

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Education – Primary

298EP – Redevelopment of Shaukiwan Tsung Tsin School, Shau Kei Wan

Members are invited to recommend to Finance Committee the upgrading of **298EP** to Category A at an estimated cost of \$85.6 million in money-of-the-day prices for the redevelopment of Shaukiwan Tsung Tsin School, Shau Kei Wan.

PROBLEM

The existing school premises of Shaukiwan Tsung Tsin School are far below current standards. We need to redevelop the school to the current standards for improving the teaching and learning environment for its teachers and students.

PROPOSAL

2. The Director of Architectural Services (D Arch S), with the support of the Secretary for Education and Manpower, proposes to upgrade **298EP** to Category A at an estimated cost of \$85.6 million in money-of-the-day (MOD) prices for the redevelopment of Shaukiwan Tsung Tsin School, Shau Kei Wan.

PROJECT SCOPE AND NATURE

3. The scope of the project comprises the demolition of the existing sub-standard school premises and the construction of a new 24-classroom primary

/school

school on an enlarged site comprising both the current site and the adjacent vacant sites. The new school building will have the following facilities –

- (a) 24 classrooms;
- (b) six special rooms, including a computer-assisted learning room and a language room;
- (c) four small group teaching rooms;
- (d) a guidance activity room;
- (e) two interview rooms;
- (f) a staff room and a staff common room;
- (g) a student activity centre;
- (h) a conference room;
- (i) a library;
- (j) an assembly hall (which can be used for a wide range of physical activities such as badminton, gymnastics and table-tennis).
- (k) a multi-purpose area;
- (l) a basketball court;
- (m) a green corner¹; and
- (n) ancillary accommodation including a lift and relevant facilities for the handicapped.

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The proposed new school building will meet the planning target of providing two square metres of open space per student. A site plan is at Enclosure 1 and computer rendering drawings of the school building are at Enclosure 2. D Arch S plans to start the demolition works for the existing school premises in August 2003 for completion in February 2004, and the construction works for the new school building in March 2004 for completion in January 2006.

/JUSTIFICATION

¹ The green corner is a designated area inside the campus to enable students to develop an interest in horticulture and natural environment. The green corner may include a green house, a weather station and planting beds.

JUSTIFICATION

4. The existing Shaukiwan Tsung Tsin School was built in 1958 on a substandard site of about 1 700 square metres. Over the years, the four-storey school building has become dilapidated and requires frequent repairs. At present, its open space provision is only 0.7 square meter per student. Certain standard items such as student activity centre, library, conference room, staff common room, computer-assisted learning room, language room, assembly hall are also lacking.

5. The Shaukiwan Tsung Tsin School is a whole-day primary school and, due to site constraint, is currently operating 17 classes. Its long-term development has been hampered by the limited facilities in the existing premises. Several pieces of vacant land of about 1 500 square metres adjacent to the school are now made available for enlarging the school site to about 3 200 square metres. Upon completion of the project, the teaching facilities will be upgraded to current standards to provide an improved teaching and learning environment. The seven additional classrooms to be provided in this redevelopment project are not for meeting new demand. However, they provide more scope for the school's future development and more choice for parents.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the project to be \$85.6 million in MOD prices (see paragraph 7 below), made up as follows –

	\$ million
(a) Demolition	3.7
(b) Foundations	7.0
(c) Building	43.2
(d) Building services	15.8
(e) Drainage and external works	7.8
(f) Furniture and equipment ² (F&E)	3.7

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² Based on an indicative list of F&E items required by the school compiled on the basis of a survey on the serviceability of the existing F&E.

	\$ million	
(g) Consultants' fees for –	2.7	
(i) Contract administration	1.4	
(ii) Site supervision	1.3	
(h) Contingencies	8.0	
Sub-total	91.9	(in September 2002 prices)
(i) Provisions for price adjustment	(6.3)	
Total	85.6	(in MOD prices)

D Arch S proposes to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees by man-months is at Enclosure 3. The construction floor area (CFA) of **298EP** is about 9 522 square metres. The estimated construction unit cost, represented by the building and building services costs, is \$6,196 per square metre of CFA in September 2002 prices. D Arch S considers this comparable to similar school projects built by the Government. A comparison of the reference cost for a 24-classroom primary school based on an uncomplicated site with no unusual environmental or geotechnical constraints with the estimated cost of **298EP** is at Enclosure 4.

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

Year	\$ million (Sept 2002)	Price adjustment factor	\$ million (MOD)
2003 – 04	4.0	0.94300	3.8
2004 – 05	32.0	0.93003	29.8
2005 – 06	44.4	0.93003	41.3
2006 – 07	10.0	0.93003	9.3
2007 – 08	1.5	0.93003	1.4
	91.9		85.6

8. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period 2003 to 2008. We will engage a term contractor to carry out the demolition works. Thereafter, we will deliver the construction works through a fixed-price lump-sum contract because we can clearly define the scope of works in advance, leaving little room for uncertainty.

9. The cost of F&E, estimated to be \$3.7 million, will be borne by the Government.

10. We estimate the additional annual recurrent expenditure of the project to be \$4.1 million.

PUBLIC CONSULTATION

11. We consulted the Eastern District Council on 14 March 2002. Members of the Council supported the project.

12. The Shaukiwan Tsung Tsin School has fully consulted their students, parents and teachers and secured their support for the redevelopment project and the decanting arrangements for the school.

ENVIRONMENTAL IMPLICATIONS

13. We engaged a consultant to conduct a Preliminary Environmental Review (PER) for **298EP** in March 2001. The PER concluded that the school would not be subject to adverse environmental impacts provided that we install insulated windows and air-conditioning to 12 classrooms and four special rooms from the 2/F to 5/F at the northern façade of the school block in order to keep the road traffic noise impact within the limits recommended in the Hong Kong Planning Standards and Guidelines. We have included \$2 million as part of the building services works in the project estimate to implement the above mitigation measures.

14. 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 contracts. 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.

15. 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 school design to reduce temporary formwork and construction waste. These include dry-wall partitioning and proprietary fittings and fixtures. We will use suitable excavated materials for filling within the site to minimise off-site disposal. In addition, we will require the contractor to use metal site hoardings and signboards so that these materials can be recycled or reused in other projects.

16. 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. D Arch S will require the contractor 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 8 100 cubic metres (m³) of C&D materials. Of these, we will reuse about 3 100 m³ (38.3%) on site, 4 500 m³ (55.6%) as fill in public filling areas³, and dispose of 500 m³ (6.1%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$62,500 for this project (based on a notional unit cost⁴ of \$125/m³).

LAND ACQUISITION

17. The project does not require land acquisition.

/BACKGROUND

³ 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.

⁴ 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/m³), 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.

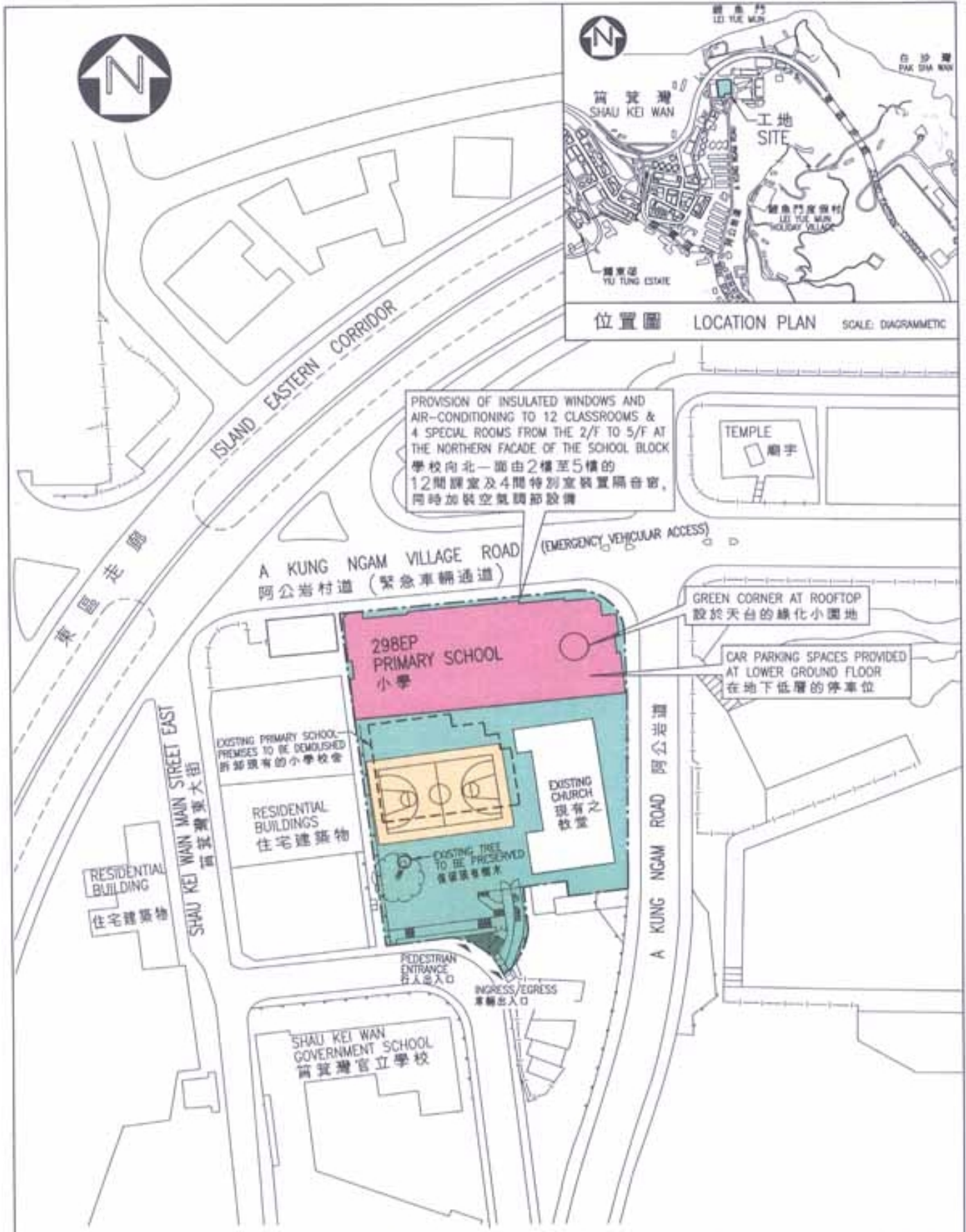
BACKGROUND INFORMATION


18. We upgraded **298EP** to Category B in October 2001. We engaged consultants to carry out a topographical survey in November 2000 and PER in March 2001; and employed a term contractor to carry out site investigation in August 2002 at a total cost of \$522,000. We also engaged consultants to undertake the detailed design and tender documentation of the project at a total cost of \$3.3 million. We charged these amounts 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 and the term contractor have completed the above assignments.

19. During the demolition and construction, students of the school will be temporarily accommodated in a school building at Wah Ha Street, Chai Wan, to continue their schooling.

20. We estimate that the project will create some 105 jobs comprising ten professional/technical staff and 95 labourers, totalling 1 950 man-months.

Education and Manpower Bureau
May 2003




title 298EP REDEVELOPMENT OF SHAUKIWAN TSUNG TSIN SCHOOL, SHAU KEI WAN 筲箕灣筲箕灣崇真學校重建計劃	drawn by W.M. YIU	date 18.09.02	drawing no. AB/6282/XA101	scale 1:1000
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	office ARCHITECTURAL BRANCH			



電腦繪製的校舍模擬圖 (北面)
COMPUTER RENDERING DRAWING OF THE SCHOOL PREMISES (NORTHERN VIEW)



電腦繪製的校舍模擬圖 (南面)
COMPUTER RENDERING DRAWING OF THE SCHOOL PREMISES (SOUTHERN VIEW)

title 298EP REDEVELOPMENT OF SHAUKIWAN TSUNG TSIN SCHOOL, SHAU KEI WAN 筲箕灣筲箕灣崇真學校重建計劃	Drawn by ELVIN LEE	Date 07/05/03	Drawing no. AB/6282/NM-01	Scale N.T.S.
	Approved KEN LO	Date 07/05/03	 ARCHITECTURAL SERVICES DEPARTMENT	
	Office ARCHITECTURAL BRANCH			

298EP – Redevelopment of Shaukiwan Tsung Tsin School, Shau Kei Wan**Breakdown of the estimate for consultants' fees**

Consultants' staff costs		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Contract administration (Note 2)	Professional	–	–	–	0.9
	Technical	–	–	–	0.5
(b) Site supervision (Note 3)	Professional	14.1	38	1.6	1.3
				Total	<u>2.7</u>

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (As at 1 October 2002, MPS point 38 is \$57,730 per month.)
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **298EP**. The assignment will only be executed subject to Finance Committee's approval to upgrade **298EP** to Category A.
3. The consultants' staff cost for site supervision is based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.

**A comparison of the reference cost of
a 24-classroom primary school project
with the estimated cost of 298EP**

\$ million (in Sept 2002 prices)

	Reference cost*	298EP	
(a) Demolition	–	3.7	(See note A)
(b) Piling/Foundations	7.0	7.0	
(c) Building	38.5	43.2	(See note B)
(d) Building services	10.3	15.8	(See note C)
(e) Drainage and external works	7.8	7.8	
(f) Furniture and equipment	–	3.7	(See note D)
(g) Consultants' fees	–	2.7	(See note E)
(h) Contingencies	6.3	8.0	
	69.9	91.9	
(i) Construction floor area	9 129 m ²	9 522 m ²	
(j) Construction unit cost {[(c) + (d)] ÷ (i)}	\$5,346/m ²	\$6,196/m ²	

*** Assumptions for reference cost**

1. The estimation is based on the assumption that the school site is uncomplicated and without unusual environmental restrictions. No allowance is reserved for specific environmental restrictions such as the provision of insulated windows, air-conditioning and 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 handing over the project site for school construction.
3. Piling cost is based on the use of 101 steel H-piles at an average depth of 30 metres, assuming that percussive piling is permissible. 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 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 “green-field” site).
5. No consultancy services are required.
6. Furniture and equipment costs are excluded as they are usually borne by the sponsoring bodies of new schools.
7. The reference cost for comparison purpose is subject to review regularly. D Arch S will review, and revise if necessary, the reference cost which should be adopted for future projects.

Notes

- A. Additional cost is required for carrying out demolition works of the existing school premises.
- B. The building cost is higher because of larger construction floor area and also because of the need for incorporating retaining structures at the lower ground floor due to differences in the site levels.
- C. The building services cost is higher because of the provision of sprinkler installation for the school. As the limited site area requires a double-loaded corridor design, sprinklers are required for meeting fire safety requirements. Moreover, the provision of air-conditioning as a noise mitigation measure also accounts for a higher building services cost.
- D. The cost of furniture and equipment, estimated to be \$3.7 million, will be borne by the Government as the new school premises will provide space for the reprovisioning of the existing school and additional classes for whole-day schooling. This is in line with the existing policy.
- E. Consultants’ fees are required for contract administration and site supervision.