For information

Legislative Council Panel on Planning, Lands and Works

104CD – Drainage improvement in Northern Hong Kong Island – lower catchment improvement

PURPOSE

This paper briefs Members on the Administration's proposal to upgrade part of **104CD** "Drainage improvement in Northern Hong Kong Island – lower catchment improvement" to Category A at an estimated cost of about $37.5 million in money-of-the-day (MOD) prices for the drainage improvement works in the Eastern district of Northern Hong Kong Island.

PROJECT SCOPE

2. The scope of the proposed drainage works to be part-upgraded to Category A comprises the construction of about 1.8 kilometres (km) of stormwater drains of diameter ranging from 225 millimetres (mm) to 1350 mm and ancillary works in the Eastern district of Northern Hong Kong Island.

3. We plan to start the proposed works in end 2006 for completion in late 2008. A plan showing the locations of the proposed works is at **Enclosure**.

JUSTIFICATION

4. The residential and commercial districts in Northern Hong Kong Island, including the Eastern, Wan Chai, Central and Western districts are served by drainage systems built decades ago to meet the flow requirements at that time. Rapid urbanization and changes in land use over the past decades have turned natural ground and slopes into paved areas. Stormwater which could previously dissipate naturally through ground filtration can no longer do so. This has led to significant increase in surface run-off and overloading of the existing drainage systems. Although we have made local improvements to the systems to cater for developments from time to time, the overall drainage systems as a whole are still inadequate to meet the required flood protection standard. Flooding often occurs during heavy rainstorms.

5. To alleviate flooding in Northern Hong Kong Island and to meet the community's increasing expectations for better flood protection, we commissioned a drainage master plan study for Northern Hong Kong Island to assess the adequacy of the existing drainage systems in the area. The study recommended the construction of a drainage tunnel in Mid-levels of Northern Hong Kong Island from Tai Hang to Pokfulam to intercept and convey the stormwater from the upper catchment directly to the sea, and also upgrading of some of the drains in the lower catchment in the Eastern, Wan Chai, Central and Western districts.

6. To bring about early improvement to the flooding problems, we propose to part-upgrade **104CD** for the construction of stormwater drains in the Eastern district of Northern Hong Kong Island. Upon its completion, the standard of flood protection in the Eastern district would be raised generally to withstand rainstorms with a return period[1] of one in 50 years. The planning and design of the remaining scheme including the drainage tunnel and the associated drains in the western lower catchment are underway.

FINANCIAL IMPLICATIONS

7. We estimate the project cost of the proposed works to be about $37.5 million (in MOD prices), made up as follows –

			$ million	
a)	Construction of stormwater drains and ancillary works		30	
b)	Consultants' fees for:		3.5	
	(i) contract administration	0.8		
	(ii) site supervision	2.7		
c)	Environmental mitigation measures		1	
d)	Contingencies		3	
	Total		37.5	(in MOD prices)

[1] "Return period" is the average number of years during which a certain severity of flooding will occur once, statistically. A longer return period means a rarer chance of occurrence of a more severe flooding.

8. We estimate the annual recurrent expenditure arising from this project to be about $47,000.

PUBLIC CONSULTATION

9. We consulted the Works and Development Committee under the Eastern District Council on 30 March 2006. Members supported the implementation of the proposed drainage improvement works.

ENVIRONMENTAL IMPLICATIONS

10. The project is not a designated project under the Environmental Impact Assessment Ordinance. We have completed a Preliminary Environmental Review which concluded that there would not be any long term adverse environmental impacts arising from the proposed works. For short-term impacts caused by the works during construction, we will control noise, dust and site run-off within established standards and guidelines through implementation of mitigation measures, such as the use of temporary noise barriers, silenced construction equipment and water-spraying to reduce noise and dust generated by the works. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good site practices will be properly implemented on site.

11. We have considered ways of minimising construction and demolition (C&D) materials in the planning and design stages. In addition, we will require the contractor to reuse inert C&D materials on site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities[2]. We will encourage the contractors to maximise the use of recycled or recyclable C&D materials, as well as the use of non-timber in formwork to further minimise the generation of construction waste.

12. We will also require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill and C&D waste to public fill reception facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

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[2] Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

13. We estimate that the project will generate about 14 000 tonnes of C&D materials. Of these, we will reuse about 10 600 tonnes (76%) on site, deliver 1 400 tonnes (10%) to public fill reception facilities for subsequent reuse. In addition, we will dispose of 2 000 tonnes (14%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be about $0.3 million for this project (based on an unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[3] at landfills.)

TRAFFIC IMPLICATONS

14. To minimise possible disruption to traffic during construction, we have completed a traffic impact assessment study for the proposed works. During construction, we will maintain smooth traffic flow through temporary traffic management measures as far as possible and display notice boards on site to explain the reason of temporary traffic arrangements and the expected completion date of the concerned section of works. In addition, telephone hotlines will be set up for public enquiries or complaints. Construction works in busy road sections will be carried out in non-peak hours.

15. We will also establish a Traffic Management Liaison Group (TMLG) under the contract to discuss, scrutinise and agree on the proposed temporary traffic management measures. We will invite representatives from Transport Department, Hong Kong Police Force, Highways Department, Eastern District Office and various road public transport operators to attend the TMLG meetings and agree on temporary traffic arrangement before implementation. The TMLG will also take into account all relevant factors such as site restrictions, existing and future traffic conditions, pedestrian safety, access to buildings/shop fronts and provision of emergency vehicles access while considering the temporary traffic arrangements.

BACKGROUND INFORMATION

16. We commissioned **75CD** "Stormwater Drainage Master Plan Study in Northern Hong Kong Island" (the Study) in 1996 and completed the Study in February 1999. The Study recommended the construction of a drainage tunnel in Mid-levels of Northern Hong Kong Island from Tai Hang to Pokfulam to intercept and convey the stormwater from the upper catchment directly to the sea and upgrading of some of the drains in the lower catchment which are still inadequate

[3] The estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

even with the proposed drainage tunnel scheme in place. We included **103CD** "Drainage improvement in Northern Hong Kong Island – Hong Kong West drainage tunnel" and **104CD** in Category B in September 2000.

17. In May 2002, we engaged consultants to undertake site investigation, surveys, traffic impact assessment and detailed design for the drainage improvement works in the Eastern district of the Northern Hong Kong Island under **104CD** at an estimated cost of $4 million in MOD prices. We have charged this amount to block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme". We have substantially completed the detailed design.

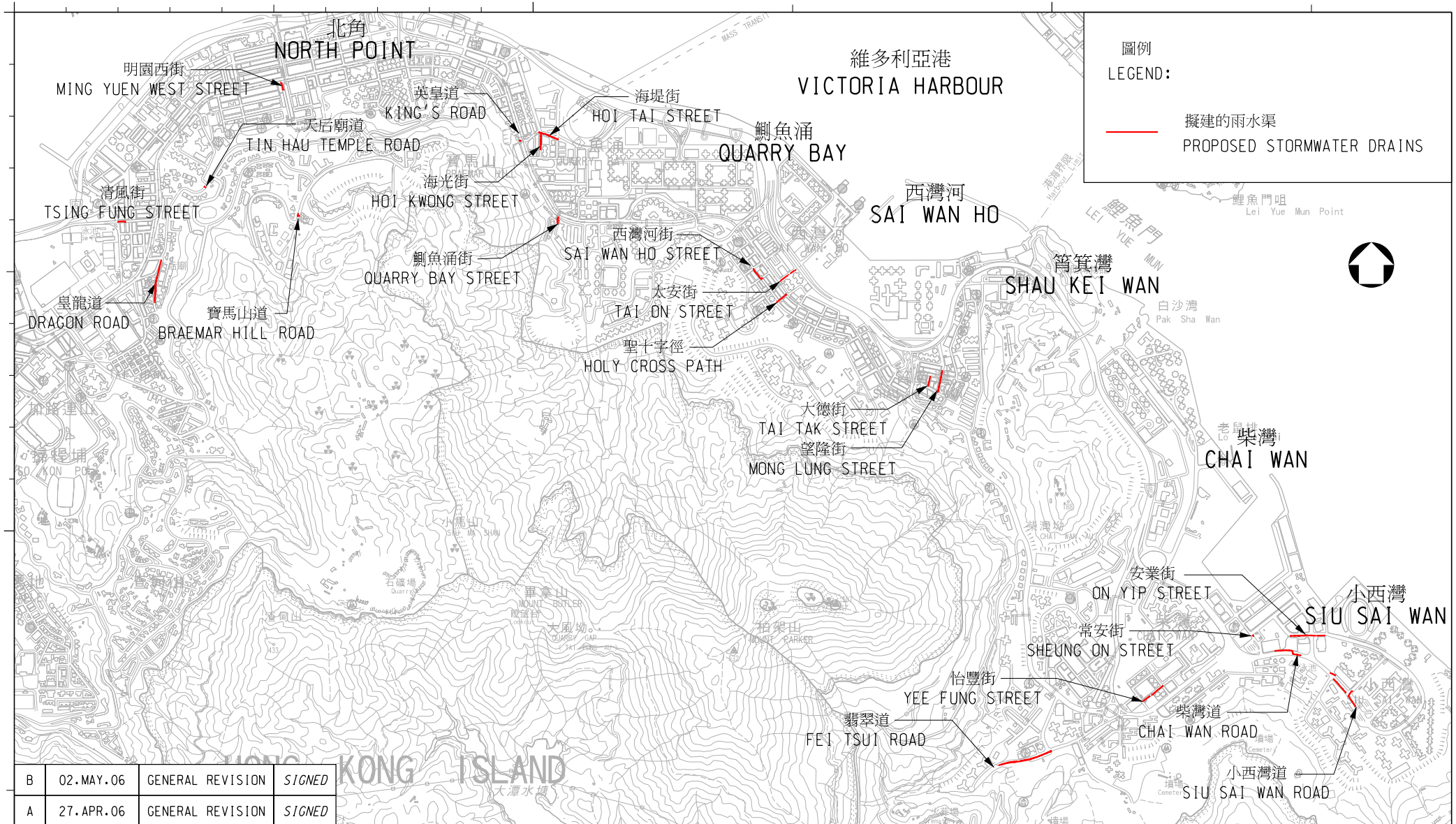
18. The proposed drainage works will not involve any removal of trees or planting proposals.

19. We estimate that the proposed works will create about 35 jobs (28 for labourers and another seven for professional/technical staff) providing a total employment of 600 man-months.

WAY FORWARD

20. Members are invited to support our proposal for part-upgrading of **104CD** for consideration by the Public Works Subcommittee in June 2006 with a view to seeking funding approval of the Finance Committee in July 2006.

Environment, Transport and Works Bureau
May 2006



B	02.MAY.06	GENERAL REVISION	*SIGNED*
A	27.APR.06	GENERAL REVISION	*SIGNED*

圖則名稱 drawing title

DRAINAGE IMPROVEMENT IN NORTHERN HONG KONG ISLAND - EASTERN LOWER CATCHMENT WORKS

港島北部雨水排放系統改善計劃 - 東區下游集水區工程

繪畫 drawn	*SIGNED*	C.K.LAM	日期 date 28.MAR.06
核對 checked	*SIGNED*	M.Y.WONG	日期 date 10.APR.06
批核 approved	*SIGNED*	W.C.LAM	日期 date 10.APR.06

部門 office 工程管理部 PROJECT MANAGEMENT DIVISION

圖則編號 drawing no. DPM/104CD/1804B

比例 scale 1:30 000

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

Enclosure 附件

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