

**For information**

**Legislative Council Panel on Planning, Lands and Works  
109CD – Drainage improvement in Sha Tin and Tai Po**

**PURPOSE**

This paper briefs Members on the Administration's proposal to part-upgrade **109CD** – “Drainage improvement in Sha Tin and Tai Po” to Category A at an estimated cost of about \$73 million in money-of-the-day (MOD) prices for urban drainage improvements works in Sha Tin.

**BACKGROUND**

2. In October 1999, we completed a comprehensive review of the drainage systems in Sha Tin and Tai Po under **79CD** “Stormwater drainage master plan study in Sha Tin and Tai Po” (the Study). The Study has identified that some of the existing drainage systems in Sha Tin and Tai Po are inadequate to meet the required flood protection standard and recommended a programme of drainage improvement works to tackle the flooding problems in the areas.

3. In September 2000, we included **109CD** “Drainage improvement in Sha Tin and Tai Po” in Category B for implementing the drainage improvement works recommended under the Study. The proposed works included the urban drainage improvement works in Sha Tin and Tai Po and the improvement works of Upper Lam Tsuen River, She Shan River and Upper Tai Po River in Tai Po.

4. In June 2001, we part-upgraded **109CD** to Category A as **115CD** entitled “Drainage improvement in Sha Tin and Tai Po – consultants’ fees and investigations” for engaging consultants to undertake the site investigations, environmental impact assessment, traffic impact assessment and detailed design for **109CD**. The consultancy commenced in February 2002. We have substantially completed the detailed design for the urban drainage improvement works in Sha Tin. The planning and design of the remaining works is underway.

## PROPOSAL

5. The scope of the proposed urban drainage improvement works in Sha Tin comprises -

- (a) upgrading of about 2.8 km of existing drains by replacing with larger drains of diameter ranging from 450 millimetres (mm) to 1800mm around City One Shatin, Sheung Wo Che, Tin Liu, Lek Yuen Estate and Ngau Pei Sha in Sha Tin district; and
- (b) construction of other minor drainage facilities.

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A site plan showing the locations of the proposed works is at Enclosure.

6. We plan to start the construction of the above proposed works in March 2005 for completion in December 2007.

## JUSTIFICATION

7. The drainage catchment of Sha Tin covers a large area including the urban areas in Tai Wai, Fo Tan, Sha Tin and Ma On Shan, and the rural areas behind. Most of the existing drains were designed and constructed decades ago to meet the flow requirements and standards at that time. Owing to continuing development and changes in land use over the years, some existing drains have become inadequate to cope with the increasing runoffs and parts of the above areas are susceptible to flooding during severe rainstorms. We have conducted a comprehensive assessment of the capacity of the existing drainage systems for the whole catchment under the Study. The Study has concluded that the drainage systems need improvement at several locations to alleviate flooding risks in the district and to meet the community's increased expectation for better flood protection.

8. Upon completion of the proposed works, the urban drainage systems in Sha Tin will be improved to withstand rainstorms with a return period<sup>1</sup> of one in 50 years.

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<sup>1</sup> "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.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the proposed works to be about \$73 million at MOD prices, made up as follows -

	<b>\$ million</b>
(a) Upgrading of existing drains	58
(b) Construction of minor drainage facilities	2
(c) Consultants' fees for	7
(i) contract administration	1
(ii) site supervision	6
(d) Environmental mitigation measures	1
(e) Contingencies	5
Total :	73 (in MOD prices)

10. We estimate that the annual recurrent expenditure arising from the proposed works to be about \$100,000.

## PUBLIC CONSULTATION

11. We consulted the Health and Environment Committee of Sha Tin District Council on 17 February 2004 for the drainage improvement works in Sha Tin. Members expressed their support to the proposed works.

## ENVIRONMENTAL IMPLICATIONS

12. The part of **109CD** which we now propose to upgrade to Category A is not a designated project under the Environmental Impact Assessment Ordinance. We have completed an Environmental Study for the proposed works which concludes that there would be no insurmountable impacts on the air quality, water, waste management, visual impacts and ecology aspects.

13. We estimate that the project will generate about 9 300 cubic metres (m<sup>3</sup>) of construction and demolition (C&D) materials. Of these, we will reuse 5 580 m<sup>3</sup> (60%) on site, deliver 2 790 m<sup>3</sup> (30%) to public filling areas<sup>2</sup> and dispose of 930 m<sup>3</sup> (10%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$116,250 for this project (based on a notional unit cost<sup>3</sup> of \$125/m<sup>3</sup>).

14. We will implement appropriate environmental mitigation measures to minimise nuisances arising from the proposed works. We have included about \$1 million (in MOD prices) in the project estimate for implementing the environmental mitigation measures.

## TRAFFIC IMPLICATIONS

15. To minimise the traffic impacts caused by construction of the proposed works, we have carefully selected the alignment of the proposed drains so as to avoid the busy areas. We have also completed the traffic impact assessment for the proposed works. The result shows that the impacts on traffic will not be significant. All existing vehicular entry and exit points, pedestrian routes and pedestrian crossing facilities will be maintained, and temporary traffic arrangements will be designed according to prevailing site constraints and up to the required standards. Existing public transport routes will not be affected by the works. Therefore, traffic impact at most locations of the works is expected to be minimal. To expedite works progress without inducing unacceptable nuisance to the public, we will employ a trenchless method<sup>4</sup> to construct drains at critical locations such as the junction between Ngan Shing Street and Siu Lek Yuen Road, the junction between Ngan Shing Street and Pak Tak Street, and at Sheung Wo Che Village across the Kowloon-Canton Railway Corporation railway.

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<sup>2</sup> A public filling area is a designated part of a development project that accepts public fill for reclamation purpose. Disposal of public fill in a public filling facility requires a licence issued by the Director of Civil Engineering and Development.

<sup>3</sup> This 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 per m<sup>3</sup>), nor the cost to provide new landfills (which are likely to be more expensive) when existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

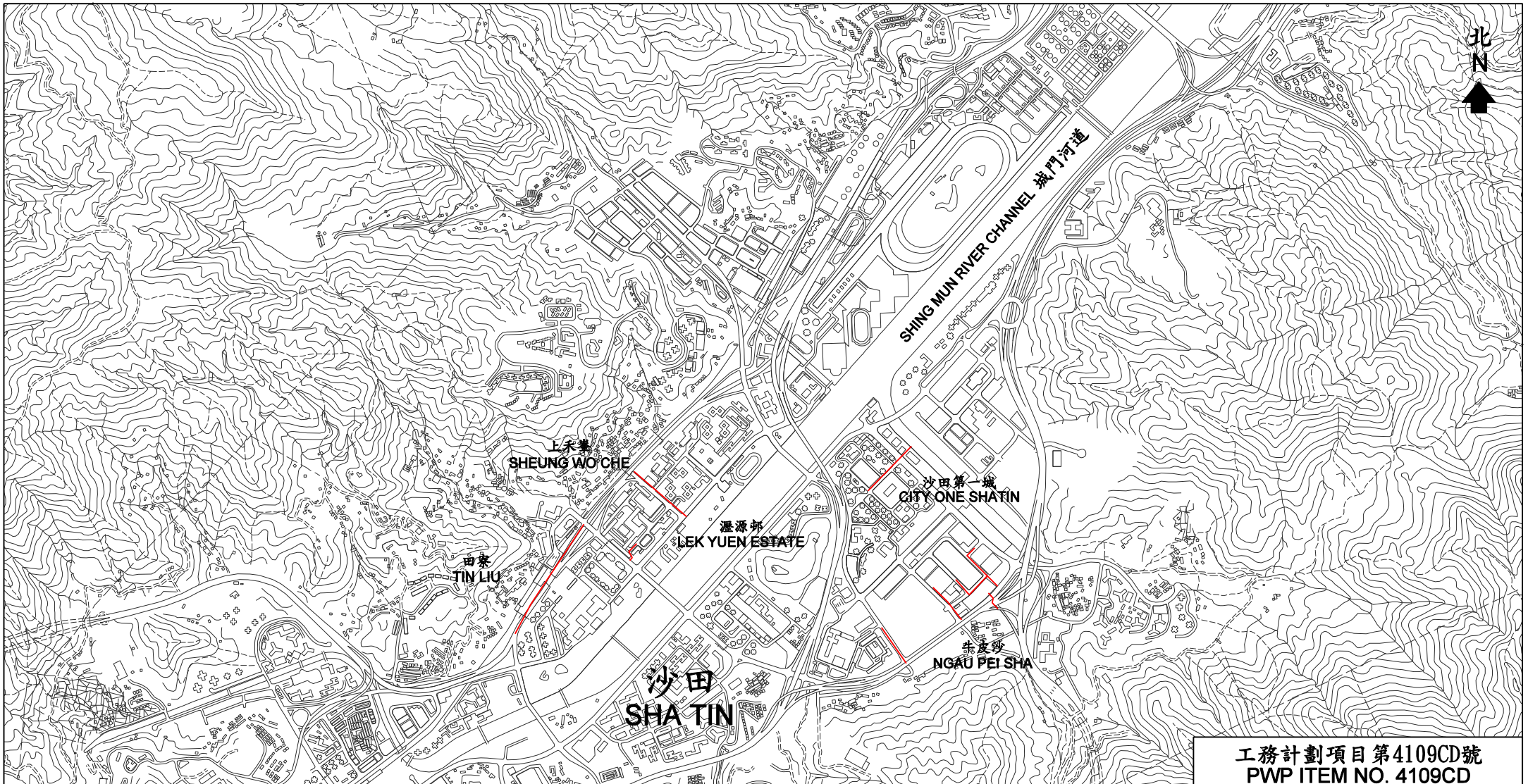
<sup>4</sup> The trenchless method refers to the use of pipe-jacking, micro-tunnelling or boring techniques to construct underground pipes without opening up the road surface along the alignment of the pipes. Although the method is more expensive than the conventional open cut method, the former method, if feasible, is preferred for carrying out works at busy road sections since it will greatly reduce the need for road opening thus minimize disruption to traffic during the construction phase. The trenchless method is also the only practical way to construct underground pipes across railway tracks.

16. During the construction period, we will establish a Traffic Management Liaison Group to discuss, scrutinize and review the proposed temporary traffic arrangements. We will maintain close contacts with the Transport Department, public transport operators, the Police and relevant government departments to keep the situation under close surveillance so as to minimise any disruption caused.

#### **WAY FOWARD**

17. We intend to submit our proposal of part-upgrading **109CD** to the Public Works Subcommittee in January 2005 with a view to seeking funding approval of the Finance Committee in February 2005.

Environment, Transport and Works Bureau  
December 2004



工務計劃項目第4109CD號  
PWP ITEM NO. 4109CD

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版 no.	日期 date	修改項目 description	簡簽 initial
繪畫 drawn		C.W. CHAN	日期 date 12-11-2004
核對 checked		C.M. CHAN	日期 date 12-11-2004
批核 approved		W.K. NG	日期 date 12-11-2004
部門 office	顧問工程管理部 CONSULTANTS MANAGEMENT DIVISION		

圖例 LEGEND:  
 擬建的雨水排放系統改善工程  
 PROPOSED DRAINAGE IMPROVEMENT WORKS

圖則名稱 drawing title

沙田雨水排放系統改善工程  
DRAINAGE IMPROVEMENT WORKS IN SHA TIN

圖則編號 drawing no. 比例 scale  
**DCM/2004/053A** N.T.S.

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附件 Enclosure