

**For discussion  
on 24 June 2008**

**Legislative Council Panel on Development**

**Flood Prevention and Contingency Measures**

**Supplementary Information**

**PURPOSE**

This paper provides Members with supplementary information to the paper CB(1)1951/07-08(05) - “Flood Prevention and Contingency Measures”.

**FLOOD PREVENTION WORKS**

2. For over a decade, Drainage Services Department (DSD) has been striving to improve the drainage systems with a view to enhancing their flood protection level. Following continual completion of major flood prevention projects, the flooding situation in some flood-prone areas has improved significantly. Unlike in the past, for example, no extensive flooding occurred in the northern and northwestern parts of the New Territories despite the heavy rains on 24 June 2005, 16 July 2006, 19 April and 7 June 2008 apart from some localized flooding. The number of flooding blackspots<sup>1</sup> has reduced from 90 in 1995 to 32 at present. Among them, the number of major flooding blackspots has also reduced from 8 to 2 during the same period. The two major flooding blackspots are Kau Lung Hang and Lam Tsuen Valley in Tai Po. The distributions of the flooding blackspots in 1995 and those at present are given at Annex 1. Besides, the area of the New Territories that may flood in a one-in-50-year rainstorm has reduced from 3 000 hectares in 1995 to 360 hectares at present. DSD will continue investing in enhancing the capacity of the drainage systems for reducing the number of flooding blackspots and the extent of flood-prone areas to alleviate the flooding problem.

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<sup>1</sup> DSD compiles the list of blackspots based on past flooding records and complaints received. The purpose is to monitor the progress of maintenance and flood prevention works of the blackspots.

## **RAINFALL ON 7 JUNE 2008**

3. On 7 June 2008, over 200 mm of rainfall was recorded in most parts of the territory generally. Over 300 mm rainfall was recorded on Lantau Island and in the urban areas, while over 400 mm rainfall was recorded in some areas. The Hong Kong Observatory also noted a record-high hourly rainfall of 145.5 mm in the territory. The rainfall intensity exceeded the design capacity of the drainage systems in general, resulting in ten relatively serious flooding incidents in various districts on that day.

## **REASONS FOR SHEUNG WAN BEING SUSCEPTIBLE TO FLOODING**

4. A part of Sheung Wan is low-lying and therefore susceptible to flooding. The area of Bonham Strand, Wing Lok Street and Man Wa Lane and their vicinity, measuring about 10 hectares in total, are of particular concern. The lowest ground in this area is only about 2.64 m above principal datum, and is not far above the level of average tide. At this limited head, the existing drainage system is ineffective in draining stormwater. At the worst, the tide may rise above the ground level and sea water could flow out of manholes and gully gratings.

5. Furthermore, the existing drainage systems in Sheung Wan were built decades ago to the design standards then. They do not meet the current design standards.

## **SHORT TERM MEASURES**

6. DSD will continue carrying out monthly inspection and clearance of the drainage systems at Wing Lok Street and its vicinity during the wet season. In addition, DSD will also deploy an emergency team on site to clear drainage inlets upon the issuing of an Amber rainstorm warning by the Hong Kong Observatory.

## **ENHANCEMENT OF SHEUNG WAN FLOOD WATCH SERVICE**

7. DSD launched the Sheung Wan Flood Watch System in April 2006. It provides the latest flood-related information to the public based on weather conditions. Prior to wet season each year, DSD sends letters to relevant shop owners and residents in Sheung Wan inviting them to register for the service. Public can also visit the

website of the department for details about the Sheung Wan Flood Watch System and download the registration form.

8. To enhance the service, DSD is working with the service provider to look into the possibility of resending flood message to registered shop owners and residents 15 minutes after sending of the first message. This would increase the chance of receipt of the message.

9. DSD has also set up a Flood Watch hotline 3588-9990 for the public to listen to the latest flood-related information of Sheung Wan.

## **MANPOWER DEPLOYMENT ON 7 JUNE 2008**

10. The Hong Kong Observatory issued the Amber rainstorm warning at 5:15 am on 7 June 2008. DSD's emergency team arrived at Wing Lok Street at 6 am and checked and cleared the drainage system to ensure that there was no blockage. The team, supervised by a Works Supervisor of DSD, consisted of 5 workers equipped with high-pressure water-jets and pumping tools. However, the drainage system could not cope with the heavy rainfall and the high tide on that morning. Wing Lok Street started to flood at around 8:00 am and the flood level peaked shortly after 9:00 am. The flood water started to drain away gradually before 12:00 noon. Another emergency team arrived on site shortly after 12:00 noon to provide additional assistance. Traffic at Wing Lok Street gradually resumed normal before 1:30 pm. With the joint efforts of staff from DSD and Food and Environmental Hygiene Department, silt and rubbish blocking the road and gullies along Wing Lok Street were cleared before 3:00 pm. DSD staff also provided assistance to shop-owners, such as removing water and damaged objects in the shops.

## **ENHANCEMENT OF EMERGENCY SUPPORT**

11. Consolidating the experience on 7 June 2008, DSD will increase resources and adopt the following measures -

- (a) 2 emergency teams will be deployed to Wing Lok Street upon issuing of Red Rainstorm Warning by the Hong Kong Observatory;
- (b) 3 emergency teams will be deployed to Wing Lok Street upon issuing of

Black Rainstorm Warning by the Hong Kong Observatory; and

- (c) an engineering truck will be stationed at the junction of Wing Lok Street and Morrison Street to offer assistance to shop owners upon issuing of Black Rainstorm Warning by the Hong Kong Observatory.

## **IMPROVEMENT TO DRAINAGE SYSTEMS**

12. To alleviate the flooding problem in Sheung Wan in the long term, DSD has just completed the construction of intercepting drains at Queen's Road Central. Stormwater drains were laid along Lok Ku Road and Gilman's Bazaar to intercept the upland rainfall (about 30% of the rainfall in Sheung Wan) and divert the upland flows away from the low-lying areas. The works cost about \$33 million. Separately, the Sheung Wan Pumping Station is under construction and is scheduled for completion before the 2009 wet season. Under the scheme, stormwater from the Wing Lok Street area will be discharged into the Victoria Harbour via the pumping station so that the capacity of the drainage system in the low-lying areas around Wing Lok Street will not be affected by the high tide. Upon completion of the project, the drainage system of the low-lying area will have been enhanced to withstand rainstorms of a 50-year return period.

13. Apart from the projects above, DSD started the construction of the Hong Kong West drainage tunnel in November 2007. Stormwater in the upstream catchments from Tai Hang to Pokfulam will be collected for direct discharge into the sea through the tunnel in order to reduce the flow in drainage systems downstream of the tunnel. The tunnel is scheduled for completion in early 2012 at a cost of \$3,044.7 million. Upon completion, the risk of flooding in the northern part of Hong Kong Island from Wan Chai to Kennedy Town will be further reduced.

## **ADVICE SOUGHT**

14. Members are invited to give views on the paper.

**Development Bureau  
Drainage Services Department  
June 2008**

**Annex 1**

**NUMBER OF FLOODING BLACKSPOTS**

District	No. of Flooding Blackspots in 1995	No. of Flooding Blackspots at present
Northern District	22	6
Yuen Long / Kam Tin	22	9
Tuen Mun	11	4
Tai Po	8	6
Shatin	2	1
Tsuen Wan / Kwai Tsing	2	0
Sai Kung	1	1
Kowloon	16	1
Hong Kong Island	5	3
Outlying Islands	1	1
<b>Total</b>	<b>90</b>	<b>32</b>