

## ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 703 - BUILDINGS

#### Education - Primary

#### 247EP - Two 24-classroom primary schools at Kowloon Tong

Members are invited to recommend to Finance Committee the upgrading of **247EP** to Category A at an estimated cost of \$207.1 million in money-of-the-day prices for the construction of two 24-classroom primary schools at Kowloon Tong.

### PROBLEM

We need to provide additional primary schools in the Kowloon City District to implement the whole-day primary schooling policy.

### PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Education and Manpower, proposes to upgrade **247EP** to Category A at an estimated cost of \$207.1 million in money-of-the-day (MOD) prices for the construction of two primary schools at the site of the former St. George's School, Kowloon Tong.

/PROJECT ..

**PROJECT SCOPE AND NATURE**

3. The two proposed primary schools are standard design 24-classroom school buildings. Each school will have –

- (a) 24 classrooms;
- (b) six special rooms, including a computer-assisted learning room and a language room;
- (c) four remedial teaching rooms;
- (d) a guidance activity/interview room;
- (e) two interview rooms;
- (f) two staff rooms and a staff common room;
- (g) a student activity centre;
- (h) a conference room;
- (i) a library;
- (j) an assembly hall;
- (k) a multi-purpose area;
- (l) two basketball courts (one at ground level and the other at the rooftop of the assembly hall block); and
- (m) ancillary accommodation including a lift and relevant facilities for the handicapped.

**JUSTIFICATIONS**

4. To meet the increase in demand for primary school places and to help

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achieve the policy target of enabling 60% of pupils in public sector schools to study on a whole-day basis by the commencement of the school year 2002/03, the Director of Education (D of E) has been making plans to build an additional 73 primary schools for completion by August 2002. To date, five of these schools have been completed, 40 school projects have been upgraded to Category A and are at various stages of construction and one project is pending upgrading to Category A<sup>1</sup>.

5. Kowloon City District now has 31 public sector primary schools providing 525 classrooms. D of E forecasts that no additional classrooms are required to meet the increase in demand for school places by the school year 2002/03. **247EP** will enable existing bi-sessional primary schools in the district to convert into whole-day operation.

## FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be \$207.1 million in MOD prices (see paragraph 7 below), made up as follows-

	<b>\$ million</b>
(a) Demolition	6.1
(b) Piling	17.2
(c) Building	97.7
(d) Building services	29.7
(e) Drainage and external works	15.4
(f) Furniture and equipment	8.0

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<sup>1</sup> At the PWSC meeting on 28 April 1999, Members endorsed the upgrading of **201EP** to Category A at an estimated cost of \$100 million in MOD prices. Finance Committee will consider the recommendation on 21 May 1999.

	<b>\$ million</b>	
(g) Contingencies	16.6	
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Sub-total	190.7	(at December 1998 prices)
(h) Provision for price adjustment	16.4	
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Total	207.1	(in MOD prices)
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The total construction floor area of **247EP** is 18 258 square metres. The construction unit cost, represented by building and building services costs, is \$6,978 per square metre at December 1998 prices. D Arch S considers this construction unit cost reasonable. A comparison of the standard cost of a 24-classroom primary school with the project estimates of the two schools is at the Enclosure.

7. Subject to approval, we will phase the expenditure as follows -

<b>Year</b>	<b>\$ million (Dec 1998)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
1999 - 2000	8.0	1.02625	8.2
2000 - 2001	84.6	1.06217	89.9
2001 - 2002	67.7	1.09934	74.4
2002 - 2003	30.4	1.13782	34.6
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	190.7		207.1
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8. We derived the MOD estimates on the basis of Government's latest

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forecast of trend labour and construction prices for the period 1999 to 2003. We will tender the works under fixed-price lump-sum contracts because we can define the scope of works in advance, leaving little room for uncertainty.

9. We estimate the additional annually recurrent expenditure for each school to be \$16.0 million.

## **PUBLIC CONSULTATION**

10. We consulted the Kowloon City Provisional District Board in March 1999. Members supported the project.

## **ENVIRONMENTAL IMPLICATIONS**

11. Based on the Preliminary Environmental Review (PER) completed by D Arch S in April 1998, the Director of Environmental Protection recommends the implementation of the following environmental mitigation measures to keep the road traffic noise impact on the proposed schools within the limits stipulated in the Hong Kong Planning Standards and Guidelines -

### **For school 1**

- (a) provision of a 2-metre high solid boundary fence at the eastern part of the site; and
- (b) provision of insulated windows and air-conditioning to all classrooms and remedial teaching rooms from the 1/F to 6/F at the northern facade of the classroom block and two special rooms on 2/F at the eastern facade of the special room block.

### **For school 2**

- (a) provision of a 2-metre high solid boundary fence at the eastern side of the site; and

/(b) .

- (b) provision of insulated windows and air-conditioning to all classrooms from the 1/F to 6/F at the southern facade of the classroom block and two special rooms on 2/F at the eastern facade of the special room block.

We have included a total of \$7.8 million in the project estimate for implementing the above mitigation measures.

- 12. We will control noise, dust and site run-off nuisances during the construction through the implementation of appropriate mitigation measures in the relevant contracts.

### LAND ACQUISITION

- 13. The project does not require any land acquisition.

### BACKGROUND INFORMATION

- 14. We upgraded **247EP** to Category B in September 1998. D Arch S has completed site investigations for the project and is in the process of preparing the detailed working drawings and tender documents using in-house staff resources. We plan to start the demolition works in July 1999. Upon completion of the demolition works, we will start the construction works of the two schools in December 1999 for completion in July 2001.

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Education and Manpower Bureau  
May 1999





**Enclosure to PWSC(1999-2000)29**

**A comparison of the standard cost of a 24-classroom primary school project  
with the estimated cost of 247EP**

	<b>Standard Cost*</b>	<b>247EP#</b>	
	<b>\$ million (at Dec 1998 prices)</b>		
(a) Demolition	-	3.05	(See note A)
(b) Piling	8.60	8.60	
(c) Building	48.50	48.85	(See note B)
(d) Building services	11.50	14.85	(See note C)
(e) Drainage and external works	7.50	7.70	(See note D)
(f) Furniture and equipment	-	4.00	(See note E)
(g) Contingencies	7.60	8.30	
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Total	83.70	95.35	
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(h) Construction floor area	9 129m <sup>2</sup>	9 129m <sup>2</sup>	
(i) Construction unit cost {[(c)+(d)] ÷ ÷ (h)}	\$6,572/m <sup>2</sup>	\$6,978/m <sup>2</sup>	

# Assuming the cost for the two schools under **247EP** are the same, the average cost per school is taken for comparison.

**\* Assumptions for standard cost**

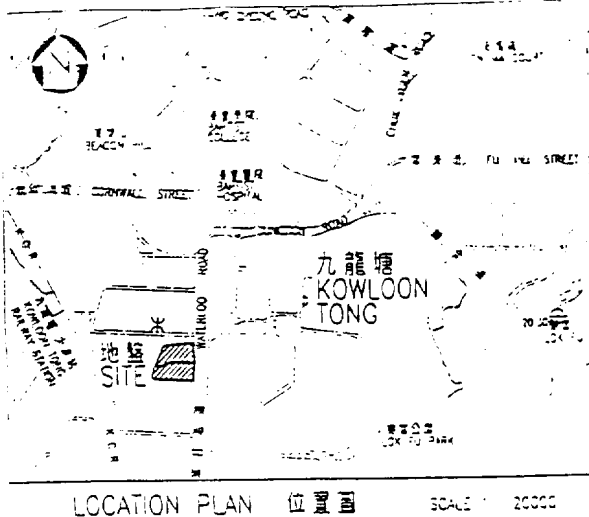
- 1. The estimation is based on the assumption that the school site is uncomplicated and without abnormal environmental restrictions. No allowance is reserved for specific environmental restrictions such as the provision of insulated windows, air-conditioning and solid boundary walls to mitigate noise impacts on the school.**
- 2. No site formation works/geotechnical works are required as they are normally carried out by other government departments under a separate engineering vote before the handing-over of the project site for school construction.**
- 3. Piling cost is based on the use of 101 numbers of steel H-piles at an average depth of 30 metres. It also includes costs for pile caps, strap beams and testing. No allowance is reserved for the effect of negative skin friction due to fill on reclaimed land.**
- 4. Cost for drainage and external works is for a standard 24-classroom primary school site area of 4 700 square metres built on an average level site without complicated geotechnical conditions, utility diversions, etc. (i.e. a greenfield site).**
- 5. No consultancy services are required.**
- 6. Furniture and equipment costs are excluded as they are usually borne by the sponsoring body of an aided school.**
- 7. The standard cost for comparison purpose is subject to review regularly. We will review, and revise if necessary, the standard cost which should be adopted for future projects.**

**Notes**

- A. The demolition cost is required for the demolition of existing buildings and disconnection of utilities at the site.**
- B. The building cost is higher because of the provision of insulated windows as a noise mitigation measure.**

- C. The building services cost is higher because of the provision of air-conditioning as a noise mitigation measure.**
- D. The drainage and external works cost is higher because of the construction of a 2-metre solid boundary fence as a noise mitigation measure.**
- E. The cost of furniture and equipment, estimated to be \$4 million for each school, will be borne by the Government as the schools will be allocated to existing bi-sessional schools for conversion to whole-day operation.**

**(PWSC0130/WIN5)**



TO PROVIDE INSULATED WINDOWS AND AIR-CONDITIONING TO ALL CLASSROOMS AND REMEDIAL TEACHING ROOMS FROM 1/F TO 6/F AT THE NORTHERN FACADE OF THE CLASSROOM BLOCK.  
 在該課室大樓北面一至六樓的課室及特別室加裝窗簾及抽氣機等設施。

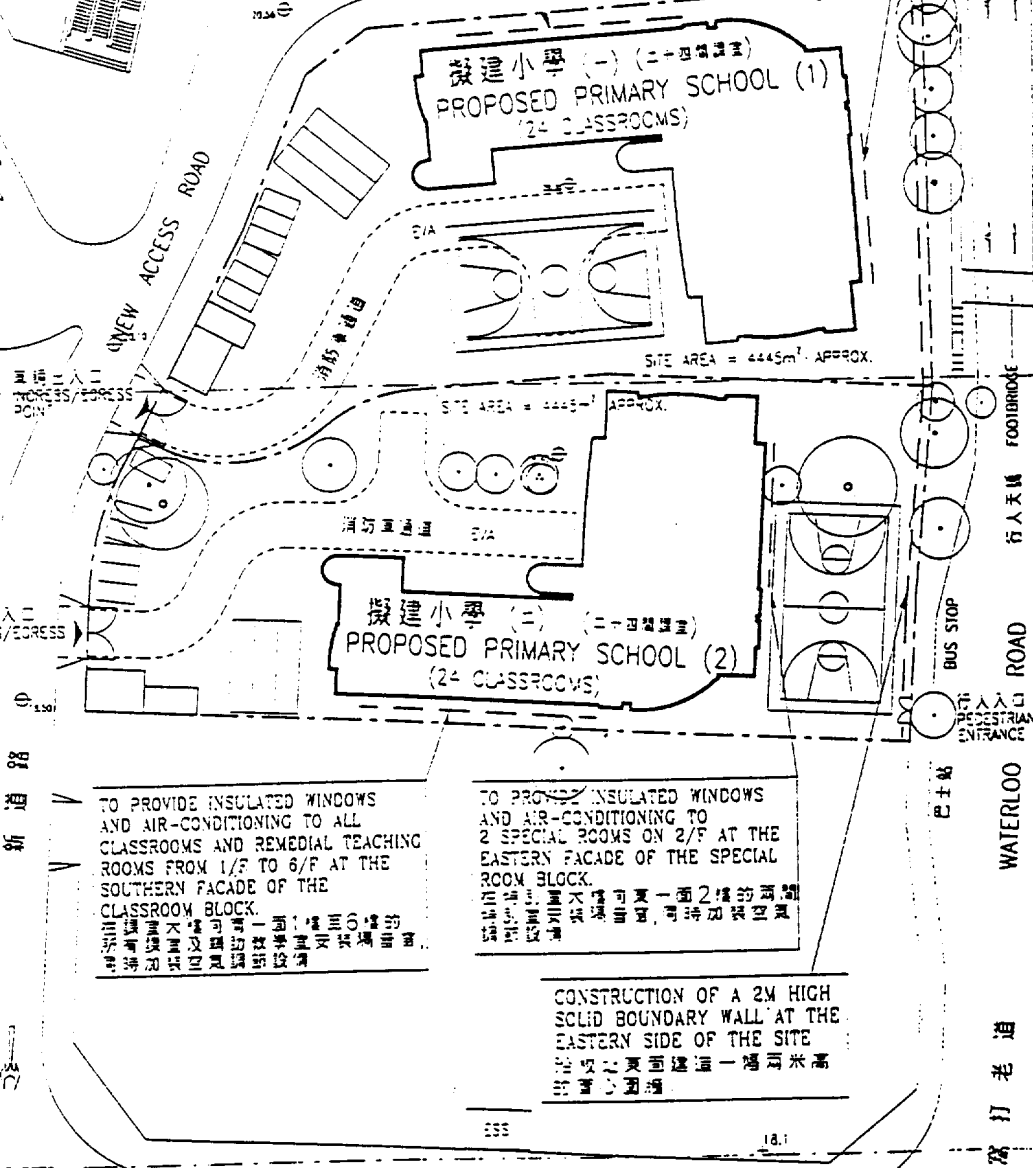


TO PROVIDE INSULATED WINDOWS AND AIR-CONDITIONING TO 2 SPECIAL ROOMS ON 2/F AT THE EASTERN FACADE OF THE SPECIAL ROOM BLOCK.  
 在特別室大樓東面二樓的特別室加裝窗簾及抽氣機等設施。

LOCATION PLAN 位置圖 SCALE 1:20000

未來公共交通設施  
 FACILITIES FOR  
 PUBLIC TRANSPORT  
 (ERC SITE)

LEGEND  
 現存樹木  
 EXISTING TREES



TO PROVIDE INSULATED WINDOWS AND AIR-CONDITIONING TO ALL CLASSROOMS AND REMEDIAL TEACHING ROOMS FROM 1/F TO 6/F AT THE SOUTHERN FACADE OF THE CLASSROOM BLOCK.  
 在該課室大樓南面一至六樓的課室及特別室加裝窗簾及抽氣機等設施。


TO PROVIDE INSULATED WINDOWS AND AIR-CONDITIONING TO 2 SPECIAL ROOMS ON 2/F AT THE EASTERN FACADE OF THE SPECIAL ROOM BLOCK.  
 在特別室大樓東面二樓的特別室加裝窗簾及抽氣機等設施。

CONSTRUCTION OF A 2M HIGH SOLID BOUNDARY WALL AT THE EASTERN SIDE OF THE SITE.  
 在該校東面建造一堵兩米高之實心圍牆。

(-) ref 5974/5974/104-1-1000

247EP  
 九龍塘 2 所設有 24 間  
 課室的小學  
 Two 24-classroom primary  
 school at Kowloon Tong

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approved	WILSON LAM	date 33.5.99
office	ARCHITECTURAL BRANCH	

drawing no. AB/5974/XE105  
 scale 1:1000  
  
 ARCHITECTURAL SERVICES DEPARTMENT