

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

**HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT**  
**Kowloon Development**  
**Civil Engineering - Land development**  
**332CL - West Kowloon Reclamation - main works (remainder)**

Members are invited to recommend to Finance  
Committee -

- (a) the upgrading of part of **332CL**, entitled “West Kowloon Reclamation - remaining roadworks, stage 3, phase 1”, to Category A at an estimated cost of \$223.4 million in money-of-the-day (MOD) prices; and
- (b) the retention of the remainder of **332CL** in Category B.

### **PROBLEM**

We need to construct Road G and Road L at Lai Wan Interchange (LWI) to cope with the additional traffic generated by the opening of a future section of Route 9 between Tsing Yi and Sha Tin in 2007. We also need to construct two footbridges to serve the developments along Sham Mong Road in West Kowloon Reclamation (WKR).

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## PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning and Lands, proposes to upgrade part of **332CL** to Category A at an estimated cost of \$223.4 million in MOD prices for the construction of roads, vehicular bridges and footbridges with associated drainage and landscaping works in WKR.

## PROJECT SCOPE AND NATURE

3. The scope of **332CL** comprises the construction of roads, drains, footbridges and roadside landscaping works in WKR set out in the site plan at Enclosure 1.

4. The part of the project we now propose to upgrade to Category A comprises -

- (a) construction of a 400 metre (m)-long one-way single-lane Road G linking West Kowloon Highway southbound with Lai Po Road northbound (section north of LWI);
- (b) construction of two vehicular bridges associated with Road G;
- (c) construction of a 450m-long one-way two-lane Road L linking Lai Po Road northbound (section south of LWI) with Lin Cheung Road southbound underneath LWI;
- (d) construction of two footbridges namely WK 29/1 and WK 29/2 along Sham Mong Road and associated works;
- (e) drainage and landscaping works associated with roads, vehicular bridges and footbridges mentioned in items (a) to (d) above; and

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- (f) environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (e) above.

Details of the proposed works are shown at Enclosures 2 to 4.

## JUSTIFICATION

### Construction of Road G and Road L

5. Route 9 is a strategic highway linking Tsing Yi with Sha Tin via Cheung Sha Wan. The Director of Highways plans to start the construction of the section of Route 9 between Cheung Sha Wan and Sha Tin in end 2003 for completion in mid 2007. A slip road from Route 9, bringing traffic southbound from Sha Tin, will converge with the LWI at a junction hatched blue and identified as "Road Section A" in Enclosure 2. The additional traffic brought about by the Route 9 slip road will seriously hamper traffic movement on the LWI. To reduce the traffic pressure generated by the Route 9 slip road on the LWI, we now propose to build a new Road L to divert the traffic from Lai Po Road northbound towards Lin Cheung Road southbound from Road Section A. A comparison of the projected volume/capacity (v/c) ratios<sup>1</sup> during the peak hours at LWI with or without the proposed Road L in 2007 and 2011 is as follows -

	Year	
	2007	2011
Without proposed Road L	1.4	1.4
With proposed Road L	0.9	1.0

/Traffic .....

<sup>1</sup> A volume/capacity (v/c) ratio equals to or less than 1.0 means that the road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A v/c ratio above 1.0 indicates the onset of congestion; above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further increases in traffic.

Traffic on the proposed Road L would clash with the southbound traffic on the slip road from West Kowloon Highway at the stretch hatched green and identified as "Road Section B" in Enclosure 2. Accordingly, we propose to build a new Road G along with two associated vehicular bridges to channel the traffic on the slip road from West Kowloon Highway towards Cheung Sha Wan. We will commence the construction of Road G and Road L in June 2002 for completion in early 2004.

### **Construction of Two Footbridges**

6. Construction of the proposed Footbridge No. WK29/1 at the junction of Sham Mong Road/Sham Shing Road is necessary to cope with the planned developments in the vicinity of the junction. A public housing development at the south of Sham Mong Road will accommodate a total population of 15 760 persons by 2004. On the north side of the road, some private residential developments, a technical institute and a new primary school will be in place in August 2002.

7. Construction of the proposed Footbridge No. WK29/2 at the junction of Sham Mong Road/Hoi Fai Road is necessary to cope with the planned developments in the vicinity of the junction. A Police Married Quarters and a proposed private development at the MTRCL Olympic Station Site are planned for completion in 2002 and 2006 respectively.

8. We estimate that the amount of traffic using Sham Mong Road will increase upon completion of the above developments. As compared with the current arrangement for pedestrians to use at-grade crossings along Sham Mong Road, the use of the proposed footbridges will be much safer and more comfortable. When the footbridges are open to the public, the existing at-grade pedestrian crossings will be removed.

9. As regards the landscaping works, we will provide about 18 000 square metres of amenity area along the proposed roads. We will transplant all 13 existing trees affected by the project and plant about 300 new trees using native species in roadside planting as far as possible. We will protect formed slope by hydroseeding and plant trees on the slopes as appropriate.

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10. To provide a complementary road network and the necessary footbridges for the surrounding developments, we plan to commence the construction of these two footbridges in June 2002 for completion in December 2004 to tie in with the completion of the public housing development along Sham Mong Road.

### FINANCIAL IMPLICATIONS

11. We estimate the capital cost of the project to be \$223.4 million in MOD prices (see paragraph 12 below), made up as follows –

	<b>\$million</b>	
(a) Roadworks	21.7	
(b) Vehicular bridges	43.5	
(c) Footbridges (two) and associated works	108.0	
(d) Landscaping works	5.0	
(e) EM&A programme	2.7	
(f) Consultants' fees for	20.9	
(i) construction stage	2.8	
(ii) resident site staff costs	18.1	
(g) Contingencies	20.2	
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Sub-total	222.0	(in September 2001 prices)
(h) Provision for price adjustment	1.4	
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Total	223.4	(in MOD prices)
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Due to insufficient in-house resources, DTD proposes to engage consultants to supervise the proposed works. A breakdown by man-months of the estimate for consultants' fees is at Enclosure 5.

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 – 2003	40.0	0.99700	39.9
2003 – 2004	97.0	1.00398	97.4
2004 – 2005	70.0	1.01101	70.8
2005 – 2006	15.0	1.01808	15.3
	222.0		223.4

13. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 2002 to 2006. We will tender the proposed works under a standard remeasurement contract because the quantity of the works involved may vary depending on the actual ground conditions. The contract will provide for price adjustments as the contract period will exceed 21 months.

14. We estimate the annual recurrent expenditure arising from the project to be \$2.2 million.

## **PUBLIC CONSULTATION**

15. We consulted the Traffic Committee of the Sham Shui Po District Council and the Traffic and Transport Committee of the Yau Tsim Mong District Council on 22 March 2001 on the proposed works. Both Committees supported the proposed works.

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16. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance on 15 June 2001 and received no objections. The Secretary for Transport authorised the proposed works on 14 September 2001.

17. We circulated an information paper on this project to the LegCo Panel on Planning, Lands and Works in November 2001.

### **ENVIRONMENTAL IMPLICATIONS**

18. The two proposed footbridges along Sham Mong Road are not designated projects under the Environmental Impact Assessment (EIA) Ordinance. The proposed Road G and Road L are designated projects under Schedule 2 of the EIA Ordinance and an environmental permit is required for their construction and operation. In January 2001, the EIA report for the project was approved under the EIA Ordinance. The EIA report concluded that the environmental impact of the project could be controlled to within the criteria under the Ordinance and the relevant Technical Memorandum. We will implement the measures recommended in the approved EIA report. The key measures include the control of noise, dust, water quality and site run-off to within established standards and guidelines through the implementation of pollution control measures in the works contract during the construction stage. In addition, we will carry out the environmental monitoring and auditing (EM&A) programme during the construction stage and employ independent environment checkers to audit the overall EM&A programme. We will implement an operational noise monitoring programme, as recommended in the EIA, to verify the forecast of operational noise levels. We have included in the project estimate a sum of \$2.7 million for implementing the EM&A programme. The EIA Report indicates that the environmental impacts on nearby sensitive receivers from Road G and Road L will be within established standards.

19. We have considered ways of minimising the generation of construction and demolition (C&D) materials in the design of the level and layout of the roadworks. We estimate that about 1 000 cubic metres (m<sup>3</sup>) of C&D materials will be generated by the project. Of these, about 800 m<sup>3</sup> (80%) will be reused on site and 200 m<sup>3</sup> (20%) disposed of at landfills. The notional cost of

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accommodating C&D waste at landfill site is estimated to be \$25,000 for this project (based on a notional unit cost<sup>2</sup> of \$125/m<sup>3</sup>). We will require the contractor to reuse the excavated materials on site or on other construction sites as filling materials as far as possible to minimise the disposal of public fill.

20. We will require the contractor to submit a waste management plan for approval. The waste management plan will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials, including the allocation of an area for waste segregation. We will require the contractor to ensure that the day-to-day operations on site comply with the waste management plan. To further minimise the generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable materials for temporary works. We shall control the disposal of C&D waste to designated landfills through a trip-ticket system. We will record the disposal, reuse, and recycling of C&D materials for monitoring purposes.

## LAND ACQUISITION

21. The proposed works do not require land acquisition.

## BACKGROUND INFORMATION

22. We upgraded **332CL** to Category B in November 1989.

23. In June 1990, the Finance Committee approved the upgrading of **354CL** “West Kowloon Reclamation - consultants' fees and site investigation” to Category A at an estimated cost of \$250 million for consultants' fees and site investigation of West Kowloon Reclamation. Since June 1990, we have already upgraded 14 separate parts of the project to Category A to provide a total of 340 hectares of land along the West Kowloon waterfront for the WKR development and associated supporting infrastructure.

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<sup>2</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/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.



24. To expedite the project programme, we have completed the detailed design and drawings for the proposed construction works, and will finalise tender documents in January 2002. Subject to funding approval of the Finance Committee, we will start the tendering procedures in February 2002 for completion in May 2002. We plan to start the construction works in June 2002 for completion in December 2004.

25. The remainder of **332CL** covers mainly three footbridges along Sham Mong Road and local distributor roads in WKR. We will implement the remainder of **332CL** in end 2003 for completion in stages by early 2007.

26. We estimate that the project will create some 155 new jobs comprising 30 professional/technical staff and 125 labourers, totalling 4 465 man-months.

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Planning and Lands Bureau  
November 2001

**Enclosure 5 to PWSC(2001-02)83**

**332CL - West Kowloon Reclamation - main works (remainder)**

**Breakdown of the estimate for consultants' fees**

<b>Consultants' staff costs</b>		<b>Estimated man- months</b>	<b>Average MPS* salary point</b>	<b>Multiplier</b>	<b>Estimated fees (\$ million)</b>
(a) Constants' fees for construction stage					
(i) contract administration	Professional	10.0	38	2.4	1.4
	Technical	15.0	14	2.4	0.7
(ii) preparation of as-built drawings	Professional	3.2	38	2.4	0.5
	Technical	4.8	14	2.4	0.2
(b) Resident site staff costs	Professional	60.0	38	1.7	6.2
	Technical	360.0	14	1.7	11.9
<b>Total consultants' staff costs</b>					20.9

\* 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. A multiplier of 1.7 is applied in the case of resident site staff supplied by the consultants. (At 1.4.2001, MPS pt. 38 = \$60,395 per month and MPS pt. 14 = \$19,510 per month).
2. The figures given above are based on estimates prepared by the Director of Territory Development. The consultancy works for this project have been included as part of the consultancy agreement for the West Kowloon Reclamation.