

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 703 – BUILDINGS

#### Environmental Hygiene – Burial grounds, columbaria and crematoria 12NB – Public mortuary in Area 26E, Kwai Chung

Members are invited to recommend to Finance Committee the upgrading of **12NB** to Category A at an estimated cost of \$140.2 million in money-of-the-day prices for the construction of a public mortuary in Area 26E, Kwai Chung.

### PROBLEM

The storage capacity of the existing public mortuaries is insufficient to meet growing demand.

### PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Health and Welfare, proposes to upgrade **12NB** to Category A at an estimated cost of \$140.2 million in money-of-the-day (MOD) prices for the construction of a public mortuary in Area 26E, Kwai Chung.

### PROJECT SCOPE AND NATURE

3. The scope of **12NB** comprises the construction of a two-storey building to provide –

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- (a) four cold chambers and one deep freezer of 569 square metres in construction floor area (CFA) with a total storage capacity of 220 bodies distributed as follows –
  - (i) two main cold chambers for the storage of 180 bodies;
  - (ii) one cold chamber for storage of 20 decomposed bodies;
  - (iii) one cold chamber for storage of ten bodies with high risk of infectious diseases; and
  - (iv) one deep freezer for the storage of ten bodies which require long-term storage;
- (b) four autopsy suites of 910 square metres in CFA comprising –
  - (i) one main autopsy suite with eight autopsy workstations for routine coroner's cases;
  - (ii) one decomposed body autopsy suite with four autopsy workstations for decomposed bodies;
  - (iii) one homicide autopsy suite with two autopsy workstations for homicidal and suspicious deaths; and
  - (iv) one special autopsy suite with two autopsy workstations for bodies with high risk of infectious diseases;
- (c) a demonstration-cum-education room of 59 square metres in CFA; and
- (d) ancillary areas of 3 257 square metres in CFA comprising offices, a laboratory, a waiting area, an interview room, a body receipt and despatch area, three autopsy viewing rooms and two identification viewing rooms.

Apart from the above, the project scope also includes the provision of open carparking spaces for staff and visitors and the implementation of slope protection works.

4. A site plan is at Enclosure 1. We plan to start the construction works in July 2002 for completion in June 2005.

## JUSTIFICATION

5. There are three public mortuaries in the territory, namely, Victoria Public Mortuary in Kennedy Town (Hong Kong Island), Kowloon Public Mortuary in Hung Hom (Kowloon), and Fu Shan Public Mortuary in Sha Tin (New Territories (NT) East). Their capacity has already reached saturation. The first two mortuaries were set up in the 1970's and the last one in 1989. In 1998, additional chambers had to be installed as a stop gap measure to meet the growing demand for storage capacity, bringing the storage capacity of the three public mortuaries to 60, 72 and 168 respectively. However, their average occupancy rate is well above 80%. After long holidays and during winters, the occupancy rates are often higher.

6. According to the statistics and projections of the Census and Statistics Department and Planning Department, the population of Hong Kong has increased from 5.6 million in 1991 to 6.7 million in 2001 and is projected to increase further to 7.5 million by 2010 (i.e. a projected increase of 12% from 2001). There will be a corresponding increase in the number of deaths and hence the need for more cold chamber storage spaces for dead bodies.

7. Since the majority of the future population increase is projected to be in NT, and taking into account the existing distribution of public mortuaries, a new mortuary should be set up in NT West. At present, all NT cases are brought to the Fu Shan Public Mortuary, the capacity of which is already inadequate to handle the present workload. The proposed public mortuary in Kwai Chung will serve the catchment areas in NT West and Lantau.

8. The construction of the fourth public mortuary is also needed in order to provide storage capacity to cater for emergency need in case of major incidents, such as plane crashes, natural disasters and fires. Out of the storage capacity of 180 as mentioned in paragraph 3 (a) (i) above, 80 is planned for these major incidents.

9. The mortuary will also serve the training functions for law enforcement officers, especially the Police, in criminal investigations. Teaching materials will be collected at the demonstration-cum-education room inside the mortuary and used for demonstrations to officers under training.

**FINANCIAL IMPLICATIONS**

10. We estimate the capital cost of the project to be \$140.2 million in MOD prices (see paragraph 11 below), made up as follows –

	<b>\$ million</b>	
(a) Site formation	29.9	
(b) Piling	5.5	
(c) Building	34.0	
(d) Building services (BS)	28.1	
(e) Drainage and external works	7.7	
(f) Furniture and equipment <sup>1</sup>	25.0	
(g) Consultants' fees for –	1.8	
(i) Quantity surveying	1.2	
(ii) Structural engineering drafting	0.2	
(iii) Advisory services on electrical, mechanical, electronic and BS installations	0.4	
(h) Contingencies	10.5	
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Sub-total	142.5	(in September 2001 prices)
(i) Provision for price adjustment	(2.3)	
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Total	140.2	(in MOD prices)
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<sup>1</sup> Based on the operational requirements of the public mortuary with reference to the schedule of accommodation.

A breakdown of the estimate for the consultants' fees by man-months is at Enclosure 2. The construction floor area (CFA) of **12NB** is about 4 795 square metres. The estimated construction unit cost, represented by building and building services costs, is \$12,951 per square metre of CFA in September 2001 prices. D Arch S considers the construction unit cost comparable to that for other similar projects built by the Government.

11. Subject to approval we will phase the expenditure as follows –

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 – 03	2.0	0.98625	2.0
2003 – 04	10.0	0.98378	9.8
2004 – 05	30.0	0.98378	29.5
2005 – 06	50.0	0.98378	49.2
2006 – 07	40.0	0.98378	39.4
2007 – 08	10.5	0.98378	10.3
	142.5		140.2

12. We derived the MOD estimates on the basis of Government's latest forecast of trend labour and construction prices for the period 2002 to 2008. We will deliver the works through a lump-sum contract with provision for price fluctuation as the contract period will exceed 21 months.

13. We estimate the additional annual recurrent expenditure for the project to be \$10 million.

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## **PUBLIC CONSULTATION**

14. We consulted the former Kwai Tsing Provisional District Board and the former Provisional Regional Council on the project on 20 October 1998 and 11 January 1999 respectively. Members of the District Board and the Council had no objection to the project. The Town Planning Board has approved the planning application in January 2002. We consulted the Planning and Environmental Protection Committee of Kwai Tsing District Council by circulation from 26 March to 11 April 2002. Members of the Committee had no objection to the project. We also consulted the Legislative Council Panel on Health Services on 13 May 2002. Members supported the proposal.

## **ENVIRONMENTAL IMPLICATIONS**

15. We completed a Preliminary Environmental Review (PER) for the project in February 1998. The PER concluded that the project would have no long term environmental impact. The Director of Environmental Protection vetted the PER and agreed that an Environmental Impact Assessment would not be necessary. During operation of the mortuary, we will provide air-conditioning system as recommended in the Hong Kong Planning Standards and Guidelines to alleviate traffic noise impact and will take steps to dispose clinical and chemical wastes in an appropriate manner as recommended in the PER.

16. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

17. At the planning and design stages, we have considered measures to reduce the generation of construction and demolition (C&D) materials. D Arch S has introduced more prefabricated building elements into the project design to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures. D Arch S will use suitable excavated materials for filling within the site to minimise off-site disposal. In addition, D Arch S will require the contractor to use metal site hoardings and signboards so that these materials can be recycled or reused in other projects.

18. D Arch S will 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. D Arch S will ensure that the day-to-day operations on site comply with the approved WMP. D Arch S will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. The contractor will be required 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. We estimate that the project will generate about 10 600 cubic metres (m<sup>3</sup>) of C&D materials. Of these, we will reuse about 800 m<sup>3</sup> (7.6%) on site, 8 800 m<sup>3</sup> (83%) as fill in public filling areas<sup>2</sup> and dispose of 1 000 m<sup>3</sup> (9.4%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$125,000 for this project (based on a notional unit cost<sup>3</sup> of \$125/ m<sup>3</sup>).

## LAND ACQUISITION

19. The project does not require land acquisition.

## BACKGROUND INFORMATION

20. We upgraded **12NB** to Category B in September 2000. We engaged consultants to carry out a PER, a traffic impact assessment (TIA) and topographical surveys and employed a term contractor to carry out site investigations in December 1997, and further engaged a consultant to prepare tender documents in May 2002 at a total cost of \$1.9 million. We charged this amount to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The consultants have completed the PER, TIA and topographical surveys and the term contractor has completed the site investigations. D Arch S has completed the detailed design of the project with in-house staff resources. The consultant is preparing tender documents.

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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 purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

<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 the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

21. We estimate that the proposed works will create some 105 jobs with a total of 1 890 man-months comprising three professional staff, seven technical staff and 95 labourers.

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Health and Welfare Bureau  
May 2002

## 12NB – Public mortuary in Area 26E, Kwai Chung

## Breakdown of the estimate for consultants' fees

Consultants' staff cost		Estimated man-months	Average MPS* salary point	Multiplier	Estimated fee (\$ million)	
(a)	Quantity surveying	Professional	5.5	38	2.4	0.8
		Technical	8.5	14	2.4	0.4
					Sub-total	1.2
(b)	Structural engineering drafting	Technical	4.3	14	2.4	0.2
(c)	Advisory services on electrical, mechanical, electronic and BS installations	Professional	0.7	38	2.4	0.1
		Technical	6.4	14	2.4	0.3
					Sub-total	0.4
					Total	1.8

\* MPS = Master Pay Scale

## Notes

- (1) A multiplier of 2.4 is applied to the average MPS point to estimate the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. (At 1 April 2001, MPS point 38 is \$60,395 per month and MPS point 14 is \$19,510 per month.)
- (2) The figures given above are based on estimates prepared by D Arch S. We will only know the actual man-months and actual fees when we have selected the consultants through the usual competitive bidding system.