/5	Soil cut	3	Access road	-
2005/05/0124	Behind Block 6 Hong Kong Garden, Lung Tang Road, Tsing Lung Tau	6SE-C/FR219	31/5	DLO	27/5	Fill	0.2	Footpath	-
2005/06/0128	Footpath to Kwun Yam Shan Village, Kwun Ping Road	2.5 m high soil/rock cut slope ⁽¹⁾	7/6	Public	Unknown	Soil/rock cut	0.5	Footpath	-
2005/06/0132	About 8 m to the East of slope No. 7SW-B/C259, No. 43 Yao Oi Tsuen, Tao Fung Shan	Natural hillside	15/6	Police	15/6 (03:30)	Natural hillside	4	Footpath	-
2005/06/0133	Tui Min Hoi Village, near the round-about at Chui Tong Road	Natural hillside	15/6	DO	14/6 (23:30)	Natural hillside	0.72 (Boulder fall)	Open area	-
2005/06/0140	Natural hillside above slope No. 11NW-A/C713, Cheung Hang Road	Natural hillside	16/6	Public	16/6 (10:30)	Natural hillside	1	Open area	-
2005/06/0141	No. 235A, Pai Tau Village	7SW-B/C338	16/6	FSD	16/6 (15:00)	Soil cut	2	Village house	1 village house temporarily evacuated
2005/06/0142	Footpath connecting lower Wo Cue Village & Shui Wo Count, Lamp Post No. VE2039	2.5 m high masonry wall ⁽¹⁾	16/6	Police	16/6 (17:00)	Masonry wall	1	Footpath	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 4 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0149	Tai Wo Village, Lau Shui Heung Road, Fanling	3SW-B/C312	20/6	ICC	Unknown	Soil cut	0.03 (Rockfall)	Squatter dwelling	-
2005/06/0150	Near house No. 41, Pik Shui San Tsuen	1.2 m high retaining wall ⁽¹⁾	20/6	DO	Unknown	Retaining wall	1	Footpath	-
2005/06/0152 [#]	Wilson Trail, Lei Yue Mun	11SE-B/C105	20/6	GEO	24/5 (09:00)	Soil/rock cut	2	Open area	-
2005/06/0153	Cheung Yuen Road, Cheung Hang Chuen, Kwai Chung	11NW-A/C632	21/6	ICC	21/6	Soil cut	10	Road	Single lane of road temporarily closed
2005/06/0154	Behind house No. 26E, Tseng Lan Shue	Natural hillside	21/6	GEO	Unknown	Natural hillside	1	Open area	-
2005/06/0155 [#]	Natural hillside between Pai Tau Hang and Sheung Wo Che Village	Natural hillside	22/6	EPD	21/6	Natural hillside	1.5	Open area	-
2005/06/0156	Slope behind 296 Pai Tau Village	1.8 m high soil cut slope ⁽¹⁾	22/6	Police	22/6	Soil cut	1	Backlane	-
2005/06/0161	House 97C, Tseng Tau Chung Tsuen	2 m high soil cut slope ⁽¹⁾	23/6	Public	22/6 (06:00)	Soil cut	0.5	Squatter dwelling	-
2005/06/0164 [#]	Bride's Pool Road	3SE-B/C131	23/6	GEO	Unknown	Soil/rock cut	2	Road	
2005/06/0165	About 12 m of lamp Post no. 26273, Sok Kwu Wan, Lamma Island	Natural hillside	23/6	DO	23/6 (15:56)	Natural hillside	0.7 (Boulder fall)	Minor footpath	Footpath partially blocked

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 5 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0169	Natural hillside adjacent to Law Ting Pong Secondary School, Ma Wo	Natural hillside	24/6	Public	24/6 (09:30)	Natural hillside	2	School playground	-
2005/06/0170	Slope behind house 19, San Wan Tsai Road	Unregistered at time of failure	24/6	Public	Unknown	Soil cut	3	Backlane	-
2005/06/0173	Behind No. 10-11 Chung Shan Terrace	11NW-A/C146	24/6	FSD	24/6 (10:00)	Soil/rock cut	1.5	Backlane	-
2005/06/0174a	Hong Chi Pinehill No. 3 School, Chung Nga Road, Nam Hang	2 m high fill slope ⁽¹⁾	24/6	FSD	Unknown	Fill	2	School	-
2005/06/0174b	Hong Chi Pinehill No. 3 School, Chung Nga Road, Nam Hang	7NW-B/FR254	24/6	FSD	Unknown	Fill	2	School	-
2005/06/0179	Pak Kong Road	7SE-D/C66	24/6	FSD	24/6 (09:00)	Soil cut	75*	Road	2 lanes of road temporarily closed
2005/06/0181	North of Chuk Lam Buddhist, Fu Yung Shan	7SW-C/CR564	24/6	FSD	24/6 (before 07:50)	Soil cut	100*	Squatter dwelling	-
2005/06/0186	Near to No. 15, Ma Yau Tong Village	Natural hillside	24/6	DO	24/6 (10:00)	Natural hillside	7	Footpath	-
2005/06/0187	Eastern side of public toilet abutting house 87C, Kau Wah Keng Old Village, Lai Chi Kok	Natural hillside	24/6	FSD	24/6 (10:30)	Natural hillside	15	Public toilet	Public toilet destroyed

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 6 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0197	Slope behind No. 45 Pak Kok Kau Tsuen, Lamma Island	Unregistered at time of failure	24/6	Public	24/6 (10:15)	Soil cut	7	Building	-
2005/06/0199	Natural hillside adjacent to feature No. 7NW-B/C13, Tai Po Road - Tai Po Kau Section	Natural hillside	24/6	GEO	24/6	Natural hillside	4	Open area	-
2005/06/0209	Behind House No. 28, Tan Cheung Upper Village	2.5 m high soil cut slope ⁽¹⁾	24/6	DO	23/6 (23:15)	Soil cut	6	Building	-
2005/06/0213	Access to No. 44a, Pun Shan Chau	3.5 m high fill slope ⁽¹⁾	24/6	Public	24/6 (08:30)	Fill	3	Access road	-
2005/06/0214	Back of No. 304, Shung Him Tong Tsuen, Fanling	3SW-A/C164	24/6	Public	24/6 (morning)	Soil cut	20	Squatter dwelling	-
2005/06/0215	East of TWT playground at CARE Village, Ma Wan	Natural hillside	24/6	Public	24/6 (17:30)	Natural hillside	7	Open Area	-
2005/06/0218	Sai Sha Road near O Tau Village	8SW-A/FR7	25/6	WSD	24/6 (evening)	Fill	40	Road	1 lane of road temporarily closed
2005/06/0225	Slope behind Houses 142, Tong Hang Village, Fanling	2.5 m high soil cut slope ⁽¹⁾	27/6	BD	24/6 (07:00)	Soil cut	2	Backlane	-
2005/06/0229	Footpath at Fa Sum Hang	2 m high soil cut slope ⁽¹⁾	28/6	Public	28/6 (11:30)	Soil cut	0.5	Footpath	-
2005/06/0235	Natural hillside above slope No. 13NW-B/C82, Keung Shan Road, Lantau Island	Natural hillside	28/6	GEO	25/6 (10:00)	Natural hillside	20	Construction Site	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 7 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/06/0236	Area adjoining Slope No. 7NW-B/CR168, Yue Kok	Natural hillside	28/6	ICC	Unknown	Natural hillside	3	Open area	-
2005/06/0238	Kei Ling Ha Lo Wai, Sai Sha Road	8NW-C/C59	30/6	DO	Unknown	Soil/rock cut	2.5	Access road	-
2005/06/0240	Ma Cho Lung Village, Sheung Shui	2SE-B/C199	30/6	Public	28/6 (17:27)	Soil cut	6	Squatter dwelling	-
2005/07/0243	Tai Po Road Tai Wo	7NW-A/C200	1/7	HyD	1/7 (00:00)	Soil/rock cut	2 (Rockfall)	Road	1 lane of road temporarily closed
2005/07/0248	West of No. 49 Pun Chun Yuen Tsuen, Shek Kwu Lung	7NW-A/C52	6/7	Tai Po District Council	4/7	Soil cut	5	Building	-
2005/07/0249	Hilltop Road, Lo Wai	7SW-C/C650	4/7	Public	Unknown	Soil/rock cut	0.2 (Rockfall)	Pedestrian pavement	-
2005/07/0250	Slope No. 6SE-B/C241 below the Cliveden, Route Twisk	6SE-B/C241	7/7	HyD	Unknown	Soil cut	15	Open area	-
2005/07/0251	Abutting west end of slope No. 7SW-C/R126 in Sheung Tin Chuk, Fu Yung Shan	4 m high fill slope ⁽¹⁾	30/6	DLO	Unknown	Fill	8	Footpath	-
2005/07/0252 [#]	Catchwater off Pak Tam Road	8NW-D/CR54	29/6	WSD	Unknown	Soil/rock cut	1	Catchwater	
2005/07/0253	Lamma Island, Shok Kwu Wan, 20 m from slope 15NW-C/CR97	Natural hillside	9/7	Police	9/7 (13:35)	Natural hillside	2 (Boulder fall)	Minor footpath	Footpath blocked

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 8 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/07/0255	Shu On Terrace, Sham Hong Road, Sham Tseng	6SE-C/CR323	8/7	DO	Unknown	Soil cut	1.2	Footpath	-
2005/07/0256 [#]	Wilson Trail near Lo Lau Uk, Tai Po	2 m high soil cut slope ⁽¹⁾	11/7	DO	Unknown	Soil cut	1	Hiking trail	-
2005/07/0257 [#]	Wilson Trail near Lo Lau Uk, Tai Po	1.5 m high soil cut slope ⁽¹⁾	11/7	DO	Unknown	Soil cut	0.5	Hiking trail	-
2005/07/0258	Natural hillside overlooking 180 Kwong Fuk Road	Natural hillside	11/7	Arch SD	8/7 (10:27)	Natural hillside	5	Vacant cottage	-
2005/07/0259	Near No. 63A, Area 6, Shatin Tau San Village	2 m high soil cut slope ⁽¹⁾	11/7	Public	Unknown	Soil cut	1.2	Footpath	-
2005/07/0260	Opposite lamp post no. V6516, slope No. 14NW-A/C46, Chi Ma Wan Road, Chi Ma Wan, Lantau Island	14NW-A/C46	11/7	DLO	9/7 (13:00)	Soil cut	8	Road	1 lane of road closed
2005/07/0264	Adjacent to Route 8 CRE Site Office, Tai Po Road	Natural hillside	21/7	Public	21/6	Natural hillside	5	Open area	-
2005/07/0265 [#]	At the Bank of a Natural Stream along a footpath (Pak Tin Area 2)	Natural hillside (Stream bank)	21/7	Lands D	Unknown	Natural hillside (Stream bank)	3	Footpath	-
2005/07/0266	Kwong Pan Tin Ha Tsuen	6SE-D/C573	19/7	DO	Unknown	Soil cut	1	Backyard	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 9 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0272	House No. 98, Tseng Tau Sheung Tsuen	Unregistered at time of failure	4/8	Police	31/7	Soil cut	10	Squatter dwelling	3 squatter dwellings permanently evacuated (Cat. 2 NDC)
2005/08/0273	Slope No. 14NW-A/C228, near lamp post no. FB6585, Chi Ma Wan Road, Lantau Island	14NW-A/C228	21/7	Lands D	9/7 (13:00)	Soil cut	1	Road	1/2 lane of road closed
2005/08/0274	Slope No. 15NW-A/C122 Behind No. 21 Tai Wan To, Yung Shue Wan, Lamma Island	15NW-A/C122	19/7	DLO	9/7 (13:00)	Soil cut	0.5	Open area	-
2005/08/0275	Behind No. 32 and 36A Tai Wan To, Yung Shue Wan, Lamma Island	Likely < 3m high soil cut slope ⁽¹⁾ (obstructed by heavy vegetation)	19/7	DLO	9/7 (12:00)	Soil cut	1	Backlane of building	-
2005/08/0276	Behind No. 40B Po Wah Yuen, Lamma Island	2.6 m high soil cut slope ⁽¹⁾	25/7	DLO	9/7 (14:00)	Soil cut	2	Backlane of building	-
2005/08/0279	Below Block J of Kwai Chung Hospital, Kwai Chung	Natural hillside	11/8	HyD	11/8 (05:00)	Natural hillside	15	Road	2 lanes of road temporarily closed
2005/08/0282	Shek Pik Reservoir Road, Lantau Island	13NE-A/C173	14/8	HyD	Unknown	Soil cut	8	Road	1 lane of road closed
2005/08/0286	Behind No. 33 Upper Cheung Sha Village, Lantau	1.5 m high soil cut slope ⁽¹⁾	17/8	DLO	1/8 (16:15)	Soil cut	0.5	Access road	-
2005/08/0288	On natural hillside above slope No. 11NW-A/C713, Cheung Hang Road, Lai Chi Kok	Natural hillside	19/8	Police	19/8 (07:00)	Natural hillside	1.5 (Boulder fall)	Road	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 10 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0289	Hoi Mei Wan Beach, Ting Kau	Natural hillside	19/8	LCSD	18/8 (17:45)	Natural hillside	80	Carpark / beach area	-
2005/08/0291	Adjacent to No. 27 Peng Chau Wing Hing Street, Peng Chau	10SW-B/C87	18/8	Public	Unknown	Soil/rock cut	0.5	Open area	-
2005/08/0294	Above slope No. 7SW-D/CR731, behind house No. 81 Hin Tin Street	Natural hillside	19/8	Public	Unknown	Natural hillside	1 (Boulder fall)	Building	-
2005/08/0298	Behind No. 9 - 16 Shing Ka Terrace, Shing Ka Road, Peng Chau	10SW-B/CR80	19/8	Public	19/8	Soil cut	3	Building	-
2005/08/0300	12A On Ting Terrace, Hang Lok Lane	2 m high retaining wall ⁽¹⁾	20/8	Police	20/8	Retaining wall	10	Village house and squatter dwelling	1 village house temporarily evacuated and 1 squatter dwelling permanently evacuated
2005/08/0303	Luk Hop Village, Tai Wai, Tai Po Road-Shatin Height.	7SW-D/DT3	20/8	FSD	20/8 (08:00)	Disturbed terrain	20	Squatter dwelling	2 squatter dwellings permanently evacuated
2005/08/0305	Behind house no. 77, Area 6, Shatin Tau San Tsuen	2 m high soil cut slope ⁽¹⁾	20/8	Lands D	20/8	Soil cut	2	Squatter dwelling	-
2005/08/0307	House No. 105, Kiu Tau, Kau Lung Hang Village	3SW-D/C94	20/8	DO	20/8	Soil cut	0.5	Squatter dwelling	-
2005/08/0309	Kwei Tei Street, Fo Tan	Natural hillside	20/8	Police	20/8 (10.45)	Natural hillside	30*	Road	2 lanes of road closed

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 11 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0310	Tung Chung Road between Shek Mun Kap and cemetery	9SE-D/C29	20/8	Police	20/8 (09:00 to 10:00)	Soil/rock cut	450*	Road	1 lane of road closed
2005/08/0311	40 m SW of Ming Fai Camp, Ming Fai Road, Cheung Chau	Unregistered at time of failure	20/8	Police	20/8 (11:00)	Soil cut	5	Minor footpath	-
2005/08/0312	Behind house No. 139C ,Kau Wah Keng San Tsuen	11NW-A/C217	20/8	Police	20/8 (09:00)	Soil cut	10	Squatter dwelling	-
2005/08/0313a	Near Shek Pik Reservoir, South Lantau Road - 13NE-A/C100	13NE-A/C100	20/8	Public	20/8 (10:02)	Soil/rock cut	5	Road	1 lane of road closed
2005/08/0313b	Near Shek Pik Reservoir, South Lantau Road - 13NE-A/C102	13NE-A/C102	20/8	Public	20/8 (10:02)	Soil cut	5	Open area	-
2005/08/0313c	Near Shek Pik Reservoir, South Lantau Road - 13NE-A/C108	13NE-A/C108	20/8	Public	20/8 (10:15)	Soil/rock cut	2	Open area	-
2005/08/0317	171 Fan Kam Road, Ta Shek Wu Village, Pat Heung	2SE-D/CR374	20/8	DO	20/8 (10:00)	Soil cut	30	Scrap yard	-
2005/08/0318	Chap Wai Kon Village, Sha Tin	7SE-C/C334	20/8	Police	20/8 (11:30)	Soil cut	60	Building	1 building (4 flats) temporarily evacuated
2005/08/0320	Below Ascot Villa, Shatin Heights Road and above Block 12 Woodcrest Hill	7SW-D/C167	20/8	Police	20/8 (11:53)	Soil cut	1200	Building	2 buildings temporarily evacuated
2005/08/0321	House 25 Cheung Hang Chuen, Cheung Yuen Road	11NW-A/C320	20/8	Public	20/8 (11:30)	Soil cut	8	Squatter dwelling	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0324	No. 56 Pak Sha San Tusen, Cheung Chau	Unregistered at time of failure	20/8	Public	20/8 (13:00)	Soil cut	5	Access road	Access road blocked
2005/08/0329	Lin Ma Hang Road	3NE-A/C137	20/8	HyD	20/8 (11:00)	Soil cut	30	Road	1 lane of road temporarily closed
2005/08/0331	South Lantau Road next to No. 1 Tong Fuk	13NE-B/C166	20/8	Police	20/8 (13:00)	Soil/rock cut	750*	Road	2 lanes of road closed
2005/08/0334	Cheung Yuen Road, near Shek Lei Pui Reservoir	11NW-A/C562	20/8	FSD	20/8	Soil cut	4	Road	-
2005/08/0335	Above slope No. 7SW-D/C331, Heung Fan Liu	Natural hillside	20/8	FSD	Unknown	Natural hillside	40	Footpath	-
2005/08/0338	WSD cut slope along catchwater above Hilltop Country Club	7SW-A/CR134	20/8	FSD	20/8 (17:00)	Soil cut	600*	Catchwater and road	2 lanes of road temporarily closed
2005/08/0344a	190 m southwest of 301-305 Castle Peak Road, 150 m south of Greenknoll Court, Kwai Chung	7SW-C/C1156	20/8	Public	20/8 (09:30)	Soil cut	70*	Squatter dwelling	1 squatter dwelling temporarily evacuated
2005/08/0344b	190 m southwest of 301-305 Castle Peak Road, 150 m south of Greenknoll Court,	7SW-C/F406	20/8	Public	20/8 (09:30)	Fill	30*	Open area	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0345	House No. 54, Ngong Ping Village, Lantau Island	Unregistered at time of failure	20/8	ICC	20/8 (13:00)	Soil cut	45	Squatter dwelling	-
2005/08/0348	Sheung Kok Shan Tsuen, Lo Wai	7SW-A/F76	20/8	Police	20/8 (10:00)	Fill	350	Squatter dwelling	3 squatter dwellings permanently evacuated
2005/08/0350	No. 62 Yau Oi Tsuen, To Fung Shan	Natural hillside	20/8	Police	20/8	Natural hillside	3	Squatter dwelling	1 squatter dwelling permanently evacuated
2005/08/0351a	Natural streamcourse adjacent to Slope No. 6SE-B/C236, Route Twisk	Natural hillside	20/8	HyD	20/8 (18:00)	Natural hillside	100	Squatter dwelling and road	2 squatter dwellings permanently evacuated and 2 lanes of road temporarily closed
2005/08/0351b	Near the Cairnhill, Route Twisk	6SE-D/FR98	20/8	HyD	20/8 (18:30)	Fill	70*	Road	1 lane of road temporarily closed
2005/08/0351c	Below the Cairnhill, Route Twisk	6SE-B/C241	20/8	HyD	20/8 (18:00)	Soil/rock cut	25*	Road	2 lanes of road temporarily closed
2005/08/0352	Hong Kiu San Tsuen, Fu Tei Au Road, Man Kam To Road	3SW-A/F71	20/8	Police	20/8 (12:00)	Fill	30	Open area	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0357	Opposite to slope No. 6SW-D/C165, between Hong Kong Garden & Grand Bay Villa, Castle Peak Road	Natural hillside	20/8	Public	20/8 (16:00)	Natural hillside	15	Road	1 lane of road temporarily closed
2005/08/0359	Ha Wo Che Village, Sha Tin, near Tai Po Rd, (Sha Tin Section)	7SE-A/C39	20/8	KCRC	20/8	Soil cut	40	Footpath	Footpath temporarily closed
2005/08/0361	No. 1 Wang Tong, Mui Wo, Lantau	10SW-C/C261	20/8	Public	20/8 (20:00)	Soil cut	450*	Footpath	Footpath blocked
2005/08/0362	No. 10, Fu Yung Shan Tsuen, Tsuen Wan	Natural hillside	20/8	FSD	20/8 (18:00)	Natural hillside	400	Squatter dwelling	1 fatality and 4 squatter dwellings permanently evacuated
2005/08/0370	House No. 83, Pak Shek Wo Tsuen	11NE-B/C370	20/8	Police	20/8	Soil cut	15	Squatter dwelling	-
2005/08/0373	Ma Liu Tsuen	7SE-A/CR148	20/8	Public	Unknown	Soil cut	10	Village house	-
2005/08/0374	Behind house No. 51A, Cheung Hang Tsuen, Wah King Hill Road	Unregistered at time of failure	20/8	FSD	20/8 (20:00)	Soil cut	10	Squatter dwelling	3 squatter dwellings permanently evacuated
2005/08/0377	No. 5 Pun Shan Chau	7NW-D/C401	20/8	Police	20/8	Soil cut	2	Squatter dwelling	1 squatter dwelling temporarily evacuated

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0378	Greenknoll Court, No.382 Castle Peak Road, Kwai Chung	7SW-C/C1072	21/8	ETC	20/8 (19:30)	Soil cut	15	Pedestrian pavement	Pedestrian pavement temporarily closed
2005/08/0379	Slope behind No. 75-C2, Area 6, Shatin Tau San Tsuen	7SE-C/C282	20/8	Police	20/8 (15:00)	Soil cut	30	Squatter dwelling	2 squatter dwellings temporarily evacuated
2005/08/0381	Fei Ngo Shan Road	Natural hillside	21/8	FSD	21/8 (07:20)	Natural hillside	3500*	Road	1 lane of road temporarily closed
2005/08/0382	Wong Chuk Yuen, Kam Tin	6NE-B/C72	21/8	FSD	20/8 (20:00)	Soil cut	200	Access road	Access road temporarily closed
2005/08/0383	Behind house No. 105, Tong Hang Village, Fanling.	2.8 m high soil cut slope ⁽¹⁾	21/8	BD	21/8 (06:30)	Soil cut	1.5	Village house	1 village house temporarily evacuated
2005/08/0384	Slope No. 7SE-B/C131 & C195 behind No. 106-110 Ma On Shan Upper Village	7SE-B/C195	21/8	FSD	21/8 (07:00)	Soil cut	1000	Squatter dwelling	5 squatter dwellings permanently evacuated
2005/08/0385	Access road between Lo Hon Monastery and Po Lin Monastery, Shek Mun Kap, Tung Chung, Lantau Island	Natural hillside	21/8	Police	20/8 (11:00)	Natural hillside	2 (Boulder fall)	Access road	Access road blocked
2005/08/0389	Tai Mo Shan Road	6SE-B/C1	21/8	AFCD	21/8	Soil cut	100	Road	-
2005/08/0391a	Shing Mun catchwater, Ch 7010-7050	6SE-B/F69	21/8	Police	21/8 (09:30)	Fill	106*	Access road	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0391b	Shing Mun catchwater, Ch 7010-7050	6SE-B/CR212	21/8	Police	21/8 (09:30)	Soil cut	26*	Catchwater	-
2005/08/0391c	Shing Mun catchwater, Ch 7010-7050	6SE-B/DT15	21/8	Police	21/8 (09:30)	Disturbed terrain	1000*	Access road & catchwater	Access road and catchwater collapsed
2005/08/0391d	Shing Mun catchwater, Ch 7010-7050	6SE-B/CR193	21/8	Police	21/8 (09:30)	Soil cut	6*	Catchwater	-
2005/08/0392	Tai Po Road - Tai Wo Section	7NW-A/C30	21/8	WSD	21/8	Soil cut	1	Open area	-
2005/08/0393	Wo Keng Shan Road, Fanling	3NW-D/CR81	21/8	Police	Unknown	Soil cut	10	Backlane	-
2005/08/0394	Footpath to Ho Lek Pui	Natural hillside	21/8	Police	21/8	Natural hillside	500	Footpath	Footpath destroyed
2005/08/0396	Police Tactical Unit, Fanling	3SW-C/C234	21/8	Police	21/8 (12:00)	Soil cut	40	Backyard	-
2005/08/0398	Kwai Tai Road near Kwai Yue Street	11NW-A/C160	21/8	HyD	20/8 (18:00)	Soil cut	500*	Road	2 lanes of road temporarily closed
2005/08/0400	Slope No. 8SE-C/C101, Man Yee Road, High Island	8SE-C/C101	21/8	Police	21/8 (13:15)	Soil cut	100	Road	1 lane of road temporarily closed
2005/08/0401a	No. 39 Sam Long Village	11NE-B/C500	21/8	Police	20/8 (12:00)	Soil cut	5	Squatter dwelling	1 squatter dwelling temporarily evacuated
2005/08/0401b	No. 39 Sam Long Village	2.8 m high soil cut slope ⁽¹⁾	21/8	Police	20/8 (12:00)	Soil cut	10	Backlane	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0402	Squatter RTW/4AD/119&115, Lo Wai	7SW-A/F77	21/8	Police	20/8	Fill	40	Squatter dwelling	2 squatter dwellings permanently evacuated
2005/08/0404	Ferry pier at Ma Wan Chung, Tung Chung Road, Lantau Island	9SE-B/C72	21/8	Police	20/8 (11:00)	Soil/rock cut	0.3	Pedestrian pavement	Pedestrian pavement fenced off
2005/08/0406	Tai Po Road, Ma Liu Shui	7SE-A/C214	21/8	HyD	Unknown	Soil cut	0.5	Backlane	-
2005/08/0410	MacLehose Trail (Section 10) M179-180, Tai Lam Country Park	Natural hillside	21/8	Public	21/8 (20:00)	Natural hillside	50	Hiking trail	-
2005/08/0416 [#]	Adjacent Tsui Sing Road, Sheung Cheung Wai, Tin Shui Wai	Natural hillside	22/8	CEDD	20/8 (0:00)	Natural hillside	0.5	Open area	-
2005/08/0417	Sheung Kok Shan Village Road, Lo Wai	7SW-A/CR132	22/8	DO	21/8	Soil cut	150	Village house	-
2005/08/0420	Below house No. 78B, Tseng Tau Chung Tsuen	Unregistered at time of failure	22/8	DO	20/8 (13:00)	Soil cut	4	Squatter dwelling	2 squatter dwellings evacuated (Cat. 2 NDC)
2005/08/0421	Route Twisk near Lookout (Lamp post 7897)	6NE-D/C54	22/8	HyD	20/8 (18:00)	Soil/rock cut	70*	Road	1 lane of road temporarily closed
2005/08/0422	MacLehose Trail, Tsz Wan Shan near Kwun Ping Road	Natural hillside	22/8	Police	Unknown	Natural hillside	2000*	Hiking trail	Hiking Trail destroyed
2005/08/0423	Kwai Chung Interchange near junction with Lai King Hill Road	11NW-A/F25	22/8	Public	22/8	Fill	70	Open area	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0427	25 m to the south of Greenknoll Court, 382 Castle Peak Road	7SW-C/C1067	22/8	Public	22/8 (10:00)	Soil cut	40	Open area	-
2005/08/0428	Above slope No. 7SW-D/C2	Natural hillside	22/8	HyD	22/8 (17:00)	Natural hillside	150*	Road	1 lane of road temporarily closed
2005/08/0429	Hei Ling Chau Road, Hei Ling Chau	10SW-D/C114	22/8	Arch SD	22/8	Soil cut	15	Road	-
2005/08/0432	Hilltop Garden, Pun Shan Chau	7NW-D/C105	22/8	Public	20/8	Soil cut	0.1	Access road	-
2005/08/0433	Behind Squatter Hut No. RTP/TPS, Shek Wu San Tsuen, Sheung Shui	3SW-A/C72	22/8	GEO	22/8 (10:00)	Soil/rock cut	3	Backlane	-
2005/08/0434	Behind No. 23, Chung Shan Terrace, Cheung Sha Wan	11NW-A/C120	22/8	Police	22/8 (16:30)	Rock cut	0.1 (Rockfall)	Open area	-
2005/08/0435	62 Wong Chuk Yeung, Sha Tin	7SW-B/C139	22/8	Public	22/8	Soil cut	60	Open area	-
2005/08/0436	Above No. 178 Tseng Tau Chung Tsuen	Unregistered at time of failure	22/8	DLO	21/8 (15:00)	Soil/rock cut	1	Squatter dwelling	-
2005/08/0438	No.9 Round Table Village, Mui Wo, Lantau	10SW-C/F29	22/8	DLO	21/8 (15:30)	Fill	10	Squatter dwelling	2 squatter structures temporarily evacuated

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0439	On natural hillside above slope No. 11NW-A/C287	Natural hillside	22/8	Public	20/8 (12:00)	Natural hillside	5	Open area	-
2005/08/0440	Wo Hop Shek Cemetery	3SW-C/C792	23/8	Arch SD	21/8	Soil cut	260*	Cemetery	-
2005/08/0441	Wo Hop Shek Cemetery	3SW-C/C825	22/8	Arch SD	21/8	Soil cut	500*	Cemetery	-
2005/08/0442	Wo Hop Shek Cemetery	3SW-C/DT95	22/8	Arch SD	21/8	Disturbed terrain	300*	Cemetery	-
2005/08/0443	WSD access to Hok Tau Reservoir	3SW-B/CR168	23/8	WSD	21/8 (13:00)	Soil/rock cut	40	Road	1 lane of road temporarily closed
2005/08/0444	Tui Min Hoi Village, near the round-about at Chui Tong Road	Natural hillside	23/8	Public	23/8 (10:00)	Natural hillside	0.02 (Boulder fall)	Pedestrian pavement	-
2005/08/0445	Along Keung Shan Road, Lantau Island - slope No. 13NW-B/C321	13NW-B/C321	23/8	GEO	20/8 (10:15)	Soil/rock cut	20	Open area	-
2005/08/0446	Hung Mui Kuk Road, near Lion Rock Tunnel Road	7SW-D/C565	23/8	HyD	Unknown	Soil cut	150*	Open area	-
2005/08/0447	North of Lamp Post U77326, South Lantau Road	13NE-B/C131	23/8	GEO	21/8 (15:00)	Soil cut	8	Open area	-
2005/08/0448	Rural footpath northeast of Tsing Fai Tong New Village, Sham Tseng	Natural hillside	23/8	ETC	22/8	Natural hillside	20	Footpath	Footpath partially blocked

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0449	Lung Yan Road near Lung Cheung Road (near Phoenix House)	11NW-B/C520	23/8	Police	20/8 (14:00)	Soil/rock cut	20	Road	1 lane of road temporarily closed
2005/08/0450	Behind house No. 4, Tung A Village, High Island	12NE-A/C16	23/8	Public	21/8 (12:00)	Soil/rock cut	1	Backlane	-
2005/08/0451	Lei Pui Street near junction with Shek Pai Street	7SW-C/CR1045	23/8	HyD	20/8 (13:00)	Soil/rock cut	3	Pedestrian pavement	-
2005/08/0452	315 Ha Wo Che Village	7SE-A/C399	24/8	Public	21/8	Soil cut	2	Footpath	-
2005/08/0455	Lung Yan Road, Beacon Hill	11NW-B/C478	23/8	FSD	20/8 (14:00)	Soil cut	15	Road	1 lane of road temporarily closed
2005/08/0457	Sam Lung Village, Sai Kung	11NE-B/C482	24/8	GEO	Unknown	Soil cut	5	Squatter dwelling	-
2005/08/0460	Cut slope below 59 Wing Ning Tsuen	Unregistered at time of failure	24/8	ICC	20/8 (0:00)	Soil cut	5	Drainage ditch	-
2005/08/0461	Lot 160 DD130, Tuen Tsz Wai	2 m high soil cut slope ⁽¹⁾	24/8	DO	20/8 (0:00)	Soil cut	5	Drainage ditch	-
2005/08/0462	Slope Behind 68 Lok Lo Ha Village	7SE-A/CR559	24/8	Lands D	Unknown	Soil cut	0.5	Backlane	-
2005/08/0463 [#]	Opposite to 136 Lok Lo Ha	2 m high fill slope ⁽¹⁾	24/8	Lands D	Unknown	Fill	2	Footpath	-
2005/08/0465	Above Outfall W, Castle Peak Road, Ting Kau	Natural hillside	23/8	Public	22/8 (10:00)	Natural hillside	40	Open area adjacent road	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0467 [#]	No 251, Ha Wo Che Village, Shatin	7SE-A/C400	25/8	Lands D	21/8	Soil cut	2	Footpath	-
2005/08/0468 [#]	Below No. 391-395 Ha Wo Che Village, Shatin	7SE-A/C397	25/8	Lands D	21/8	Soil cut	3	Open area	-
2005/08/0470 [#]	Wang Pui Road near Shek Pik, Lantau Island - slope No. 13NW-B/C20 (2 scars)	13NW-B/C20	26/8	GEO	20/8 (10:00)	Soil/rock cut	2	Pedestrian pavement	-
2005/08/0472a [#]	Near Po Lam Monastery, Tai Tong Tsai, Lantau Island	2.5 m high soil cut slope ⁽¹⁾	26/8	DO	20/8 (10:00)	Soil cut	3	Access road	-
2005/08/0472b [#]	Near Po Lam Monastery, Tai Tong Tsai, Lantau Island	2.0 m high soil cut slope ⁽¹⁾	26/8	DO	20/8 (10:00)	Soil cut	2	Access road	-
2005/08/0473	Behind house No. 2, Tung A Village, High Island	12NE-A/C17	26/8	Public	21/8 (12:00)	Soil cut	0.1	Building	-
2005/08/0474	Adjacent to No. 97 Po Tong Ha Tsuen	3 m high fill slope ⁽¹⁾	26/8	DO	21/8 (0:00)	Fill	1	Drainage ditch	-
2005/08/0477	Footpath above Lot DD1062, Sok Kwu Wan, Lamma Island (near Lamp Post 40509)	Natural hillside	26/8	Police	26/8 (14:00)	Natural hillside	5 (Boulder fall)	Minor footpath	Footpath partially blocked
2005/08/0479	270 m East of the CLP Overhead Line Training School	7SW-D/C266	22/8	HyD	Unknown	Soil/rock cut	1000	Access road	Access road temporarily closed

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0480	Shing Mun Catchwater Ch.5000 above Kong Pau Tin Tsuen, Route Twisk	6SE-B/CR249	26/8	WSD	Unknown	Soil cut	100	Catchwater	Partial blockage of catchwater
2005/08/0481	Village Road at Chung Kuk Terrace, Fu Yung Shan	7SW-C/C1319	26/8	DO	23/8	Soil cut	80	Access road	Access road temporarily closed
2005/08/0483	No. 76 Tai Wo Tsuen, Fu Yung Shan Road	7SW-C/C581	23/8	Police	23/8 (19:00)	Soil cut	50	Squatter dwelling	1 squatter dwelling temporarily evacuated
2005/08/0484	Tai Wo Tsuen, Fu Yung Shan	Natural hillside	24/8	DO	23/8	Natural	40	Footpath	-
2005/08/0485	Hei Ling Chau Road, Hei Ling Chau	10SW-D/F64	27/8	Arch SD	Unknown	Fill	20	Open area	-
2005/08/0487	Anderson Road Quarry	11NE-D/C164	26/8	HyD	21/8 (10:00)	Soil/rock cut	9	Open area	-
2005/08/0488	Lin Ma Hang Road, Sha Tau Kok	3NE-A/C129	27/8	HyD	27/8 (09:00)	Soil/rock cut	6	Open area	-
2005/08/0489	Near slope no. 7SW-C/DT4, Lo Wai	Natural hillside	23/8	Police	20/8 (18:00)	Natural hillside	2 (Boulder fall)	Footpath	-
2005/08/0490	Near street lamp no. V5917, Lo Wai	7SW-A/C401	24/8	DO	22/8	Soil cut	3	Squatter dwelling	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0491	Route Twisk, Tsuen Wan	6SE-D/C539	23/8	GEO	21/8	Soil cut	40	Squatter dwelling	2 squatter dwellings permanently evacuated
2005/08/0494	Lot No. 351, DD110, Choi Yuen Tsuen, Shek Kong	6NE-B/C81	29/8	Public	21/8 (08:04)	Soil cut	10	Backyard	-
2005/08/0495	Below No. 99 Ha Keng Hau Village	7SW-D/C404	29/8	Public	Unknown	Soil cut	15	Open area	-
2005/08/0496	Chainage 3800, Beacon Hill Catchwater, Hung Mui Kuk	Natural hillside & 7SW-D/CR412	22/8	WSD	Unknown	Natural hillside	1935	Catchwater	-
2005/08/0497	Chainage 4900 along Beacon Hill Catchwater, Hung Mui Kuk	Natural hillside & 7SW-D/C561	22/8	WSD	Unknown	Natural hillside	312	Catchwater	-
2005/08/0498	At about Chainage 5500, Beacon Hill Catchwater, Hung Mui Kuk	7SW-D/C558	22/8	WSD	Unknown	Soil/rock cut	111	Catchwater	-
2005/08/0499	Near Cheung Sha Catchwater - above slope No. 13NE-A/CR186	Natural hillside	30/8	GEO	20/8 (12:00)	Natural hillside	700	Catchwater	-
2005/08/0500	Behind No. 30, Chung Mei, Sok Kwu Wan, Lamma Island	Natural hillside	30/8	Public	21/8 (16:00)	Natural hillside	5	Access road	-
2005/08/0501	Tai Lam Chung Catchwater Section O, Ch. 9240-9255	6SE-B/CR108	20/8	WSD	Unknown	Soil cut	10	Catchwater	-

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Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0502	Tai Lam Chung Catchwater Section N, Ch 8500	6SE-B/CR113	20/8	WSD	Unknown	Soil cut	390*	Catchwater	-
2005/08/0503	Tai Lam Chung Catchwater Section L	6SE-C/CR617	26/8	WSD	17/8	Soil/rock cut	3	Catchwater	-
2005/08/0504	Tai Lam Chung Catchwater Section M, Ch 5000	6SE-D/CR437	20/8	WSD	Unknown	Soil/rock cut	20*	Catchwater	-
2005/08/0505	Tai Lam Chung Catchwater, Ch8050	6SE-D/CR521	21/8	WSD	Unknown	Soil cut	5	Catchwater	-
2005/08/0506	Shing Mun Catchwater, Ch 2650 (Above slope No. 7SW-A/F7)	7SW-A/CR139	20/8	WSD	Unknown	Soil cut	20	Catchwater	-
2005/08/0507	Shing Mun Catchwater, Ch 1000	7SW-A/CR158	23/8	WSD	Unknown	Soil cut	70	Catchwater	-
2005/08/0508	Tai Lam Chung Catchwater Section J, Ch.550	6SW-D/CR498	23/8	WSD	Unknown	Soil cut	5	Catchwater	-
2005/08/0509	Cheung Sha Catchwater near Spot Level 105.6 - slope No. 13NE-A/F19	13NE-A/F19	23/8	WSD	Unknown	Fill	1000	Natural streamcourse	-
2005/08/0510	Keung Shan South Catchwater near Spot Level 108.6 – slope No. 13NW-B/C169	13NW-B/C169	23/8	WSD	Unknown	Soil cut	3	Catchwater	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 25 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/08/0511	Tai Long Wan Catchwater near Spot 78.6 - slope No. 13NW-B/CR268	13NW-B/CR268	23/8	WSD	Unknown	Soil/rock cut	10	Catchwater	-
2005/08/0512	Tai Long Wan Catchwater near Spot 79.2 - slope No. 13NW-D/CR14	13NW-D/CR14	23/8	WSD	Unknown	Soil cut	40	Catchwater	-
2005/09/0513	Near Hei Ling Chau Dog Kennel, Hei Ling Chau	1.5 m high soil cut slope ⁽¹⁾	30/8	Arch SD	Unknown	Soil cut	15	Road	-
2005/09/0514	No. 1, O Tsai, Yung Shue Wan, Lamma Island	1.4 m high retaining wall ⁽¹⁾	1/9	DLO	21/8 (15:00)	Retaining wall	15	Minor footpath	-
2005/09/0515	No. 27, Po Wah Yuen, Lamma Island	1.95 m high soil cut slope ⁽¹⁾	1/9	DLO	21/8 (14:00)	Soil cut	0.2	Access road	-
2005/09/0519	Near house 68, Tseng Tau Sheung Tsuen, Tuen Mun	6SW-A/F67	5/9	Public	4/9 (04:30)	Fill	30	Squatter dwelling	1 squatter dwelling permanently evacuated
2005/09/0522	Along access road to Luk Wu Tsuen - opposite to light post VA1597	Natural hillside	7/9	DO	20/8 (11:00)	Natural hillside	10	Open area	-
2005/09/0525	Opposite to No. 62 Yau Oi Tsuen, To Fung Shan Road	7SW-B/C256	1/9	Public	Unknown	Soil/rock cut	2	Road	-
2005/09/0526	Opposite to No. 36, Chung Tsai, Peng Chau	Natural hillside	30/8	Public	27/8	Natural hillside	3	Squatter dwelling	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 26 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/09/0527	Ngau Tam Mei	2SE-C/C72	9/9	Public	4/9 (09:15)	Soil/rock cut	5	Road	1 lane of road temporarily closed
2005/09/0528	Lot 1186 DD453, Sheung Kok Shan Road, Lo Wai, Tsuen Wan	7SW-A/F38	6/9	DO	20/8	Fill	20	Open area	-
2005/09/0529	Lo Uk Tusen, Pui O, South Lantau Road, Lantau (opposite slope No. 14NW-A/C95)	Natural hillside	9/9	HyD	21/8 (16:00)	Natural hillside	10	Open area	-
2005/09/0530	Natural hillside under House 13 Mau Ping New Village, junction of Po Lo Che Road and Kap Pin Long Upper Lane	Natural hillside	10/9	DLO	30/8	Natural hillside	25	Road	-
2005/09/0532	Ha Pak Nai	5NE-D/DT2	12/9	DSD	20/8 (0:00)	Disturbed terrain	10	Streamcourse	-
2005/09/0533	Pak Tin Area 5, Tai Wai	7SW-D/CR969	8/9	GEO	21/8	Masonry wall	10	Footpath	Footpath blocked
2005/09/0534	Lower Shing Mun Road near Fu Shan	7SW-D/C330	1/9	WSD	Unknown	Soil cut	20	Roadside verge	-
2005/09/0535	Ha Pak Nai	Unregistered at time of failure	14/9	Public	20/8 (0:00)	Soil cut	20	Open area	-
2005/09/0536	Natural hillside below Haven of Hope Hospital, Tseung Kwan O	Natural hillside	14/9	HyD	20/8	Natural hillside	10	Open area	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 27 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/09/0537	Access road to Kwun Yam San Tsuen	Unregisterable 2.5 m high soil cut slope ⁽¹⁾	14/9	Public	Unknown	Soil cut	2	Footpath	-
2005/09/0538	Kwun Ping Road, Sha Tin	7SE-C/C387	14/9	Public	Unknown	Soil cut	1	Open area	-
2005/09/0539	Adjacent to slope No. 7SW-B/F73, near Shing Mun Tunnel, Tai Wai	Unregistered at time of failure	30/8	GEO	Unknown	Soil cut	3	Access road	-
2005/09/0542	Natural hillside below footpath at Tsang Tsai Au, Lamma Island (near lamp post 37713)	Natural hillside	22/9	HyD	21/8 (15:00)	Natural hillside	15	Open area	-
2005/09/0544	Footpath in Lions Nature Education Centre	Unregistered at time of failure	26/9	AFCD	1/9	Soil cut	25	Footpath	-
2005/09/0546	Kam Tin, Wang Toi Shan	6NE-B/C64	26/9	Public	25/8	Soil cut	15	Built-up facilities	-
2005/09/0547	No.10A, Ma Tong Village, Chuen Lung, Route Twisk	Natural hillside	20/9	DLO	20/8	Natural hillside	40	Cottage	-
2005/09/0548	Village road at Ki Lun Tsuen, Sheung Shui	2.5 m high retaining wall ⁽¹⁾	28/9	Public	27/9 (0:00)	Retaining wall	20	Access road	Access road closed
2005/10/0550 [#]	Shek Lei Hang Village, near Temple Seven Saint Kwun, Kwai Chung	Natural hillside	3/10	DLO	Unknown	Natural hillside	5	Open area	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 28 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/10/0553	Hong Kong Gun Club, Route Twisk	6SE-B/C179	30/9	Public	20/8	Soil cut	300	Open area	-
2005/10/0555	Man-made feature behind Cameo Court, Ting Lai Road	2 m high fill slope ⁽¹⁾	20/10	Public	Unknown	Fill	4	Open area	-
2005/10/0557	At footpath adjacent to Shou Sun Tai, Tao Fung Shan, DD 186 Lot No. 371 RP	7SW-B/C664	26/9	BD	Unknown	Soil cut	5	Squatter dwelling	-
2005/10/0558	Anderson Road Quarry	11NE-D/C871	24/10	GEO	Unknown	Soil cut	Sign of distress	Construction site	-
2005/10/0559	Pak Tin Village, Shatin	7SW-B/C513	12/10	HD	Unknown	Soil cut	20	Squatter dwelling	1 squatter dwelling permanently evacuated
2005/11/0560	Tin Fu Tsai Village near Lot 403 in DD395	Natural hillside	26/10	DO	21/8	Natural hillside	30	Streamcourse	-
2005/11/0562	Sheung Yat Village near Shing Mun Reservoir, Kwai Chung	7SW-C/C770	22/11	Lands D	Unknown	Soil cut	40	Squatter dwelling	-
2005/11/0563 [#]	Natural hillside above slope No. 15NW-C/C4, Sok Kwu Wan, Lamma Island	Natural hillside	30/11	HyD	Unknown	Natural hillside	3 (Boulder fall)	Minor footpath	-
2005/12/0567	West Coast of Sunshine Island	Natural hillside	24/11	WSD	Unknown	Natural hillside	650*	Open area	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 29 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
2005/12/0568	Upper Keung Shan Road, Lantau Island - slope No. 9SW-D/C245	9SW-D/C245	22/12	Lands D	Unknown	Soil cut	1	Building	-
2006/01/0570	Ho Sheung Heung, Lo Wu	Natural hillside	19/1	DO	Unknown	Natural hillside	550*	Footpath	-
2006/02/0573	Tai Lung, Sheung Shui	Natural hillside	5/10	DO	Unknown	Natural hillside	30	Access road	-
2006/04/0581	Natural hillside above Fung Kat Heung Road, lamp posts H1148 & H1149.	Natural hillside	27/3	Public	15/8 (13:15)	Natural hillside	10	Road	-
AFCD/2005/06/0003	Shing Mun Road, Shing Mun Country Park	7SW-C/C943	28/6	AFCD	25/6	Soil cut	5	Barbecue area in country park	-
AFCD/2005/08/0004	Shing Mun Forest Track - Lead Mine Pass Section	7SW-B/C586	2/9	AFCD	21/8	Soil cut	10	Access road	-
AFCD/2005/08/0005	Shing Mun Forest Track - Tai Shing Stream Section	7NW-D/CR422	2/9	AFCD	21/8	Soil cut	1000*	Access road	-
AFCD/2005/08/0006	Tai Po Kau Forest Track - Kau Lead Section	7NW-D/CR270	2/9	AFCD	21/8	Soil cut	25	Access road	-
AFCD/2005/08/0007	Shing Mun Forest Track - Lead Mine Section	7NW-D/C389	2/9	AFCD	21/8	Soil/rock cut	100*	Access road	-
AFCD/2005/08/0008	Shing Mun Forest Track - Lead Mine Pass Section	7SW-B/C610	2/9	AFCD	21/8	Soil cut	40	Access road	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 30 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
AFCD/2005/08/0009	Tai Lam Forest Track - Tai Lam Country Park	6SE-B/C283	2/9	AFCD	22/8	Soil cut	30	Access road	Access road temporarily closed
AFCD/2005/08/0010	MacLehose Trail, near Tai Lam Chung Reservoir	Natural hillside	2/9	AFCD	22/8	Natural hillside	20	Hiking Trail	-
AFCD/2005/08/0011	Lantau Forset Track - Nam Shan Section	10SW-C/C188	-	AFCD	20/8	Soil cut	45	Minor footpath	Footpath blocked
ArchSD/N/2005/08/0004	Wo Hop Shek Cemetery	3SW-C/C788	23/8	Arch SD	21/8	Soil cut	225	Cemetery	-
ArchSD/QD/2005/06/001	Sai Kung Park	8SW-C/CR37	12/10	Arch SD	29/6	Soil cut	0.5 (Rockfall)	Open area	-
ArchSD/QD/2005/08/001	Auqa Privy at Ah Kung Wan, SK 10, Clear Water Bay Road	12NW-A/C97	12/10	Arch SD	14/8	Soil cut	5	Public toilet	-
ArchSD/WTS&ST/2005/08/0002	Access Road to Beacon hill radar station	11NW-B/C521	23/8	Arch SD	22/8	Soil cut	100*	Road	1 lane of road temporarily closed
ArchSD/TW/2005/10/0001	Shing Mun Valley Swimming Pool	7SW-C/FR311	26/10	Arch SD	Unknown	Fill	10	Indoor carpark	-
ArchSD/TW/2005/11/0001	Adjacent to a refuse collection point adjoining Shing Mun Road, Tsuen Wan.	7SW-C/C824	18/11	Arch SD	Unknown	Soil cut	20	Refuse collection point	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 31 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
HD/NT/2005/12/0001	Between toe retaining wall and lowest berm, Tai Ha Street, Kwai Chung	7SW-C/FR10	22/8	HD	20/8	Fill	100	Open area	-
HyD/NTE/2005/05/0014 [#]	Fei Ngo Shan Road	11NE-A/C857	14/10	HyD	23/5	Soil cut	1	Road	-
HyD/NTE/2005/09/0075 [#]	Fei Ngo Shan Road	11NE-A/C520	14/10	HyD	2/9	Soil/rock cut	0.3	Road	-
HyD/NTE/2005/09/0076 [#]	Fei Ngo Shan Road	11NE-B/C654	14/10	HyD	2/9	Soil/rock cut	0.3	Road	-
LandsD/IS/2005/08/0001 [#]	Footpath along Pok Wan, Peng Chau	10SE-A/C20	22/8	Lands D	Unknown	Soil cut	5	Minor footpath	Footpath blocked
LandsD/SK/2005/06/0001 [#]	Unregistered slope in the access road to 1-7A, Wong Keng Tei	2.7 m high soil cut slope ⁽¹⁾	29/06	Lands D	June	Soil cut	1	Access road	-
LandsD/ST/2005/05/0002	Northwest of No. 305A, Pai Tau Village	7SW-D/FR202	10/5	Lands D	Unknown	Fill	1	Footpath	-
LI/2005/08/2002	Tai Long Wan Catchwater	13NW-D/CR21	29/8	LIC	Unknown	Soil cut	30*	Catchwater	-
LI/2005/08/2003	Tong Fuk Catchwater	13NE-A/CR62	29/8	LIC	Unknown	Soil cut	30*	Catchwater	-
LI/2005/08/2004	Cheung Sha Catchwater	13NE-B/C123	29/8	LIC	Unknown	Soil/rock cut	20*	Catchwater	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 32 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
LI/2005/08/2005	Shing Mun Catchwater	Natural hillside	29/8	LIC	Unknown	Natural hillside	20*	Catchwater	-
LI/2005/08/2006	Kap Long Catchwater	6NE-D/C84	29/8	LIC	Unknown	Soil cut	8.5*	Catchwater	-
LI/2005/08/2007	Lion Rock Catchwater	11NW-B/FR239	5/9	LIC	Unknown	Fill	20*	Catchwater	-
LI/2005/08/2008	Lion Rock Catchwater	7SW-D/C962	5/9	LIC	Unknown	Soil cut	75*	Catchwater	-
LI/2005/08/2009	Above Ma On Shan Tsuen	7SE-B/C122	5/9	LIC	Unknown	Soil cut	120*	Squatter dwelling	-
WSD/2005/11/1/ NTE	North-west of Police Firing Range, Kam Shan Country Park	7SW-C/C1038	27/10	WSD	Unknown	Soil/rock cut	80	Country park	-
WSD/2005/6/1/ NTE	Adjoining access road and catchwater UC1, Tai Mong Tsai	8NW-D/C36	31/5	WSD	Unknown	Soil cut	10	Catchwater	-
WSD/2005/6/3/ NTE	Catchwater QA (CH.200), Tai Mong Tsai	8SW-B/CR190	23/6	WSD	Unknown	Soil cut	3	Catchwater	-
WSD/2005/6/4/ NTE [#]	Access road, north of Lower Shing Mun reservoir, Shatin	7SW-D/C699	24/6	WSD	Unknown	Soil cut	1	Open area	-
WSD/2005/8/11/ NTE	Beacon Hill Catchwater Ch. 250	11NW-B/CR480	21/8	WSD	Unknown	Soil cut	30	Catchwater	-

Table B4 – List of Landslide Incidents in New Territories and Outlying Islands (Sheet 33 of 33)

Incident No.	Location	Slope No.	Call		Failure			Facility Affected	Consequence
			Date	From	Date (Time)	Feature Type	Scale (m³)		
WSD/2005/8/12/ NTE	Beacon Hill Catchwater Ch. 2570 and Ch. 2700	7SW-D/C550	21/8	WSD	Unknown	Soil cut	18	Catchwater	-
WSD/2005/8/15/ NTE	Beacon Hill Catchwater Ch. 5950	7SE-C/F141	21/8	WSD	Unknown	Fill	6	Access road	-
WSD/2005/8/23/ NTW	Tai Lam Chung Catchwater Section C, Ch 5960-6090	6NE-D/CR83	23/8	WSD	Unknown	Soil cut	5	Catchwater	-
WSD/2005/8/24/ NTW	Tai Lam Chung Catchwater Section B, Ch 3000	6NE-C/CR205	23/8	WSD	Unknown	Soil/rock cut	20	Catchwater	-
WSD/2005/9/2/ NTE	Tsok Pok Hang Intake E	7SE-C/C304	27/9	WSD	Unknown	Soil/rock cut	30	Open area	-
<p>Legend:</p> <p>* Information obtained by GEO's landslide investigation consultants and agreed with GEO's District Divisions.</p> <p># Very minor landslide with negligible consequence (see Section 1 of the report for definition).</p> <p>(1) The slope feature does not comply with the slope registration criteria given in GEO Circular No. 15.</p>									

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Highway Slope Manual (2000), 114 p.

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Geoguide 4 Guide to Cavern Engineering (1992), 148 p. (Reprinted, 1998).

Geoguide 5 Guide to Slope Maintenance, 3rd Edition (2003), 132 p. (English Version).

岩土指南第五冊 斜坡維修指南，第三版(2003)，120頁(中文版)。

Geoguide 6 Guide to Reinforced Fill Structure and Slope Design (2002), 236 p.

GEOSPECS

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