

For information

Legislative Council Panel on Planning, Lands and Works

**108CD - West Kowloon Drainage Improvement
- Lai Chi Kok Transfer Scheme**

PURPOSE

This paper briefs Members on the Administration's proposal to part-upgrade **108CD** to Category A, at an estimated cost of \$26 million in money-of-the-day (MOD) prices, for engaging consultants to carry out environmental impact assessment (EIA) study as well as investigation and detailed design for the Inter-Reservoir Transfer Scheme (IRTS).

PROJECT SCOPE

2. The scope of IRTS comprises the construction of a water tunnel, approximately 2.8 kilometres (km) in length and 3 metres (m) in diameter, from Kowloon Byewash Reservoir to Lower Shing Mun Reservoir as well as the associated intake and outfall structures at both ends of the tunnel.

3. The part of **108CD** (the proposed item) we now propose to upgrade to Category A for implementation of IRTS comprises –

- (a) Consultancy services for EIA study;
- (b) Consultancy services for investigation and detailed design; and
- (c) Site investigation.

4. We plan to start the proposed item in mid-2007 for completion in late 2009.

JUSTIFICATION

5. Most of the existing drainage systems in the developed districts of Sham Shui Po, Cheung Sha Wan and Lai Chi Kok were built more than 40 years ago. Owing to rapid developments and changes in land use over the years, some natural

ground and slopes have been paved over and become impermeable. The existing drainage systems are not able to cope with the increased surface run-off. Flooding occurs during heavy rainstorms leading to traffic disruption, damage to properties and safety risk of the public.

6. To alleviate the problem, Drainage Services Department (DSD) commissioned in October 2002 an investigation study, funded under **123CD**, of the Lai Chi Kok Transfer Scheme (LCKTS) which forms an integral part of the overall flood control strategy for West Kowloon. The function of LCKTS is to intercept the surface runoff from the hinterland at the upstream and the overflow from the Kowloon Group of Reservoirs¹ for discharge directly to Victoria Harbour through a proposed drainage tunnel.

7. During the development of LCKTS, DSD and Water Supplies Department explored the idea of optimising water conservation by constructing an additional tunnel of IRTS to transfer the overflow from the Kowloon Group of Reservoirs to Lower Shing Mun Reservoir from where the water could be conveyed through an existing transfer system to the Sha Tin Water Treatment Works for treatment. In July 2004, DSD commissioned an additional study (the Study), funded under **123CD**, to explore the feasibility of IRTS with a view to achieving both flood protection and water conservation objectives. The Study concluded that IRTS would be both feasible and cost-effective. IRTS would serve dual objectives of substantially reducing the discharge into the drainage system in Lai Chi Kok area and at the same time transforming the overflow into potable water resources.

8. The Study suggested that with the implementation of IRTS, the diameter of the main tunnel under LCKTS could be reduced from 6.4 to 4.9 m, while achieving the same general flood protection level of design return period of one in 50 years. The reduced LCKTS plus IRTS would achieve an overall cost saving of \$60 million or 5.3% in capital cost as compared to the original LCKTS. There is an extra benefit that IRTS would generate an average annual additional raw water yield of about 2.5 million cubic metres. The reduced LCKTS comprises construction of a drainage tunnel totalling 3.7 km in length and 4.9 m in diameter, a stilling basin, outfall structure with pumping facilities and 10 intake shafts. Construction of the reduced LCKTS is planned for commencement in March 2008 for completion in December 2011.

9. The latest layout plans of the reduced LCKTS and IRTS are at **Enclosures 1 and 2** respectively.

¹ Kowloon Group of Reservoirs comprise Kowloon Reservoir, Shek Lei Pui Reservoir, Kowloon Reception Reservoir and Kowloon Byewash Reservoir

FINANCIAL IMPLICATIONS

10. We estimate the cost of the proposed item to be \$26 million in MOD prices, made up as follows –

		\$ million
(a)	Consultants' fees for	12.3
	(i) Investigation, detailed design, tender document preparation and tender assessment	9.3
	(ii) EIA study	1.5
	(iii) Supervision of site investigation	1.5
(b)	Site investigation	11.3
(c)	Contingencies	2.4
	Total	26.0 (in MOD prices)

11. There will be no additional recurrent expenditure arising from the proposed item as it entails consultancy services and site investigation works only.

PUBLIC CONSULTATION

12. The proposed tunnel under IRTS falls within Sha Tin District. We consulted the Development and Housing Committee (DHC) of Sha Tin District Council in October 2005 and August 2006. At the DHC meeting held on 29 August 2006, members supported the project.

ENVIRONMENTAL IMPLICATIONS

13. IRTS is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance. An environmental permit is required for the project. We have completed an environmental review which indicated no insurmountable environmental impacts arising from the proposed IRTS works. We will prepare an EIA Report to meet the requirements under the EIA Ordinance. We

will incorporate all the measures recommended in the EIA Study report into the detailed design and relevant works contracts for IRTS. We will also apply for an environmental permit before any relevant works commence.

14. The proposed item will not generate any construction and demolition (C&D) materials. We will develop comprehensive C&D materials management plan. We will require the consultant to fully consider measures to minimise the generation of C&D materials and to reuse/recycle C&D materials as much as possible in the future implementation of the IRTS works.

15. We will control noise, dust and site run-off during construction through the implementation of mitigation measures in the site investigation and assessment works for IRTS.

LAND ACQUISITION

16. The proposed item does not require any land acquisition.

BACKGROUND

17. We included **108CD** “West Kowloon drainage improvement – Lai Chi Kok Transfer Scheme” in Category B in September 2000. In March 2002, we upgraded part of **108CD** to Category A as **123CD** “Lai Chi Kok Transfer Scheme – preliminary design and investigations” at an estimated cost of \$33.3 million in MOD prices for carrying out the site investigation and preliminary design. The investigation and preliminary design of LCKTS has been substantially completed and the detailed design, funded under 4100DX, is in progress. The new water tunnel under IRTS developed during the investigation stage of LCKTS serves dual objectives, i.e. flooding alleviation and water conservation, will be implemented separately.

18. We submitted an information paper **CB(1)2006/04-05(01)** on the reduced LCKTS plus IRTS and two other drainage tunnels to the Legislative Council Panel on Planning, Lands and Works on 6 July 2005 to summarise the initial findings and conclusions of the investigation studies and brief members on the way forward. Members did not raise any objections to the implementation of the reduced LCKTS and IRTS.

19. We estimate that the proposed consultancy and site investigation will create about 20 jobs (8 for labourers and 12 for professional/technical staff) providing a total employment of 360 man-months.

WAY FORWARD

20. Members are invited to support our proposal for part-upgrading of **108CD** to Category A for consideration by the Public Works Subcommittee and for funding approval by the Finance Committee in early 2007.

Environment, Transport and Works Bureau
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