

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 702 – PORT AND AIRPORT DEVELOPMENT

#### Territory Development

#### Civil Engineering – Land development

#### 321CL – Reclamation and servicing of Tuen Mun Area 38 for special industries

Members are invited to recommend to Finance  
Committee –

- (a) the upgrading of part of **321CL**, entitled “Stage 2 reclamation at Tuen Mun Area 38”, to Category A at an estimated cost of \$286.6 million in money-of-the-day prices; and
- (b) the retention of the remainder of **321CL** in Category B.

### PROBLEM

We need to provide a public filling outlet for the disposal of inert construction and demolition (C&D) material<sup>1</sup> (also referred to as public fill) in the North West New Territories (NWNT).

### /PROPOSAL .....

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<sup>1</sup> C&D material is a mixture of inert and non-inert material generated from the construction industry. The inert portion, referred to as public fill, comprises earth, broken rock, concrete and building debris (e.g. bricks and plaster) which does not decompose or cause offensive odours. Using public fill for reclamation not only helps conserve natural resources, but also conserves valuable landfill space designed for disposing the municipal solid waste.

## PROPOSAL

2. The Director of Territory Development, with the support of the Secretary for Planning and Lands and the Secretary for Environment and Food, proposes to upgrade part of **321CL** to Category A at an estimated cost of \$286.6 million in money-of-the-day (MOD) prices to carry out the stage 2 reclamation at Tuen Mun Area 38.

## PROJECT SCOPE AND NATURE

3. The reclamation at Tuen Mun Area 38 consists of two stages. The part of works under **321CL** we now propose to upgrade to Category A is the second stage of the reclamation at Tuen Mun Area 38. This comprises –

- (a) reclamation of about 33 hectares of seabed;
- (b) construction of a 550-metre vertical seawall;
- (c) environmental mitigation measures; and
- (d) environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (c) above.

4. The remainder of **321CL** consists of the provision of infrastructure to serve the reclamation area, which includes –

- (a) construction of internal roads, drains and sewers;
- (b) roadside landscaping works; and
- (c) construction of a common user pier for cargo handling.

A site plan is at the Enclosure.

**/JUSTIFICATION .....**

## JUSTIFICATION

5. Tuen Mun Area 38, amounting to 61 hectares, was zoned for special industries<sup>2</sup> use in 1994. The stage 1 reclamation works providing 28 hectares of land was completed in January 2000. From a landuse planning perspective, the remaining area in Tuen Mun Area 38 will have to be reclaimed at some stage.

6. Despite the economic downturn, the construction industry produced 13% more C&D material in 1999 than it did in 1998. In 1999, 5.9 million cubic metres (Mm<sup>3</sup>) of public fill and 1.6 Mm<sup>3</sup> of C&D waste were disposed at public filling areas and landfills respectively. It is the Administration's policy<sup>3</sup> to maximise the reuse of public fill in land formation and reclamation so as to minimise its disposal at the landfills. At present, there are three public filling areas operating in the territory, located at Tung Chung Development phase 3A, Tseung Kwan O Area 137 and Pak Shek Kok in Sha Tin. Because of the uncertainty with the implementation of currently planned reclamation projects, we forecast an acute shortfall of public filling capacity by mid-2001 with regard to the territory's total demand<sup>4</sup>.

7. We expect that a large quantity of public fill will be generated from NWNT in the coming years in view of the West Rail project currently under construction and new developments and redevelopments in NWNT. To meet territory wide demand and the NWNT demand in particular, we now propose to advance the stage 2 reclamation in Tuen Mun Area 38 to provide a public filling area with a capacity of about 3.7 Mm<sup>3</sup>. We plan to start the proposed reclamation in October 2000 for completion in January 2005.

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<sup>2</sup> "Special industries" are defined as industries that may require intensive capital investment, extensive land for operation, special attention to environmental effects, heavy consumption of water, direct access to port facilities and preferably deep water on account of the bulk and/or unpredictable nature of raw materials handled, and bulk storage or warehousing facilities on site including in some cases, goods requiring extra care or treatment in handling. Typical examples are chemicals and paper processing, bulk cement storage and distribution, etc.

<sup>3</sup> In 1996, the Director of Audit conducted an audit investigation on the disposal of C&D material. The Director of Audit recommended that expeditious action should be taken so that the availability of public filling outlets can be maintained. In 1997, the Public Accounts Committee of the Legislative Council discussed and supported this recommendation.

<sup>4</sup> The available public filling capacity for any one year depends on the programme of reclamation projects upgraded to Category A of the Public Works Programme. We estimate that the amount of C&D material to be produced in 2001 will be about 6.1 Mm<sup>3</sup>. This includes about 5 Mm<sup>3</sup> (i.e. 82%) of public fill suitable for reuse in reclamation against an available public filling capacity of only 3 Mm<sup>3</sup>.

8. If the Tuen Mun Area 38 reclamation does not proceed as proposed, all 3.7 Mm<sup>3</sup> of public fill will need to be disposed of at landfills. This would reduce the life of the landfills by about 7 months. If the proposed reclamation can proceed as we now propose, the time available for public filling at this outlet will be about 30 months. Advancing the reclamation can also allow more time for the formed site to consolidate, thereby reducing the residual settlement encountered in future. Moreover, it will be more cost effective to reclaim land by public fill than other methods such as the use of marine sand.

9. In the long run, the proposed reclamation in Tuen Mun Area 38 will also enable the Government to respond quickly to private sector's initiative for special industrial use, which usually requires large sites and the provision of infrastructural support within a short period of time.

## FINANCIAL IMPLICATIONS

10. We estimate the capital cost of the project to be \$286.6 million in MOD prices (see paragraph 11 below), made up as follows -

	<b>\$ million</b>	
(a) Reclamation	164.0	
(b) Seawall	57.0	
(c) Environmental mitigation measures	8.5	
(d) EM&A programme	1.5	
(e) Contingencies	23.0	
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Sub-total	254.0	(in December 1999 prices)
(f) Provision for price adjustment	32.6	
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Total	286.6	(in MOD prices)
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The Director of Civil Engineering (DCE) will supervise the project using in-house staff resources.

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

Year	\$ million (Dec 1999)	Price adjustment factor	\$ million (MOD)
2000 – 2001	12.0	1.00000	12.0
2001 – 2002	68.0	1.04500	71.1
2002 – 2003	73.0	1.10770	80.9
2003 – 2004	55.0	1.17416	64.6
2004 – 2005	37.0	1.24461	46.1
2005 – 2006	9.0	1.31929	11.9
	254.0		286.6

12. We have derived the MOD estimate on the basis of the Government's latest forecasts of trend labour and construction prices for the period from 2000 to 2006. We will tender the proposed works under a standard remeasurement contract because the quantities of dredging and filling may vary according to the actual ground conditions. The contract will provide for price adjustments because the contract period will exceed 21 months.

13. The proposed works have no additional recurrent financial implications.

## **PUBLIC CONSULTATION**

14. We gazetted the reclamation works for the whole of Tuen Mun Area 38 under the Foreshore and Sea-bed (Reclamations) Ordinance on 19 February 1993. We received three objections. After addressing their concerns, two objectors withdrew their objections. One objector did not withdraw his objection. The then Governor-in-Council overruled this objection and authorised the reclamation on 10 June 1994.

15. We completed an Environmental Impact Assessment (EIA) of the whole reclamation in December 1994 and presented the EIA report to the Environmental Improvement and District Development Committee of the then Tuen Mun District Board on 12 January 1995. The Committee raised no objection.

16. We consulted the Environmental Improvement and District Development Committee of the then Tuen Mun District Board and the Environment, Hygiene and District Development Committee of the Tuen Mun District Council regarding the Tuen Mun Area 38 stage 2 reclamation on 6 September 1996 and on 24 March 2000 respectively. The Committees raised no objection to the proposed works.

17. The Waste Reduction Committee's Task Force for the Construction Industries was also consulted on 26 January 2000. Members were supportive of the proposal to advance the stage 2 reclamation to provide an outlet for public fill.

18. We briefed the Legislative Council Panels on Planning, Lands and Works, and Environmental Affairs on 13 January 2000 and 2 March 2000 respectively, on the proposal to advance the Tuen Mun Area 38 stage 2 reclamation to provide a public filling outlet. Members raised no objection to the proposal.

## **ENVIRONMENTAL IMPLICATIONS**

19. The project is an exempted designated project under the Environmental Impact Assessment (EIA) Ordinance. We completed an EIA study in December 1994 which concluded that the proposed reclamation works would have no adverse long-term impact on the environment. The Advisory Council on the Environment endorsed the EIA report on 20 February 1995 which was subsequently lodged on the EIA Ordinance Register. We will adopt a reclamation design that will cause minimal disturbance to the seabed to reduce water quality impacts.

20. The EIA report recommended the following environmental mitigation measures during the reclamation works –

- (a) implementing appropriate working methods and pollution avoidance measures for dredging, filling, transporting and dumping of materials to minimise adverse impacts on water quality;

/(b) .....

- (b) adopting good on-site noise management including the use of quieter constructional plant and noise barriers, and appropriate siting of construction activities to minimise noise impacts on the surrounding environment; and
- (c) installation of wheel washing facilities, water spraying of stockpiled earth, site roads, etc., proper covering of vehicles carrying dusty materials, minimization of the amount of soil exposed, revegetation/compaction of completed earthwork surfaces, imposition of speed limits and designated routes for vehicles traversing on site to minimise adverse impacts on air quality.

21. We will incorporate the environmental mitigation measures and monitoring requirements recommended in the EIA report into the works contract to keep the short term environmental impacts during construction stage within established standards and guidelines. We have included the costs of these measures (\$8.5 million) and an EM&A programme (\$1.5 million) in the overall project estimate.

22. In the planning and design stage of the project, we considered ways to minimise the generation of C&D material and maximise the use of public fill. We estimate that some 3.7 Mm<sup>3</sup> of public fill will be used in the reclamation and some 4 000m<sup>3</sup> of C&D waste will be generated for disposal at landfills. We will require the contractor to prepare a waste management plan. This will set out waste avoidance and reduction measures, including waste segregation on site. We will ensure that the day-to-day operations on site comply with the waste management plan. We will 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 material for monitoring purposes.

## LAND ACQUISITION

23. The proposed works do not require any land acquisition.

## BACKGROUND INFORMATION

24. In November 1990, we upgraded **321CL** to Category B. Finance Committee has already approved the upgrading to Category A of most of the works under **321CL**. These are detailed below –

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Upgrade to Cat. A	Project Title (Approved project estimate)	Start date	Completion date
Jun 1995	<b>500CL</b> - "Reclamation and servicing of Tuen Mun Area 38 for special industries – stage I reclamation and associated infrastructure" (\$486.94 million)	Sep 1995	Jan 2000
Jul 1995	<b>502CL</b> - "Reclamation and servicing of Tuen Mun Area 38 special industries – sewerage and drainage works" (\$299.5 million)	Apr 1996	Feb 1999
Apr 1996	<b>600TH</b> - "Improvement to Lung Mun Road fronting Tuen Mun Area 38 and associated sewerage and drainage works" (\$221.7 million)	Oct 1996	Apr 2000
Jul 1996	<b>291DS</b> - "Upgrading of Pillar Point sewage treatment plant" (\$106.6 million)	Oct 1996	Sep 1998
Feb 1998	<b>601TH</b> - "Foothills Bypass and improvement works along Wong Chu Road in Tuen Mun" (\$2,061.7 million)	Sep 1998	Aug 2001

25. On 8 January 1997, we submitted paper PWSC(96-97)87 to the Public Works Subcommittee proposing the upgrading of a further part of **321CL** to Category A for carrying out the Tuen Mun Area 38 stage 2 reclamation and associated infrastructure. At the meeting, some Members queried the demand for special industries. We withdrew the paper in order to carry out a review of this demand.

26. Subsequently, the Hong Kong Industrial Estates Corporation (HKIEC) engaged consultants to study the feasibility of locating the Fourth Industrial Estate in Tuen Mun Area 38. The study was completed in 1998 and recommended to complete the stage 2 reclamation of Tuen Mun Area 38 for the development of the Fourth Industrial Estate.

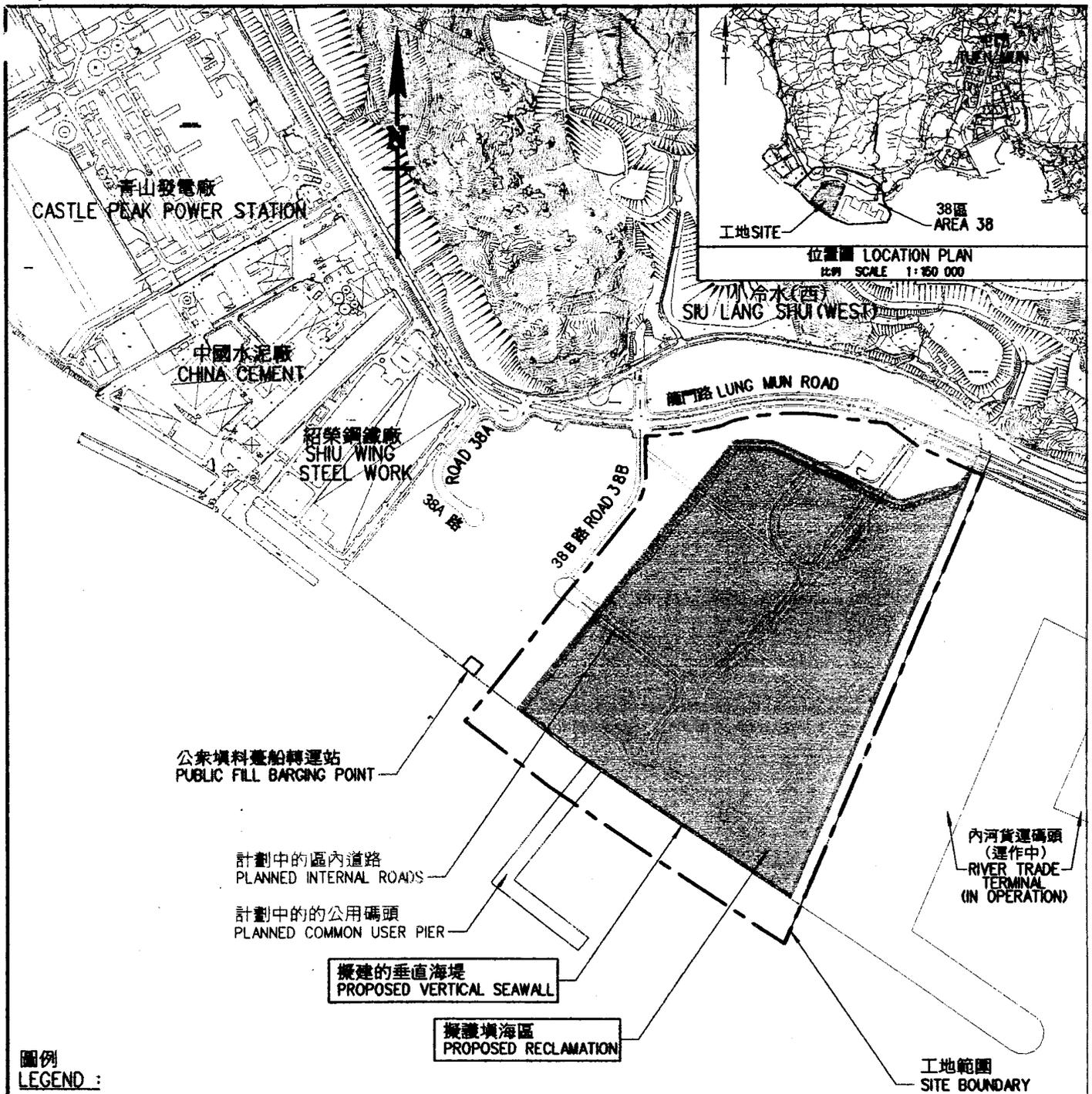
27. In the light of a Review of the role and operation of the Hong Kong Industrial Estates Corporation recently completed by the HKIEC, the Administration and the HKIEC are giving further thought to locating the Fourth Industrial Estate in Tuen Mun Area 38. Pending the availability of a final decision, the site would remain a Special Industries Area.

28. The Director of Civil Engineering has substantially completed the detailed design and drawings for the Tuen Mun Area 38 stage 2 reclamation using in-house resources. We plan to start the works in October 2000 for completion in January 2005. Following completion of the seawall enclosing the public filling area, we will commence the disposal of public fill between July 2001 and early 2004. We plan to carry out the remaining works under **321CL** in stages from 2004 for completion in 2008.

29. We estimate that the project will create some 65 new jobs comprising 10 professional/technical staff and 55 labourers during the construction period.

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Planning and Lands Bureau  
April 2000



**圖例**  
**LEGEND :**

-  將提升為甲級工程項目的第二階段填海工程  
PROPOSED STAGE 2 RECLAMATION  
TO BE UPGRADED TO CATEGORY A
-  在500CL項目下已完成的第一階段填海工程  
STAGE 1 RECLAMATION COMPLETED UNDER 500CL
-  保留在乙級工程項目的工程(臨時藍圖)  
WORKS TO BE RETAINED IN CATEGORY B  
(PROVISIONAL LAYOUT)

編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
<b>修訂 REVISION</b>				
二〇〇〇年至二〇〇一年度工務小組委員會文件 PWSC SUBMISSION 2000 - 2001				
圖則名稱 drawing title				
屯門第38區特殊工業區的填海及提供 公共設施工程 RECLAMATION AND SERVICING OF TUEN MUN AREA 38 FOR SPECIAL INDUSTRIES				
繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office 新界西拓展處 NEW TERRITORIES WEST DEVELOPMENT OFFICE
Y. L. CHAU		05.04.00	321CL	
核對 checked	簽署 initial	日期 date	比例 scale	
C. Y. CHAN		05.04.00	1:10 000	
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.	 拓展署 TERRITORY DEVELOPMENT DEPARTMENT
K. H. CHU		05.04.00	NTW 1341	